Production Management in Media and Information

Eli M. Noam, *Managing Media and Digital Organizations*, https://doi.org/10.1007/978-3-319-71288-8_3

3.1 Media Production

3.1.1 Introduction

The media sector has three legs: content, distribution, and devices. In this chapter, we will address content and its production, and specifically the following questions:

- What are the ingredients of successful content production?
- How is content production being organized on an industrial scale?
- What management tools can be applied to media production?

When it comes to media content—movies, TV shows, music, books, newspapers—it seems that everybody is an expert. It has surrounded us since birth individually, and infused our culture collectively. Media content is not merely art and entertainment; it is also a worldwide role model, a trendsetter and moodsetter. Media content exerts influence on our values, our attitudes, our politics, and our lifestyles. It is the subject of intense public fascination and scrutiny. It is also an industry, and for the USA it is among the largest export businesses.

Creativity is thought of as an individual activity, but it has become an organized business and social activity. Film, theater, opera, and software development are all the result of highly organized collaboration and teamwork. Creative content is being created on an industrial scale—the "Dream Factory." It is a complex process. The writer F. Scott Fitzgerald, himself with some Hollywood experience, wrote in his final novel, *The Last Tycoon*, about the film business: "not a half dozen men have been able to keep the whole equation of pictures in their heads."

Since Fitzgerald wrote this about the film industry, the quantity of content produced has grown exponentially. Take, as an example, the total video program hours per week provided to New York City television viewers: in 1969, it was 1016 hours, increasing tenfold to 9600 hours by 1997, and to 200,000 by 2016, including repeat showings but excluding the millions of hours of internet-based video. Such vast content provision requires a vast production system.

3.1.2 Content Production

Production management aims at a smooth and continuous flow of production. It must allocate resources to different activities. It aims to increase productivity, and it must have a system in place to measure and evaluate performance. Production activities in companies are often headed by the Chief Operations Officer. The responsibilities of production management include: purchasing, inventories, and supply chain; process engineering; production scheduling and capacity planning; sub-contracting; locational choices. A sub-set is project management, which tends to be more limited in scope and time. Production management aims at a smooth and continuous flow of production. It must allocate resources to different activities. It aims to increase productivity, and it must have a system in place to measure and evaluate performance.

Production is part of a value chain that runs from strategy to product design to process design to production and marketing. In real life, the process is not one-directional and linear. Production follows strategy, but strategy, in turn, is based on the firm's ability to produce effectively. And this, in turn, is affected by internal resources such as money and people, by legal and regulatory constraints, and by market conditions. Some of these issues are discussed in other chapters of this book.

3.1.2.1 Special Characteristics in Content Production

The basic stages of content production are similar to those of production more generally. Typically, production requires the following steps:

- Market analysis;
- Concept creation;
- Selection;
- Funding;
- Product design;
- Development;
- Production planning;
- Procurement and deployment of inputs;
- Production and assembly;
- Post-production improvements and quality control;
- Preparation for distribution.

Each of these steps also exists for content production. Content industries are uncomfortable in being put into the same basket as more mundane industries, as they believe that they are different. And while just about every industry believes that, there are indeed several differences, as we discussed in ▶ Chap. 2 The Information Environment These include:

- An unusually high level of *uncertainty* about the commercial success of content products.
- Extremely high fixed production costs and low reproduction costs. They require significant upfront capital to make the initial product. This means unusually high *economies of scale*, which are further increased by *network effects*: the users of a product partially increase the value of that product to other users.
- There often exist content producers who do *not aim to maximize profit*, which affects the nature of competition.
- Media content often has *public good* characteristics: its value goes beyond the immediate benefits to the producers, and it is often impractical to exclude non-payers from enjoying the content.

We will discuss, in particular, the film industry because it has always been the most commercialized of content media, with dynamics that have often foretold those of other media. In order to understand the success factors for content production, we will explore the following question: why has one particular content production center—Hollywood—been so successful, for so long, in so many countries, and potentially now online? And this despite the fact that Hollywood is a high-cost producer, that it has usually lacked a long-term strategic vision (for example,

it initially totally missed the significance of broadcast TV, cable TV, home video, and the internet), and despite the fact that many major international markets have been only partly open, with many of them imposing import quotas for almost a century.[1]

None of this seems to have made a difference. Hollywood productions have remained predominant around the world throughout that time, despite countless efforts to support national production and to restrict Hollywood. In 1920, the Hollywood studios accounted for over 70% of the world's movie revenues. In 2016, they still maintain about the same market share, 67.7%.[2] During this time, pretty much the same six firms (Universal, Paramount, Disney, Warner Bros., Columbia, 20th Century Fox) dominated and produced the majority of films. (MGM and RKO dropped out, while Disney joined.) Not even Houston's oil companies, New York's Wall Street and London's city financial clusters, or Detroit's automotive industry maintained such a long-term global dominance. What does this tell us about the elements for success in content production?

3.1.2.2 Case Discussion

Canal Plus and the Hollywood Advantage

France is the birthplace of film. It is also a significant market for the medium: 209 million tickets were sold in 2016; 34.5% of admissions were for French films, while 53.6% were for American films, a higher number than in 2011 when it was 48%.[3] In total, 211 French films were released in 2016,[4] which made France the largest film producer in Europe.

Canal Plus is the major French film company, a subsidiary of the multimedia firm Vivendi. It has its own production arm (StudioCanal) and distribution channels in France, Europe, and Africa. It has a stake in two-thirds of French film production, and is the prime provider of original cable TV content in France. Canal Plus is Europe's largest film distributor (over pay-TV) and film producer, and it wants to export worldwide, including to the USA.

There are some questions about how this might be done. How can Canal Plus become a global content producer? What kind of content should it produce, and how? These questions will be the subject of the case discussion.

3.2 Content Industries

3.2.1 Early Content

The production of what we now call "media content" goes back to the dawn of humanity, when individuals and groups performed for their community or overlords. Over time, this became organized and institutionalized—theater in ancient Greece, gladiatorial spectacles in Imperial Rome, playhouses in Elizabethan London, opera stages in Italy. Some performers were individual content providers, such as bards, troubadours, and minstrels. They provided entertainment and news. Others were teams organized as content companies that produced and performed spectacles, plays, and music events.

In nineteenth-century America and Europe, popular entertainment was provided by theater, opera, circus, and various kinds of burlesque shows. But the economics were unfavorable: they were relatively expensive to produce, and the limited potential for automation and mass-production meant it was difficult to expand performances to larger audiences. This "craft"-style content production and distribution were ready to be replaced by a mass-production model in the same way that print technology industrialized the book medium after the sixteenth century. For music, this technology emerged after 1877 with the Edison phonograph. And for moving visual imagery, film technology made a big splash after 1895.

3.2.2 Types of Production

Production is generally done in either of two basic ways—as a "job shop" or as a "flow shop." A job shop means a specialized craft production. It creates special and highly varied products and uses general tools. In the media field, examples for job shop productions are plays, music events, and books. Job shop productions typically require a relatively limited upfront capital investment to cover the relatively small upfront overhead, but they have relatively high variable costs of production for the individual item.

In contrast, a "flow shop" is a process of mass-production that requires specialized resources. Flow jobs tend to be industrial productions, on a larger scale and repetitive. They are characterized by high fixed costs but low marginal costs. They are less flexible than job shop productions and require larger capital investment. Examples of flow shop productions are newspapers and magazines in content creation and telecommunications services in distribution. An intermediate category is a "batch flow" of production, which creates a small set of similar products. A TV series is an example.

1 For example, import quotas and restrictions were set in Germany and France in 1921.

2 Tartaglione, Nancy. "2016 Intl Box Office Sees Projected 3.7% Drop Amid Currency Shifts & China Dips – Studio Chart." *Deadline Hollywood.* Last updated January 5, 2017. ► http://deadline.com/2017/01/highest-grossing-movie-studios-of-2016-international-box-office-1201878861/.

3 Centre National du Cinema et De L'Image Animee. "Theater Admissions—Estimates for February 2017." Last modified March 3, 2017. ► http://www.cnc.fr/web/en/theater-admissions.

4 The Numbers. "Movies Produced by France and Released in 2016." Last accessed April 11, 2017. ► http://www.the-numbers.com/France/movies/year/2016.

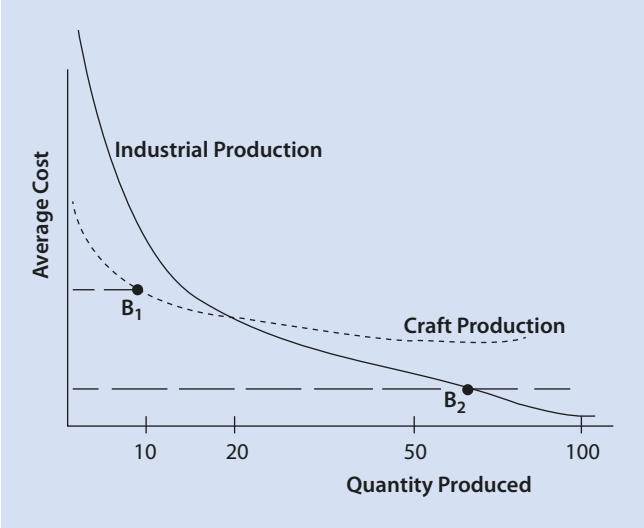

Fig. 3.1 Cost characteristics of craft and industrial production

Figure 3.1 illustrates the cost characteristics of craft versus industrial production. Craft production requires a relatively low initial fixed costs and its average costs (the vertical axis) are therefore moderate during the earlier stages of production (the horizontal axis). At a quantity of production B_1, average cost is intermediate. But increases in craft production add substantial incremental costs, which means that average costs do not drop much (and may eventually even increase). Industrial production, in contrast, starts with a much higher average cost owing to the high initial fixed cost. At low levels of production its average cost is higher than craft production; but since it enjoys lower marginal costs, average cost is eventually lower than for craft production (B_2).

A company must decide whether it wants to be in the mass production (high total cost, low-price) business or in the custom (low total cost, high-price) business. There might be a period where a firm will be in an intermediate range where cost is high but price is being pushed down by competitive forces. In that situation, a firm must decide whether to limit production, raise quality, and raise price to make people choose its product as superior, or alternatively whether it will set itself up for greater production runs and lower the price. In the former case, it must prioritize the product and its design. In the latter case, it must invest in the production process, and may have to suffer initial losses until its scale is large enough to support the low price.

In media and technology, there are typically two stages of production. The first is the production of "first copy" which has job shop/craft characteristics; the second is the making of reproductions and their distribution, which have flow shop/industrial characteristics.

Another dimension is whether production is proactive to demand or following it. Production is organized either as a supply "push" model, the amount produced being based on managerial estimates of demand, or as a demand "pull" model, based on actual orders.

Table 3.1 Cost characteristics of theater and film

	Content production cost/second	Distribution cost/capita/second
Theater	$25	0.56¢
Film	$10,000	0.005¢

3.2.3 Cost Characteristics: Film Versus Theater

The basic economic advantage of film over theater is that its distribution cost per viewer is only 1% or less of the cost to distribute a similar item of content via live theater. The figures in the Table 3.1 (right column) show that it costs a commercial big city theater in the US about 0.56 cents to distribute a second of content per person, based on the re-creation cost for every performance, plus the hall and its associated costs, all divided by the audience size and the length of the performance. In contrast, the marginal cost of film distribution (through movie theaters) is one hundred times smaller (0.005 cents/person), including the need for copies of the film, actual physical distribution, and the cost of the movie theater, divided by the audience.

This low cost facilitates distribution to audiences of many millions. But to make millions of people want to see one film rather than a rival one, one needs to create a highly attractive product. This requires a much higher upfront cost of producing the film than is spent on a theatrical show.[5] That cost can then be spread over the larger audience. Thus, content production costs of Hollywood films (the fixed costs) have risen over time to a remarkable figure of approximately $10,000/second, 500 times higher than for a typical commercial theater production. The moviegoer pays, in the USA, about one-eighth of a cent per second, of which the film theater gets to keep about half. Therefore, the producer/distributer collects one-sixteenth of a cent per viewer per second. To cover its production and distribution expenses then requires about 16 million viewers.[6]

Film therefore shifts costs away from *variable* costs of distribution to *fixed* costs of content production. The cheaper the distribution, the more elaborate the content production can become since it is spread across more users. And it is one of the economic characteristics of an industry with high fixed costs and low marginal costs that it has high economies of scale—large providers have cost advantages over small ones (as long as they produce reasonably efficiently). The other aspect of the same fundamental economics is that there is a much higher downside of financial losses if the audience does not materialize.

5 For theater, these upfront production costs include expenses up to the opening show, after which the costs are those of reproduction.

6 This does not yet cover the marketing expenses, part of the overhead, and profit on the expense side. It also does not include non-theatrical revenue streams on the income side. In 2015, 29 films sold more than 12 million tickets in the USA. International film revenues account for 70% of Hollywood theatrical revenues. This would mean that US audiences need to cover, on average, only 3.6 million tickets. In 2015, 86 films met that number.

3.2.4 Breakeven Point

A "breakeven point" of a production occurs when total costs of the production equal total revenue. The equation below shows how to determine this breakeven quantity. If a firm can sell a product at a quantity that is higher than the breakeven point, it will make a profit; below this point, it will face a loss. The breakeven point is found where total cost equals total revenue.

TC = Total Cost; TR = Total Revenue; FC = Fixed Cost; VC = Variable Cost; Q = Quantity of Production; P = Price

$$\mathrm{TC} = \mathrm{FC} + \mathrm{VC} \cdot Q$$

$$\mathrm{TR} = P \cdot Q$$

After substitutions, we find that the breakeven point, where total revenue is equal to the cost, is at $Q = \frac{\mathrm{FC}}{P - \mathrm{VC}}$.

Example: Theater

A live theater has an average net ticket cost of $40, fixed cost of $300,000 ($130,000 for content, $170,000 for marketing and overhead). It performs five shows per week, each time for 400 audience members. The cost of serving each audience member is $30. The breakeven will be at an audience of 30,000. We arrive at this number using the breakeven equation:

$$Q = \frac{\mathrm{FC}}{P - \mathrm{VC}} = \text{Breakeven Point}$$

$$Q = \frac{300{,}000}{40 - 30} = 30{,}000$$

This number is reached after 15 weeks. (30,000/(400 × 5)).

Compare this with the breakeven point for film. We assume that the ticket price is $10. The producer/distributor gets to keep 50% share of box office receipts, and marginal revenue (P) for the producer is hence $5. Fixed costs are $77 million (content $54 million, marketing and overhead $23 million) and there is a variable cost of $.27 per ticket. The film is screened in 1000 theaters with 20 weekly showings and an average audience of 200 audiences per screening. The breakeven point can be calculated as:

$$Q = \frac{77{,}000{,}000}{5 - 0.27} = 16{,}279{,}061$$

It would take over 16 million paying viewers to put the film into the black. (For comparison, the numbers of box office tickets sold in the USA (not including other countries and other forms of distribution) (admissions) for a Harry Potter film was 50–60 million, for *Madagascar 3* 25.1 million, and for *Spiderman* 30.4 million. Earlier all-time hits were *Gone with the Wind* (1939; 225.7 million tickets), *Star Wars IV* (1997; 194.4 million), *ET* (1982; 161 million), *The Sound of Music*. (1965; 156.4 million), and *Titanic* (1997; 128.4 million worldwide).

In our example, the weekly audience for the film would be 4 million (1000 × 20 × 200), and the weekly revenue is $20 million. Breakeven at 16.3 million tickets is reached in week five. The film, despite its high total production cost ($54 million) and high marketing cost ($23 million) (vs. 130,000 and $170,000 for theater), has a lower average cost per audience after 1.5 million viewers, because it can be spread across a wider audience. If it keeps running well after week four, it will make a lot of money. But if its audience drops after week one, it may lose many millions. For theater, in contrast, both the upside and the downside are much lower.

The same cost dynamics apply to a comparison of printed books with hand-written manuscripts. A printing press reduces incremental cost, but increases upfront investment in fixed costs. It is also the case for recorded music versus live music, or for off-the-shelf packaged software versus customized programs. It is the economics of industrial mass-production versus artisan production.

But it is also a double-edged sword. Production with a higher fixed cost and lower marginal cost is more profitable when the number of tickets or copies sold is large. Conversely, it can also lead to a much higher loss when the number of tickets sold is low. It is the higher risk strategy. To deal with this downside, risk reduction therefore becomes a central management task in the content production of mass-market media.

A second management consequence is that a high fixed cost, low marginal cost industry with its high economies of scale means a more concentrated industry structure, composed of a few large firms. This will now be discussed with the film industry as the main case.

3.2.5 History of the Film Production Industry

In the eighteenth century, the recognition of a "persistence of vision" (i.e. the blurring of images into each other when they pass the eye rapidly) led to novelty items such as the Zoetrope, which created simple moving images by a spinning wheel with pictures drawn on it.

In the 1820s and 1830s, Nicéphore Niépce and Louis Daguerre in France and William Henry Fox Talbot in England invented the process of photography, using glass plates. In the 1880s, George Eastman of the USA created celluloid film that could be rolled up, and he introduced cheap Kodak cameras. In 1891, Thomas Edison's laboratory invented the Kinetoscope, where the viewer stared into a box to see moving images, photographed by a Kinetograph, a camera system. This was augmented by the Kinetophone, a sound system based on Edison's cylinder phonograph. Edison's first film, *The Squeeze*, was copyrighted in 1893.

However, Edison's peep-style display could be viewed only individually or by small groups using a bank of consoles. In contrast, the brothers Louis and Auguste Lumière of Lyon, France, projected their moving images onto a screen,

Table 3.2 The top Hollywood film studios, 1995–2016

	Movies 1995–2010	Average gross/ movie (million)	Market share 1995–2010 (%)	Global market share 2013	Global market share 2016[a]
1. Disney	423	57	14.3	15.7%	17.2%
2. Warner Bros. (Time Warner)	467	51	14.2	17.1%	11.3%
3. Columbia/Sony	455	45	12.3	10.5%	4.7%
4. Paramount (Viacom)	315	62	11.6	8.9%	3.2%
5. 20th Century Fox (News Corp./21st Century Fox)	332	57	11.2	9.7%	10.9%
6. Universal (GE/Comcast)	311	56	10.3	13.1%	7.1%
7. New Line	203	41	5.0	Warner Bros.	
8. Dreamworks SKG	77	74	3.4	1.8%	Universal
9. Miramax (al Jazeera)	374	14	3.2	<1%	
10. MGM	229	21	2.9[b]	Sony	

Table compiled using Noam, Eli *Who Owns the World's Media?* Oxford 2015 and Tartaglione, Nancy. "2016 Intl Box Office Sees Projected 3.7% Drop Amid Currency Shifts & China Dips – Studio Chart." *Deadline Hollywood.* Last updated January 5, 2017
[a]Tartaglione, Nancy. "2016 Intl Box Office Sees Projected 3.7% Drop Amid Currency Shifts & China Dips – Studio Chart." *Deadline Hollywood.* Last updated January 5, 2017
[b]The Numbers. "Top-Grossing Distributors 1995 to 2010." Last accessed November 3, 2010. ► http://www.the-numbers.com/market/Distributors/

facilitating mass-audiences. Their first film clip was *L'Arrivée d'un train à la Ciotat* (1895). Its first showing was in Paris in 1895 and can be counted as the beginning of the film medium as popular entertainment.

Almost immediately, new types of content began to emerge, and film moved beyond novelty to a medium of considerable creativity. Already in 1902, *A Trip to the Moon*, a science fiction film, was produced in France with new special effects, with Georges Méliès the director. Physical comedy emerged, and the antics of comedians such as Charlie Chaplin were distributed worldwide. The first Western film, *The Great Train Robbery*, was created as well as the first sexually suggestive film, *The Gay Shoe Clerk*. These and other productions could venture into content that theater could not accomplish technically or financially—special effects and genuine outdoor scenes.

The fundamental economics of the film medium led also to imitation, piracy, and to attempts to monopolize markets. The so-called "Edison Cartel" pooled in 1908 the patents of the industry leaders Edison, Pathé, Vitagraph, Eastman Kodak, and Biograph, as well as the financial resources of J.P. Morgan in a bid to control the industry. The cartel possessed patents, theaters, money, lawyers, and connections. Yet it was unable to suppress independent film entrepreneurs. These emerged from the popular entertainment industry (such as "vaudeville") that catered to working-class audiences, or from retail and merchandizing trades. These included such legendary figures as Mack Sennett, Harry Cohn, Adolph Zukor, Marcus Loew, William Fox, Carl Laemmle, Jesse Laski, the Warner brothers, Louis B. Mayer, and Sam Goldwyn, and later, in the 1930s, Walt Disney. These pioneers established the film companies which continue to exist into the twenty-first century. They soon moved from New York to Southern California, partly for its weather, which made outdoor shooting simpler. Other factors were the lower costs of non-union labor and the greater distance from J.P. Morgan's and Thomas Edison's New York lawyers and friendly judges who were enforcing intellectual property rights.

As the industry grew, the studios organized factory-like production facilities and employed actors, directors, craftsmen, crews, and equipment that could be used for many projects. They moved into a flow-type production, creating hundreds of films each year. The MGM studio in Culver City could shoot six different films at the same time. Feature films could be shot in less than a week.[7] The legendary Cecil B. DeMille at times directed and produced two films simultaneously.

Today, the six major Hollywood film studios that dominate the film business are fairly similar in size, with market shares of about 10–15%, depending on the success of a particular season (Table 3.2).

7 Epstein, Edward Jay. *The Big Picture, The New Logic of Money and Power in Hollywood.* New York: E.J.E. Publication, Ltd., 2005. This highly informative book is a frequent source of factual information for this book.

3.2.6 Production in Other Media Industries

Before we continue discussing production in the film industry, let us look briefly at the background of other content production industries.

3.2.6.1 Books

After the emergence of print technology in the fifteenth century, early printers at first also functioned as publishers by selecting and commissioning content. Printing centers emerged, such as Venice and Amsterdam. In the early eighteenth century, publishing separated from printing and became professionalized. Publishers such as Weidmann (Leipzig) and Longmans (London) have continued into the twenty-first century. In the USA, the book industry structure, after a period of fragmentation and easy entry, stabilized in the 1920s and centered on a handful of major publishing companies surrounded by thousands of small firms. The large publishers were McGraw-Hill, Random House, Simon & Schuster, Little Brown, HarperCollins, and Macmillan, and were mostly located in New York.

The book industry has fairly high marginal costs and moderate fixed costs; its economies of scale are therefore moderate. This has contributed to an industry with numerous (about 3000) small publishers and to a huge number of individual products, most of them with a small production run. Combined with the rising supply of authors, the number of titles published has grown greatly.

The market share of the largest publishers in the USA, in the period 2009–2016, is shown in Table 3.3:

Worldwide, the largest owners of publishers are shown in Table 3.4:

Table 3.3 US market share of book publishers, 2009–2016

Company	Market share (%)
Penguin Random House (Bertelsmann, Mohn family, Germany) & Pearson (UK) (Penguin, Random House, Bantam, Dell, Doubleday, Viking, Addison Wesley)	17.6
McGraw-Hill	8.2
News Corp (Rupert Murdoch) (HarperCollins, Scott & Foresmann)	7.3
Viacom (Redstone; Simon & Schuster)	5.2
Reed Elsevier (Netherlands)	5.0
Hachette (Lagardere family, France) (Grolier, Time Warner, Little Brown)	2.9
Holtzbrinck (Holtzbrinck family, Germany) (Macmillan, St. Martin's)	3.0
Scholastic	5.4
Others	57.3

In italics: publisher is part of a major diversified media firm

Table 3.4 Largest worldwide publishers, 2009–2016

Company	Market share (%)
Bantam Random House (Bertelsmann-Pearson) (Mohn family, Germany; Pearson, UK) Penguin, Random House, Bantam, Dell, Doubleday, Viking, Addison Wesley)	9.8
Hachette (Lagardere family; Hachette; France)	7.3
NewsCorp (HarperCollins, Scott & Foresmann, US)	3.4
McGraw-Hill (US)	2.9
Fininvest (Silvo Berlusconi; Mondadori; Italy)	2.0
Planeta (Spain)	1.8
RCS (Italy)	1.7
Jiangsu Phoenix (China)	1.3
China South Media/Hunan Publishing (China)	0.8
Beijing Publishing (China)	0.8
Bonnier (Sweden)	0.7
Eksmo-AST (Russia)	0.4

In italics: publisher is part of a major diversified media firm

In Europe, the major book publishers have high market shares in trade (general audience) and paperback books. In France, Hachette/Lagardere, 29.4%; in Italy, Mondadori 30% and Fininvest 28.8%; in the UK as well as in Australia; Bertelsmann-Pearson 24%, in Russia Eksmo-AST 57.7%; and in Sweden Bonnier, 22.6%.

The annual number of new book titles for the USA was 338,990 in 2015.[8] In Germany, about 89,510 book titles were published in 2015.[9] The Harry Potter book series sold 500 million copies by 2016.[10, 11]

Publishers need to make numerous managerial decisions beyond the editorial ones and are the central node in book production. They select authors and manuscripts; improve the product; oversee printing and manufacturing in house or outsourced and determine the quantity. They market the book, set prices, secure copyrights and license subsidiary rights.

8 International Publishers Association. "Number of new titles published in selected countries worldwide in 2015 (in 1,000s)." Statista. Last accessed June 14, 2018. ► https://www.statista.com/statistics/248335/number-of-new-titles-and-re-editions-in-selected-countries-worldwide/.

9 International Publishers Association. "Number of new titles published in selected countries worldwide in 2015 (in 1,000s)." Statista. Last accessed June 14, 2018. ► https://www.statista.com/statistics/248335/number-of-new-titles-and-re-editions-in-selected-countries-worldwide/.

10 Time Staff. "Because it's his Birthday: Harry Potter by the Numbers." *Time.* Last Updated July 31, 2013. ► http://entertainment.time.com/2013/07/31/because-its-his-birthday-harry-potter-by-the-numbers/.

11 Hypable Media. "Harry Potter-History of the Books." Last accessed April 12, 2017. ► http://www.hypable.com/harry-potter/book-history/.

They manage the distribution channels, collect sales proceeds, and distribute it to claimants such as authors.[12]

A book's sales revenue goes to these categories of recipients, approximately:

- Retailer (bookstore)[13]: 40%
- Wholesaler: 12.5%
- Producer publisher: 35%
  - Printing, storage, shipping: 12.5%
  - Design, typesetting, editing: 3%
  - Marketing: 3.9%
  - Admin./overheads: 7.8%
  - Profit: 7.8%
- Creators/authors: 12.5%

Assuming that the publisher's overhead is evenly attributable to both production and distribution functions, this means that production activities (authoring, editing, designing, typesetting, and printing) receive 32.9% of a book's revenue; 60.3% goes to marketing and the chain of distribution; 7.8% is the publisher's profit.

3.2.6.2 Newspapers

In richer countries newspaper penetration used to be very high but it has been steadily declining. In the USA, 78% of the adult population read a daily paper in 1970. That number dropped to 51.6% by 2005, 33.7% by 2014,[14, 15, 16] and 28% in 2016.[17] Some countries have a newspaper system based on large, nationwide newspapers. Examples are Japan and the UK. Other countries have a system of local/regional papers, for example, the USA and Germany. The newspapers distributed in the USA nationally are the *Wall Street Journal*, *USA Today*, and the *New York Times*. Aside from such presence, in most US cities newspapers operate in a near-monopolistic local market structure. In 2014, only 20 American cities were served by two or more separately owned competing local dailies. The city population generally needed to assure a single local paper in the year 2000 was above 100,000, whereas in 1980 it had been only half that. To sustain more than one daily local newspaper required on average a population of more than one million, whereas it was half a million in 1980.[18]

In many countries, the market share of the top newspaper publishing company is quite high: in Mexico (OEM, 49.4%); Turkey (Dogan, 63%); Australia (News Corp., 58%); Chile (Mercurio, 55%); Ireland (INM, 52%); South Africa (Naspers, 36%); Argentina (Clarin, 45%); France (Amaury, 30%); and the UK (News Corp., 35%).[19] In the USA, the largest newspaper company is Gannett, with a market share of 12% in 2016.

Given the historically central role of newspapers in political and commercial communications, there has been a great deal of concern about the decline of the newspaper industry. The continued trend toward local market monopoly, the mergers of newspaper groups, the shrinking circulations, and the emergence of the internet as an effective and delivery platform of free news and targeted advertising have raised worldwide alarms about the future viability of newspapers. Newspaper firms have responded by further consolidation, using technology to streamline production and distribution processes, and cutting editorial costs (and often quality). But in particular, newspapers "repurposed" their content in new electronic ways to compete for consumer attention and advertiser support.

Magazines do not include up-to-the minute news and are capable of relying on more leisurely delivery systems than newspapers.[20] Magazines rapidly adapt to changing interests and activities in society; as a result, the industry has faced a less steep decline than daily newspapers. The major magazine groups tend to publish dozens of different titles, with economies realized in the physical production and distribution more than in content production. In the USA these groups are Advance Publications, Meredith, and Hearst, each with about 7–9%. Internationally, the largest groups are, aside from the Government of China and the three US groups mentioned, the commercial publishers Abril and Globo (both Brazil), Bauer, Axel Springer, Burda, and Bertelsmann (Germany), Lagardere (France), Sanoma (Finland), and Bonnier (Sweden).

For newspapers, the share of the different stages of the value chain in overall revenues is provided below. The share of the publisher is by far the largest, because they get most of the substantial advertising revenues, in contrast to the news-stand revenues which they must share with retailers and wholesalers.

- **Revenue Shares of Print Newspapers**
- Retailer (vendors): 13%
- Wholesaler: 9.5%
- Producer/publisher: 62%
  - Materials: 15%
  - Production: 19.1%
  - Admin./overhead: 6.5%
  - Advertising and marketing: 10.7%
  - Profit: 10.7%
- Creators/editorial: 15.5%

12 Bailey, Herbert S. *The Art and Science of Book Publishing*. Athens, OH: Ohio University Press, 1990.

13 Rich, Motoko. "Math of Publishing Medts the E-Book." New York Times. February 28, 2010. Last accessed July 17, 2017.
► http://www.nytimes.com/2010/03/01/business/media/01ebooks.html?partner=rss&emc=rss.

14 Newspaper Association of America. "Newspaper Readership & Audience by Age and Gender." *NAA.org.* Last updated March 18, 2013. ► http://www.naa.org/Trends-and-Numbers/Readership/Age-and-Gender.aspx.

15 Newspaper Association of America. "Daily Readership Trend - Total Adults (1988–2005)." *Newspaper Association of America.* (1988–2005). Last updated October 2005. ► http://www.naa.org/marketscope/pdfs/Daily_National_Top50_1998-2005.pdf.

16 Pew Research Journalism Project. "Newspaper Readership by Age." *Pew Research Center.* Last updated July 2014. ► http://www.journalism.org/media-indicators/newspaper-readership-by-age/.

17 Edmonds, Rick. "Newspaper declines accelerate, latest Pew Research finds, other sectors healthier." *Poynter.* Last updated June 15, 2016. ► http://www.poynter.org/2016/newspaper-declines-accelerate-latest-pew-research-finds-other-sectors-healthier/416657/.

18 Noam, Eli. *Media Ownership and Concentration in America.* (New York: Oxford University Press, 2009), 142.

19 Noam, Eli. Who Owns the World's Media? New York: Oxford University Press, 2016.

20 Compaine, Benjamin M. and Douglas Gomery. *Who Owns The Media?* 3rd edition (Mahwah: Lawrence Erlbaum Associates, Inc., 2000), 147–193.

Table 3.5 Global market shares of major music groups (2015)

Music group	Market share
Universal (Vivendi)	33.5
Sony	22.6
WMG (Time Warner)	17.1

Music & Copyright. "WMG makes biggest recorded music market share gains of 2015; indies cement publishing lead," April 28, 2016. Last accessed April 11, 2017. ► https://musicandcopyright.wordpress.com/tag/market-share/

3.2.6.3 Music

The recorded music industry is internationally concentrated and integrated with other media. The three major music groups own large numbers of specialized and national labels worldwide, each with its own character and specialties (Table 3.5).

The music industry has low economies of scale and entry barriers on the content production end, but high economies of scale on the distribution end, where only a few companies manage to exist. The retail revenues of a typical compact disc (CD) go to the following categories of recipients:

- Retailer: 20%[21]
- Distribution (wholesale): 17%
  - Physical distribution: 10%
  - Admin. copyrights: 7%
- Label (production): 46%
  - Manufacturing: 10%
  - Production (recording): 5%
  - Marketing: 15%
  - Overhead: 10%
  - Profit: 6%
- Creators/artists (incl. composer): 17%
  - Performer and composer: 11%
  - Composer and songwriter: 6%

For a traditional music CD, the producing activities (artist, songwriter, composer, copyright, producer, recording, manufacturing, and allocated overhead and profit) account for about 53% of overall revenue. Overall Distribution accounts for 37%. For online music, production gets about 38% of revenues (not including advertising intermediaries). Much of the revenue goes into the distribution chain (retailer, wholesale distributor, marketing) and to the copyright publisher.[22]

The business model for the music industry has been changing drastically. While the economies of scale of music production have declined, those of distribution have risen. The technology of the internet, file compression, and data storage has shifted music from a physical product, such as vinyl records or CDs, to electronically stored and distributed files and formats. Apple's iTunes store, in particular, has revolutionized the music business by abandoning the physical CD in favor of downloads.[23]

CD album sales in the USA dropped by 15% in 2007, 14% in 2008, 13% in 2009, 13% again in 2010 (314.9 million units), 20% in 2012,[24] and 13.6% in 2016.[25] Online and mobile downloads rose for a while strongly, to 660.8 million units in 2011, but then dropped as listeners moved to streaming and continued to download illegally. Audio streaming rose in the USA in 2014 by 42%, with over 150 billion songs. In 2016, audio streaming became the largest revenue stream for music, accounting for 34.3% of all revenue, around $2.4 billion. Digital downloads (which includes methods such as Apple iTunes) accounted for 34% of music revenues.

In terms of revenue, the income from an album CD sale is the equivalent of about 1500 song streams. A CD song is thus worth about 150 streamed songs. ► Amazon.com's MP3 store holds a 13% share in the digital music market. Apple iTunes became the largest music retailer in the USA after pulling ahead of Wal-Mart Stores in 2008. With its 64% of digital downloads, Apple accounted for about 21% of all music sold in 2015. What all this means for production is that the physical aspects of that activity have declined significantly in volume and importance, and recording and editing has become greatly more affordable through cheap software and hardware of digital audio workstations.

3.2.6.4 Television Content

Much of TV content has a short half-life, especially news and sports events. "Disposable television" includes talk shows, award galas, and so on. But a short economic life has advantages, too, since it attracts less piracy. Other major parts of TV entertainment content are serials and "made for TV" films. These have increasingly become part of subsequent distribution over the internet (Table 3.6).

The world's largest producers of TV content are state-owned broadcast entities (such as in China, Egypt, and Russia), and national public service broadcasters such as BBC (UK), RAI (Italy) NHK (Japan), and ARD and ZDF (Germany). Large commercial TV producers, aside from the

21 Sources: Donovan, Natalie. "If CDs cost £8 where does the money go?" BBC News. August 26, 2013. Last accessed July 17, 2017. ► http://www.bbc.com/news/magazine-23840744; Wizbang. "Does a CD have to cost $15.99?" October 14, 2004. Last accessed July 17, 2017. ► http://wizbangblog.com/content/2004/10/14/does-a-cd-have.php; Knopper, Steve. "The New Economics of the Music Industry." Rolling Stone. October 25, 2011. Last accessed July 17, 2017. ► http://www.rollingstone.com/music/news/the-new-economics-of-the-music-industry-20111025.

22 For online music, the retailer such as Apple iStore takes about 30%, the distributor (for encoding, submission, etc.) 8%, the producer/ label 28%. (The latter includes marketing 11%, production 10%, admin./overhead 5%, and profit 2%); advertising intermediaries 16%; the artist 10%; songwriter and composer 6%).

23 Music streaming services do not "sell" the ownership of a song but rather a service that provides it on demand. Their revenue streams are mostly advertising and subscriptions. Providers include Pandora, Spotify, Rhapsody (RealNetworks), and Sony's Music Unlimited. Amobi, Tuna N. "Movies and Entertainment." *Standard and Poor's Industry Surveys.* March 2012. Last accessed August 2, 2012. ► http://www.netadvantage.standardandpoors.com/NASApp/NetAdvantage/showIndustrySurvey.do?code=mhe.

24 Amobi, Tuna N. "Movies and Entertainment." *Standard and Poor's Industry Surveys.* March 2012. Last accessed August 2, 2012. ► http://www.netadvantage.standardandpoors.com/NASApp/NetAdvantage/showIndustrySurvey.do?code=mhe.

25 Christman, Ed. "U.S. Record Industry Sees Album Sales Sink to Historic Lows (Again) – But People Are Listening More Than Ever." Last updated July 6, 2016. ► http://www.billboard.com/articles/business/7430863/2016-soundscan-nielsen-music-mid-year-album-sales-sink-streaming-growth.

Table 3.6 US market share of major TV production companies for primetime TV shows (2017)

21st Century Fox	17.7%
Viacom/CBS	7.3%
Time Warner	21.4%
Disney	7.7%
NBCUniversal	8.6%
Other	37.3%

Turk, Sarah. *IBIS World Industry Report 51211b: Television Production in the US.* (IBISWorld, March 2018), 23–28

ones listed above, are Globo (Brazil), Televisa (Mexico), NTV, TV Asahi, Fuji, TBS (all Japan), SBS (Korea), Bertelsmann (Germany), and Fininvest (Berlusconi, Italy).

Much of the TV content produced by these firms is being retail-distributed by their own TV and cable channels domestically and by additional companies internationally. But others are not vertically integrated, and their programs are produced and distributed to the public through independent companies or in mixed arrangements.

3.2.6.5 Video Games

Video games, though distributed by game publishers, are actually written by different types of developers: in-house teams of the publishers; by independents who may self-publish and self-distribute; and by third-party contractors. When self-developing, the distribution forms hire programmers, game designers, artists, sound engineers, producers, and testers.

Major games easily cost $10 million and more to produce, plus $10 million to market. Game platforms are subject to a five-year hardware cycle of technology generations, and game companies must redesign most of their game software on the same schedule to conform to the enhanced technological capabilities of the new-generation platforms.

Video game titles have an 80% failure rate, but the upsides can be substantial. In 2009, a single video game, *Call of Duty: Modern Warfare 2*, developed by Infinity Ward and published by Activision, sold over 4.7 million copies in its first 24 hours in just the UK and the USA, earning roughly $310 million.[26] In its first weekend, the game earned over $550 million worldwide, surpassing the movie *The Dark Knight*'s $155 million opening weekend and *Harry Potter and the Half-Blood Prince*'s $394 million five-day earning. By 2010, the game had earned over $1 billion from over 25 million unique players. By 2014, the *Call of Duty Modern Warfare* franchise had grossed $3.52 billion with about 58 million players.

The major video game software makers (market share by units sold) in 2016 are listed in Table 3.7:

Table 3.7 Major video game makers in the USA (2016)

Publisher	US market share
Electronic Arts	20.6%
Activision	13.1%
Nintendo	12.7%
Microsoft	10.1%
Take-Two Interactive	9.9%
Sony	9.5%
Ubisoft	8.1%
Others	16%
US total revenue ($ million)	14,900[a]

Based on video game units sold of the top 100 sold games in the USA for the calendar year 2016. Data from "USA Yearly Chart" *VGChartz*. Last accessed May 12, 2017. ► http://www.vgchartz.com/yearly/2016/USA/

[a]US total revenue based on total video game software market of $24.5 billion minus $6 billion for mobile phone games, minus $3.6 billion in hardware sales

The video game industry has moved to economics similar to those of Hollywood. This includes high budgets and a reliance on blockbusters.[27] In-game advertisements similar to TV commercials were introduced, and the industry collaborated with the Nielsen research company to develop an advertising audience measurement system.

3.2.7 The Global Success of the Hollywood Production Industry

We now return to a discussion of the film industry. For several centuries, the flow of culture—books, theater, and music—flowed largely in one direction, out of Europe: to the colonies and the rest of the world. But then the direction of the flow was reversed for the young medium of film. Starting in 1910, American films accounted for over half of the box office in Europe, exceeding domestic products even in France, Germany, and the UK, and this percentage grew in the 1920s. In response, protective import quotas and restrictions on the repatriation of box office earnings were speedily established in the major European countries. In effect, this was an early regulatory measure against cultural globalization, which until then had been acceptable in music and literature. Content protectionism serves three functions: to shelter a country's national culture and identity; to support the influential cultural production sector and its workforce; and to help project a country's worldwide visibility. The measures employed were direct governmental subsidies, import

26 Gaylord, Chris. "Modern Warfare 2 Sales Nuke All Previous Records." *The Christian Science Monitor*. November 12, 2009. Last accessed July 7, 2010. ► http://www.csmonitor.com/Innovation/Horizons/2009/1112/modern-warfare-2-sales-nuke-all-previous-records.

27 Nussenbaum, Evelyn. "News and Analysis; Video Game Makers Go Hollywood. Uh-Oh." *New York Times*. August 22, 2004. Last accessed April 11, 2017. ► http://www.nytimes.com/2004/08/22/business/news-and-analysis-video-game-makers-go-hollywood-uh-oh.html.

quotas, screen and broadcast quotas, and tax breaks. Many of these policies have persisted in one form or another for almost a century. In Canada, the government subsidizes film production directly. In addition, 60% of the Canadian TV schedule must be Canadian content, subject to a complex formula. In Australia, government money makes up around 37% of overall film investments, along with the lost tax revenues from an immediate 100% tax deduction for investors. In Europe, Brussels provided $850 million subsidies in one year for films that generated box office revenues of only around $400 million.[28] On top of these European Union (EU) subsidies, most European countries (and within countries different regions) have their own subsidies, some of which cover over 50% of a film's budget. In 2013 European governments spent approximately $2.8 billion (€2.1 billion) in various forms of direct cash support for European productions. Additionally, $1.3 billion (€1 billion) of support is given in the form of targeted tax incentives in 2013.[29] This alone adds up to $4.1 billion per year, and it does not include the major support from public service TV, which is funded through dedicated taxes (license fees) or the general state budget, and the economic value of import restrictions. Even so, of the top 40 grossing films worldwide in almost every year almost all were Hollywood productions.

In most countries, audiences prefer domestically produced films, but imported Hollywood films follow behind as second most popular, and they are more numerous and thus dominate. The key problem is that films from third countries—including films from neighboring countries—are much less popular outside their own country. In 2004, only 8% of film revenue in Europe was from European films shown outside their own national market in other European countries.[30]

What then are the reasons for Hollywood's success as a content production center? The answers may help to identify the main success factors for content production more generally.

3.2.8 Case Discussion

Canal Plus

Canal Plus is a French premium pay television channel and is one of the world's leading subscription-based TV providers. It has nearly 14 million subscribers across Europe and Africa. Canal Plus and its production arm StudioCanal are the nearest equivalent in Europe to a major Hollywood studio.[31] In 2011, it led in European film production, acquisition, and distribution.[32] The company is owned by the French media and communications conglomerate Vivendi. After establishing itself in France, Canal Plus expanded internationally, in Belgium, Spain, Germany, Netherlands, Sweden, and Africa, and by broadcasting by satellite. Its content included popular American TV shows and movies, but it also moved into film production and financing. It launched StudioCanal Plus and financed projects with Hollywood studios and others. It also became Europe's largest buyer of American movie rights.[33]

In 2006, the company acquired the UK film distributor Optimum Releasing and in 2008 the German film distributor Kinowelt (both were renamed StudioCanal). In other countries it uses other distributors. In the USA, for example, StudioCanal distributes its home videos through Criterion, Rialto Pictures, Image Entertainment, MGM, and Universal.[34] On its part, it has internationally distributed home video from Miramax Films.[35]

Cinema in France

To understand the present and future of Canal Plus one must understand its past. For several decades, French film had been a relatively weak exporter. In other cultural markets French cultural products have been highly successful around the world. Paris is the capital of fashion and cuisine. Its books are read worldwide. In popular French music, dance music group Daft Punk has become highly successful. Its album *Random Access Memories*, released in 2013, sold half a million copies, and was number one on the Billboard album chart. Daft Punk helped popularize electronic dance music in America. Another famous French musician was the rock star Johnny Hallyday, who sold more than 100 million albums worldwide.

In cinema, as mentioned, the world's first film was made by the Lumière Brothers in 1895. Pathé Brothers was founded in 1896, and soon became a world leader in movie production and distribution; Gaumont was started in 1895 and also had a global presence. The Hollywood "majors," however, quickly came to dominate the French market. In the 1920s, French film producers successfully lobbied the government for import quotas, in co-ordination with Germany, despite the bitter hostility of their governments to each other in the wake of World War I. These quotas were not particularly successful. French film maintained a decent market share at home but not internationally, including in other European countries.

For decades, many of the major French films were elaborate productions

28 This includes, for example, €110 million a year from the Creative Europe MEDIA program.

29 Schwartz, Thomas. "Current Trends in International Film Co-Productions." *Lipscomb, Eisenberg & Baker.* Last accessed April 4, 2014. ► http://lebfirm.com/news/current-trends-in-international-film-co-productions/.

30 European Audiovisual Observatory. *Focus 2004 - World Film Market Trends.* Cannes: Marché du Film, 2004. Last accessed August 7, 2012. ► http://www.obs.coe.int/online_publication/reports/focus2004.pdf.

31 Hopewell, John. "Variety's Achievement in Int'l Film Award: Olivier Courson." *Variety.* May 11, 2012. Last accessed May 30, 2013. ► http://variety.com/2012/film/news/creative-punch-meets-biz-savvy-1118053319/.

32 Canada NewsWire. "Lionsgate, StudioCanal and Miramax Enter into Home Entertainment Distribution Agreement." February 11, 2011. Last accessed May 30, 2013. ► http://search.proquest.com/docview/851458253/13E5B602AB716C5660C/4?accountid=10226.

33 FundingUniverse. "Canal Plus History." Last accessed June 6, 2013. ► http://www.fundinguniverse.com/company-histories/canal-plus-history/.

34 Kirschbaum, Erik and John Hopewell. "StudioCanal buys Kinowelt." *Variety*. January 17, 2013. Last accessed May 30, 2013. ► http://variety.com/2008/film/news/studiocanal-buys-kinowelt-1117979210/.

35 Fritz, Ben. "New Miramax finds its home entertainment distributors: Lionsgate and StudioCanal." *Los Angeles Times.* Last updated February 11, 2011. ► http://latimesblogs.latimes.com/entertainmentnewsbuzz/2011/02/new-miramax-finds-its-home-entertainment-distributors-lionsgate-and-studiocanal.html.

of classic novels of French culture. This "cinema of quality" was supported by governmental funds. Critics covered it gently. Outside France it left no mark. A dissident group of gifted writers and critics centered around the journal *Cahiers du Cinema*, including François Truffaut, Jean-Luc Godard, Eric Rohmer, and Jacques Rivette, attacked this tradition. Starting in the late 1950s, they began to make their own movies.

The result was a major renaissance in French film-making. 120 first-time directors made full-length films in the years 1958–1964. Governmental or public service TV usually supported these films. This era is known as the French New Wave—Nouvelle Vague. Other French filmmakers in those years included Claude Chabrol, Jean Renoir, and Alain Resnais.[36]

The New Wave gave directors great freedom as "authors" (*auteurs*) of a film. Their films frequently rejected the narrative structure of novels and were often political. Endings were ambiguous, challenging viewers to insert their own imagination. In texture, editing, and visual quality they were inspired by documentaries. New Wave films with international success included *400 Blows*, *Breathless*, *Hiroshima Mon Amour*, and *Last Year in Marienbad*. Such films inspired film-makers in other countries.[37]

Soon, however, the New Wave was crested. Financial success was less frequent, and younger audiences did not follow the 1960s generation in enthusiasm. By the late 1970s, French film had declined again. *Cahiers du Cinema* itself became politicized and controlled by a Maoist fringe. It lost readership and influence.[38] The "New Wave" ceased to be new, or a wave.

To deal with this decline, the French government created a financial support mechanism. Its most notable element was the new TV channel, Canal Plus, created in the mid-1980s. Previously, under conservative French Presidents de Gaulle and Pompidou, French TV had been totally owned and controlled by the government for which it was the mouthpiece. De Gaulle's influence rested on his direct TV addresses to the nation. Opposition politicians rarely had access to the news and were covered in unflattering ways. French presidents directly appointed the top management of the three national TV channels, with political loyalty as the main factor. By 1980 this system was widely derided. A new socialist president, François Mitterand, himself long a victim of such state TV, opened up the medium somewhat by privatizing one of the three government channels. He also created the first pay-TV channel, Canal Plus. But staying within the paradigm of state control, it was guided by Andre Rousselet, the president's closest advisor, chief of staff, regular golfing partner, campaign finance director, and executor of his last will. Rousselet became head of the largest French advertising and media company, Havas, which then received from the government a monopoly license to transmit pay-TV in France, as Canal Plus. Rousselet became its director general. Being the state-licensed monopolist of pay-TV, Canal Plus was able to charge prices that would have failed in more competitive markets. In 2014, it charged almost $53 per month. In contrast, HBO or Showtime in the USA charged $11–17.

In return for its profitable exclusivity in pay-TV,[39] Canal Plus had to agree to allocate 10% of its revenues to the production of French films. This revenue source became the major funding for French cinema. In 2008, Canal Plus prebought or co-produced 64% of all French films, plus any that might have been licensed or acquired later in "negative pickup deals."

Thus the system that was created was a commercial monopoly, with non-competitive prices borne by French consumers, parts of the monopoly revenue channeled into film production that soon became dominated by its source, Canal Plus, and all of it controlled and partly owned by the President's personal friend and political ally.

Vivendi—The Parent Company

Vivendi is the largest European media company. Its origin is the French municipal water utility Compagnie Generale Des Eau, created by edict of Napoleon III in 1853. Eventually, water distribution led to waste management, construction, energy, cable TV distribution, and mobile telecoms.

The water, utility, and construction segments were spun off in 2000. The media part was renamed Vivendi. Its president, Jean-Marie Messier, was a highly entrepreneurial leader who admired the American media chief executive officer (CEO) model. He made the company a major vehicle of growth.

Vivendi diversified by buying the second French cellular telecoms operator, the video game companies Activision and Blizzard Games, and Canal Plus. It then acquired the major Hollywood studio and music companies Universal Pictures and Universal Music in 2000, by buying the Canadian firm Seagram's, whose new-generation leader, Edgar Bronfman Jr., had visions of media grandeur. Eventually, however, Vivendi over-extended itself and faced huge debt obligations and insolvency. The 2001 losses were $11.2 billion. Messier was fired and Vivendi sold off portions of the business, including most of Universal Pictures. Messier was charged with securities violations, and a decade later was slapped on the wrist with a fine of €150,000.

Vivendi, became a classic vertically integrated multinational mass-media and telecommunication company with activities in music, television, film, publishing, telecoms, the internet, and video games.[40] Its market share in the film market in France is 26.8%, far ahead of the other players, including Hollywood firms whose combined share was about 50% (see Table 3.8). In 2016 Canal Plus accounted for 23% of Vivendi's profits.[41]

In film distribution, many of the major companies in France are the Hollywood majors. The two other major French film companies are Gaumont and UGC/Bouygues. Other firms include Europa Corp, Metropolitan, and Bertelsmann/RTL of Germany.

36 Grant, Barry Keith. *Schirmer Encyclopedia of Film*. (Detroit: Schirmer Reference, 2007), 235.
37 The New German Cinema, Cinema Novo, New Hollywood, the LA Rebellion, Indian Parallel Cinema, Japanese Nuberu Bagu, and more.
38 Macnab, Geoffrey. "Pretentious, Nous? Geoffrey Macnab Celebrates 50 Years of Cahiers Du Cinéma, the World's Most Influential Film Magazine." *The Guardian*. April 6, 2001. Last accessed August 27, 2015. ► https://www.theguardian.com/film/2001/apr/07/books.guardianreview.
39 Canal Plus briefly got competition for terrestrial pay-TV, 30 years later, when the French government licensed SelecTV, which, however, went bankrupt after a short time.
40 Vivendi. "Vivendi in Brief." Last accessed April 12, 2017. ► http://www.vivendi.com/en/vivendi-en/.
41 Vivendi. *Vivendi 2016 Annual Report*. Last accessed April 12, 2017. ► http://www.vivendi.com/wp-content/uploads/2017/02/20170223_Financial_Report_and_Consolidated_Financial_Statements_FY_2016.pdf.

Table 3.8 Market shares in film production and distribution (France, 2011)

Firm	Market share (%)
Vivendi Pathé	26.8
United International Pictures (UIP)—Universal & Paramount Pictures (Viacom, USA and Comcast/GE, USA)	10.9
Warner Bros. (Time Warner, USA)[a]	10.7
Gaumont	10.5
21st Century Fox (USA)	7.8
Sony (Japan)	6.5
Bouygues (TF1, France) UGC	5.7
Mars	5.6
SND	4.5
Metropolitan	4.2
Europa Corp	2.9
Bac Films	

Badillo, Patrick-Yves, Dominique Bourgeois, and Jean-Baptiste Lesourde. "France." In *Who Owns the World's Media?* Ed. Eli Noam. New York: Oxford University Press, 2016.
[a]Acquisition by AT & T approved in 2018

3.3 Conventional Arguments for Hollywood's Success in Production

3.3.1 Supposed Advantage: Market Size? Language?

Many explanations have been offered for Hollywood's enduring success as a center for content production. The most frequent ones are the large scale of the market, as well as political and economic power, superior access to talent, and vertical integration of production and distribution. These factors will now be discussed because they are relevant to all types of content industries.

The conventional argument for content success is that a large domestic market must exist before exporting the content worldwide. The US population is about 318 million, whereas the French one, for example, is only 66 million. A 2013 compilation finds that English as first and second language was understood by 840 million people. For French, the equivalent figure was 486 million, for Spanish 430 million, for Portuguese 310, for Arabic 620 million. It was highest for Mandarin at 1036 million and Hindi/Urdu at 850 million.[42] Thus, English by sheer numbers is not a radical outlier, though clearly it is by far the most influential and global language, and is spoken by an economically affluent slice of the world's population.

But is market size, even when weighted by income, determinative of production success? Because if it were, this would relegate small countries into permanent roles as importers. However, such "two-stage" thinking, in which exports are only a subsequent second step after domestic success, makes no sense for a business firm. With such economic logic, there would be no major industry of watchmaking in Switzerland, of chocolate in Belgium, of software in Israel and Ireland, or of video games or consumer electronics in Korea. All these countries are relatively small. None possesses unique natural resources. But they are major exporters of their products despite (or perhaps because of) their limited national markets. In the modern economy, producers must plan from the beginning to sell in a world market rather than only domestically.

In concept, small or medium-sized countries can produce content for the rest of the world. In music, there are many successful artists from medium-sized or small countries. For example, the Swedish pop group ABBA. Bob Marley from Jamaica, or Björk from tiny Iceland. In books, authors from relatively small countries have often been global successes. Examples are Georges Simenon (Belgium), Astrid Lindgren (Sweden), and Gabriel Garcia Marquez (Colombia).

That it can be profitable for media companies from small or medium-sized countries to become large in global terms can be seen by the world's largest commercial book publishers, which, in 2009, were #1 Bertelsmann (Germany); #2 Lagardère/Hachette (France); #3 Fininvest/Mondadori (Italy); #4 Planeta (Spain); followed by a US company (Harper Collins) as #5, controlled by Australian Rupert Murdoch's NewsCorp. All of these companies made a substantial part of their business outside their home base.

But an exports orientation also has an impact on content. If export revenues rise in importance, the incentives for content in terms of themes and style will be to be more global and less local. Therefore, content that aims at export will most likely shed some its domestic distinctions in favor of a wider global appeal. "Mid-Atlantic" or "mid-Pacific" content emerges. An extreme example, in the late 1960s, was the highly successful genre of films from Italy known as "Spaghetti Westerns," which emulated American cowboy films. Given the worldwide popularity of the genre at the time, these Italian-made films were hits everywhere, but they were not particularly Italian in content.

Similarly, television content, for worldwide success, becomes export-oriented. Endemol, a Netherlands-based firm, developed TV formats that were then widely franchised, such as *Big Brother* and *Fear Factor*. They have few elements that are distinctively Dutch or Western European.

The same dynamics affect American content. Not all content is equally exportable. Films with action, adventure, physical comedy, and special effects generally travel well to

42 Simons, Gary F. and Charles D. Fennig. Eds. *Ethnologue: Languages of the World,* 20th edition. Dallas, TX: SIL International. Online version: ► http://www.ethnologue.com.

other countries. In contrast, comedies are more difficult to translate in terms of language and sub-text. Social controversies such as race themes do not export well either. In consequence, the tastes of foreign audiences affect American film. The choice of actors also becomes more global. In the casting of films increasingly multinational performers are chosen for their multinational marketing appeal.

The argument is often made that there is no symmetry in the willingness to watch foreign content. US audiences are supposedly opposed to dubbing and sub-titles; it is not clear if this is a true or permanent state of affairs. After all, if the rest of the world watches dubbed movies then why would Americans not do so if a foreign-made film were compelling? The foreign-language film with the largest ever audience in the USA was *The Passion of the Christ*, which was in ancient Aramaic (!) with English sub-titles, and it proved to be a huge success.

3.3.1.1 Small Country Versus Large Country

We can show the dynamics of interaction in a simple analysis. Suppose there are two countries, one of them, the USA, with a population of 300 million, and a small country, S, with a population of 30 million. Each country produces a film: each costing $10 million to produce. Each films appeals to the same proportion (0.33%) of their domestic markets. If the production budget declines, so does the audience proportionately. US audiences for the US film spend $10 million on 1 million tickets. Country S audiences spend $1 million on 100,000 tickets for the domestic film.

Programs produced in one country for its own audience diminish in appeal in the second country owing to cultural differences. This diminution is called the *cultural discount*. We assume that there is a cultural discount of 40% for exports, in both directions. Thus, whereas a film appeals domestically to 0.33% of the population, for imports that percentage is reduced by 40%; it is therefore about 20% overall. Taking into account the cultural discount of 40% for imports we get, for the US film, revenues of $10 million domestically + $(1–0.4) × 1 million exports to country S = $10.6 million overall.

The offsetting production cost is $10 million, and the film is thus profitable by $600,000.

Meanwhile, for the smaller country's film domestic revenue = $1 million.

And from the export of the film to the USA, taking into account the cultural discount,

$$(1-0.4)\times 10\text{million} = \$6\text{million}$$

The production cost is $10 million so the net loss is $10 million –$7 million = $3 million.

Thus the small country's film loses money. What then are the options for a producer in that country?

The first option is that the film's budget has to be reduced, to $5 million, for example. This, however, will reduce the film's attractiveness domestically and internationally. It will also reduce audience size domestically, by half, to 50,000, and in the USA to 3000,000. The film will still be in deficit, by $3.5 million –$5 million = –$1.5 million. True, costs have declined by half—but so has the audience. Reducing just the film's budget did not help.

The second option is to change the style of the film to better suit the home audience. This option would raise the domestic audience share of the film from 0.33% to 0.5%, but it would also reduce the attractiveness of the film to audiences in other countries by raising the cultural discount by the same proportion. For example, domestic audiences would rise to 1.5 million; the US audience, however, would decline to 3 million. $1.5 million + $9 million − $10 million = −$5.5 million. Thus the film is still in deficit.

The third option is to make the film *less* domestic. Now, the producer in country S produces content that highly appeals to the larger market outside. This would reduce the cultural discount to, say, 5%.

Reducing a cultural discount means less of a national orientation. This would make domestic audiences in S drop by 5% to 950,000, but US audiences would increase to (1–0.05) × 10 million = 9,500,000.

Thus, with a production cost of $10 million,

$$\begin{aligned}\text{Profit} &= \$0.95\text{million} + \$9.5\text{million} - \$10\text{million}\\ &= \$0.45\text{million}.\end{aligned}$$

The film is now moderately profitable. It could be produced and be self-supporting.

A variation on the "market size" argument is that large domestic markets supposedly enable content to be produced for domestic audiences which is then "dumped" at a low price on foreign markets. The argument is often framed in economic terms: that the low marginal cost of a film leads to low export prices, which then overwhelm the production in small countries. The claim is that Hollywood exports flood world markets because they have already been produced for the US domestic market, and can therefore be exported at A low marginal cost, whereas it is costly to produce a domestic film from scratch.[43]

But this is a flawed economic argument: it compares apples and oranges—the incremental cost of renting a premade US production with the total cost of making a new domestic film. An analogy would be to argue that it is cheaper to rent a taxi for a ride than to buy a new car. The argument is also asymmetric: films can also be imported from and to any third countries at marginal cost, not only from Hollywood. The same goes for TV content, music, and so on.

A large domestic market helps content production, but it can be overcome by a firm that thinks globally not locally in its content production strategy and on a scale that goes beyond its domestic market. It must not think of exports as an aftermarket but as *the* market. This, however, means a reduction of the national character of the content in order to appeal to a wider audience, through themes, styles, and costs. (There will be, of course, a few exceptions in which the very "foreignness" of content is its attraction.)

43 Richeri, Giuseppe. *Global film market, regional problems.* Switzerland: Università della Svizzera Italiana, 2016.

A variant of the big market argument is that of cultural imperialism, under which a large and strong country can project its culture onto a smaller and weaker country. Ancient Rome and Babylon, or nineteenth-century England and France, were able to project their cultures. More recently, America's global influence has made its themes and values globally familiar.[44] Critics charge that Americanization threatens national culture, and that a "free flow of information is the channel through which lifestyles and systems can be imposed on poor and vulnerable societies" (Herbert Schiller). Such arguments have often led to national policies of restricting imports and subsidizing domestic production. For example, France requires theaters to reserve 20 weeks of screen time a year for French (and now European) films.

The argument of power, is partly true but partly wrong. Several Greek and Italian city-states were culturally highly successful without being particularly powerful. Hollywood was dominant already before World War I and America's ascent. The American superpower status did not generate a similar US dominance in books, theater, or the visual arts. The Soviet Union, as a superpower, never had a global content-shaping role. Thus national power is just one factor for content success.

3.3.2 Supposed Advantage: Stars?

Does a content producer require "star" performers, writers, or other talent to succeed? Is access to such stars therefore a reason for the success of Hollywood, Broadway, or Silicon Valley? Each content industry has its leading lights. In the nineteenth century, for books, Charles Dickens, Leo Tolstoy, and Emile Balzac had a hold over national and international audiences. In theater and opera, famous performers such as Eleonora Duse, Sarah Bernhardt, and Enrico Caruso presented the works of luminary playwrights such as George Bernard Shaw or of composers such as Giuseppe Verdi. The world's first star movie actor was Mary Pickford (1892–1979). Name brand creatives have always enlivened the content industry. But are such "stars" essential? Are they the secret of success in content production? And does control over them give an advantage to a content provider?

This seems a simple question to answer with a yes. A star is indeed likely to increase the tickets or copies sold. But one must take into account that these stars also command very high payments which may well offset the higher revenues attributable to their reputation. By definition, stars are rare. (They may not be more talented than many others, but they are more famous and audiences like that.) And being a scarce input to a production, they can extract an economic rent well above the going rate for less famous talent.

In addition to their direct compensation, plus profit participation, stars also raise production costs by requiring other top-grade and premium-pay artistic and support staff. Stars thus tend to raise the salaries of all people in the project.[45] Arnold Schwarzenegger, for example, had a contractual "pre-approval" clause that gave him the choice of not only the director and the principal cast, but also his hairdresser, makeup person, driver, stand-in, stunt double, publicist, personal physician, and cook.

Stars help in marketing a media product. But are they worth the money they cost? One view is that stars add value to a project but then capture most of it in high compensation, so it is all a wash or even a waste. An alternative view is that stars add credibility to a project and thus help to make it happen. Statistical studies show that stars (and big production budgets) are associated with higher revenues but not with higher profits. A study of 600 movie stars and 500 movies concluded that the effect of a star on theatrical revenue was, on average, $3 million and did not increase the market value of the firm distributing or producing the film.[46] Casting announcements of a star did not affect the share price of media companies that owned the studio. Several other studies have also not found a relationship between revenues and stars.[47] Some have found that a movie's revenues increase with star power but usually not as much as the added costs.[48] One study of 200 films shows that stars play no role in a movie's financial

44 Hagen, David M. and Susan Musser. *America's Global Influence.* Detroit: Greenhaven Press, 2007.

45 Stars have also created their own production companies to add further to their share. Film actor Tom Cruise's company, Cruise-Wagner Productions, co-produced several of Cruise's own movies, such as *Vanilla Sky*, *Mission Impossible*, and *The Last Samurai*, and films made by his then wife, Nicole Kidman, such as *The Others*. Similarly, Oak Productions, owned by Arnold Schwarzenegger, acted as the "lender" of the star's services to the film production of *Terminator 3*. Epstein, Edward Jay, *The Big Picture, The New Logic of Money and Power in Hollywood*. New York: E.J.E. Publications, Ltd., Inc., 2005.

46 Porter, Eduardo, and Geraldine Fabrikant. "A Big Star May Not a Profitable Movie Make." *New York Times*. August 28, 2006. Last accessed April 12, 2017. ► http://www.nytimes.com/2006/08/28/business/media/28cast.html; Elbserse, Anita. "The Power of Stars: Do Star Actors Drive the Success of Movies?" *Journal of Marketing* 71, (October 2007): 102–120.

47 De Vany, Arthur and W. David Walls. "Uncertainty in the Movie Industry: Does Star Power Reduce the Terror of the Box Office?" *Journal of Cultural Economics* 23, no. 4 (November 1999): 285–318; Litman, Barry R. "Predicting Success of Theatrical Movies: An Empirical Study." *Journal of Popular Culture* 16 (Spring 1983), 139–175; Litman, Barry R., and Hoekyun Ahn. "Predicting Financial Success of Motion Pictures." *The Motion Picture Mega-Industry.* In Barry R. Litman, ed. (Needham Heights. MA: Allyn & Bacon, 1989), 172–197; Ravid, S. Abraham. "Information, Blockbusters, and Stars: A Study of the Film Industry," *Journal of Cultural Economics* 18 (September 1999), 217–235; Austin, Bruce A. *Immediate Seating: A Look at Movie Audiences.* Belmoni. CA: Wadsworth, 1989.

48 Basuroy, Suman, Subimal Chatterjee, and S. Abraham Ravid. "How Critical Are Critical Reviews? The Box Office Effect of Film Critics, Star Power, and Budgets." *Journal of Marketing* (October 2003), 103–117; Eliashberg, Jehoshas, Anita Elberse, and Mark Landers. "The Motion Picture Industry: Critical Issues in Practice. Current Research and New Research Directions." *Marketing Science* 25 (November–December 2006), 698–661; Faulkner, Robert R. and Any B. Anderson. "Short-Term Projects and Emergence Careers: Evidence from Hollywood." *American Journal of Sociology* 92 (January 1987), 879–909; Litman, Barry R. and Linda S. Kohl. "Predicting Financial Success of Motion Pictures: The '80s Experience." *Journal of Media Economies* 2 (Fall 1989), 35–50.

success. Instead, there are other variables associated with profitable films, such as the number of reviews, and G and PG ratings.[49] Another study shows that star participation itself is not correlated with a film's revenue but rather that high production budgets are.[50] Whether the money is spent on stars or on other things such as expensive special effects, the revenues increase, statistically speaking. But although they increase revenue, these big production budgets do not increase profitability; indeed, the opposite is true.

Furthermore, as stars increase the cost of production they also increase risk. Films with the same star will often perform very differently. The actor Leonardo DiCaprio appeared in the films *Titanic*, *The Man in the Iron Mask*, and *Celebrity*—all in the same year. *Titanic* became the highest-ever grossing film of all time ($900 million in worldwide theatrical rentals). But *The Man in the Iron Mask* earned just $80 million, and *Celebrity* earned only $3 million. Thus, DiCaprio could not create a huge audience by himself but was still paid considerable amounts.[51]

Similarly, Julia Roberts—the highest-paid actress in 1997—could not consistently generate a large audience. Two romantic comedies with her as the lead were released in that year: *My Best Friend's Wedding* earned $127.5 million, but *Everyone Says I Love You* earned only $12 million.

Jackie Chan translated his massive success in Southeast Asia into international stardom. The film *Twin Dragons Mira* (1997), however, earned only $8 million, whereas *Rush Hour* (1998) earned $141 million.[52] Tom Hanks appeared in two consecutive movies, *That Thing You Do!*, with a box office of $14 million, and in *Saving Private Ryan*, $200 million.

There are advantages to stars, of course. They attract attention to the work and help in promotion, reviews, and free publicity. When stars champion a project, their own "bankability" may get it approved and produced. Stars may be hired because the industry faces uncertainty and executives wish to be covered in case a project fails. Executives may care about revenues instead of profits, and stars as well as big budgets raise revenues. But statistically speaking, a star-filled movie also raises the producer's odds of suffering large losses and lowers the chances of making large profits.[53] The long-time Paramount studio head Sherry Lansing summarized her perspective: "I'm not interested in box office and I never have been. I'm interested in profitability."[54]

The most profitable arrangement for a producer is to recognize a "rising star," who will work at relatively low pay yet break out with the role and make the film a major financial success. Examples are Dustin Hoffman in *The Graduate*, Richard Dreyfus in *American Graffiti*, Clint Eastwood in *A Fistful of Dollars*, or Kristin Wiig in *Bridesmaids*. But the odds to identifying such a rising star are similar to selecting Google as an investment when it was a start-up idea by two Stanford graduate students.

The difficulty in an early discovery of a star is that is not necessarily based on special talent or looks that differentiate one person from hundreds of others. Much of stardom is down to fads, fashion, and network effects (bandwagons). Such a bandwagon might start in an entirely random way. An artist might acquire some fans whose choices are copied by other fans, who generate positive "network externalities" from sharing an experience with others, and who provide word of mouth to others in order to gain further positive externalities, setting off a self-sustaining trend.[55]

This was the case with Justin Bieber, Lady Gaga, and many other stars who come and go. One analysis showed that in selecting albums in a music store, the probability of each shopper selecting a given album is proportional to the share of previous buyers who picked it. If one models a simulation of such bandwagon effects that follow randomized early choices, one finds a distribution of sales levels for hit records that is very similar to the distribution of "gold" records over three decades.[56] There is therefore no reason to believe that popular stars are unique—rare exceptions aside—and without such scarcity no media company or industry cluster has a special grip on talent. In summary, one can conclude that while some actors become big in Hollywood, Hollywood is not big because of its largely replaceable stars.

3.3.3 Supposed Advantage: Vertical Integration of Content with Distribution?

Many people believe that the success of content producers requires that they control distribution channels, which gives them advantages over competitors. There are two major kinds of vertical integration for media. The first, *backwards* integration, is when a distribution company such as a TV network produces its own inputs such as TV shows. By doing so, the company controls costs and quality of inputs. The other, *forward* integration, is when production firms control distribution channels. This ensures distribution, markets,

49 Epstein, Edward Jay. *The Big Picture, The New Logic of Money and Power in Hollywood.* New York: E.J.E. Publications, Ltd., Inc., 2005.
50 Ravid, S. Abraham. "Information, Blockbusters, and Stars: A Study of the Film Industry." *Journal of Cultural Economics* 18 (September 1999), 217–235.
51 Epstein, Edward Jay. *The Big Picture, The New Logic of Money and Power in Hollywood.* New York: E.J.E. Publications, Ltd., Inc., 2005.
52 Box Office Mojo. "Jackie Chan Movie Box Office Results." Last accessed April 18, 2017. http://boxofficemojo.com/people/chart/?id=jackiechan.htm.
53 De Vany, Arthur and W. David Walls. "Does Hollywood Make Too Many R-Rated Movies? Risk, Stochastic Dominance, and the Illusion of Expectation." *Journal of Business* 73, no. 3 (July 2002): 425–451.
54 Epstein, Edward Jay. *The Big Picture, The New Logic of Money and Power in Hollywood.* New York: E.J.E. Publications Ltd., Inc., 2005.
55 Caves, Richard E. *Creative Industries: Contracts Between Art and Commerce.* Cambridge: Harvard University Press, 2000.
56 Caves, Richard E. *Creative Industries: Contracts Between Art and Commerce.* Cambridge: Harvard University Press, 2000.

and supply, while also helping to create product synergy. Examples are when a music company or book publisher operates its own distribution through retail stores or "media clubs."

3.3.3.1 Distributors

The major distribution companies handle products created by their own affiliated production companies, but they also distribute content produced by independent and foreign producers and even by competitors. This is true for film, TV, music, or video games. It is the case, in some instances, for book, newspapers, and magazine publishing. In the film business, it was Adolph Zukor who consolidated before and after World War I the ownership of theaters, wholesale distribution exchanges, and production facilities into one company—Paramount Pictures—that became the model for the other studios.

In addition to the major six Hollywood distributors, there are about 75 other active independent film distribution companies in the US. In Europe there are 830 distributors.[57] Most, however, are small.

In the case of film, for their varied services plus their own profit, distributors usually charge about one-third of all revenues collected from retailers, after first recovering their direct marketing expenses and interest payments due to them.[58] Overhead charges are about 30% for the major distributors, 27.5% for smaller distributors, and up to 20% for independent distributors and sales agents without national branch-office networks, and for specialized films shown only in selected locations after an overhead in the advertising billings.[59] The distributor's compensation is typically recovered from box office revenues before the other claimants such as investors are get paid.

3.3.3.2 Reasons for Vertical Integration

What are the business reasons for the vertical integration of production and distribution? Promoters of merger deals such as investment bankers who stand to profit from such deals tend to make the following arguments in favor of vertical integration:

- Vertical integration is advantageous to a content-producing company in order to control the release of its products and their prices through a "release sequence" of different outlets, different timings, co-ordinated planning, and different prices.
- The cross-marketing of multiple products, and a cross-platform distribution are facilitated, thereby reducing transaction costs.
- To a distributor, it is advantageous to have assured access to products it controls, and to favor those products over those of others. Attractive content may be scarce, and superior access to it provides a distributor with market power.
- Through vertical integration, market power can be extended from one stage of the value chain to another, for example, from distribution to production, and used to foreclose markets to competitors.
- Rivals can be subjected to a vertical "price squeeze" in which the wholesale market price for their product is kept low by their rival's domination of wholesale distribution. The vertically integrated rival then shifts its profit to the wholesale sector from the production sector. The same can be done by a company that dominates retail.

That said, economists are generally skeptical about these alleged business advantages of vertical integration. The exception exists when high market power in one stage is extended into a competitive stage. An example of this would be Microsoft using its market power in operating systems – i.e., Windows – to gain market share in related applications programs such as word processing. Generally, favoring one's own product is sensible only if it is superior. It is not economically rational for a distributor to reject another producer's blockbuster and push its own less popular product into distribution. Similarly, it is not economically rational for a distributor to be a captive buyer for an inferior product of its own production company. Similarly, a production company should not be beholden to one distributor. Disney as a TV show producer should sell any of its new programs to the highest bidder, not only to its own TV network, ABC. And the ABC network, similarly, should buy the most attractive programs at the best price, not specifically those produced by Disney companies.

Vertical integration often makes economic sense for a holder of market power when there is a scarce factor. In the past the scarce factor was the distribution power of TV networks, of which there were only a few. Therefore, these networks wanted to expand into production and dominate it, and had to be constrained, for example in the USA, by regulation. In many countries, the TV networks became the major producers of content. Later, with cable and satellite TV, distribution became more plentiful and the scarce element was now content. As a result, the major content producers, now empowered, greatly expanded into distribution. In the USA, the content companies Disney, Time Warner, Viacom, Universal, and NewsCorp. came to own or control TV networks. More recently, with the broadband internet, distribution became again more concentrated, with a few distribution websites dominating (such as Netflix in the USA).

Vertical integrations are thus often the expression of market power, not its cause. They are not essential to an efficient functioning. When it comes to advantages such as cross-marketing, timing of release, and so on, a firm can achieve through contracts most of the advantages of vertical integration.

57 Pardo, Alejandro. *The Europe-Hollywood Cooperation* (Pamplona, Spain: University of Navarra, 2007), 25–39.
58 Epstein, Edward Jay. *The Big Picture, The New Logic of Money and Power in Hollywood.* New York: E.J.E. Publications, Ltd., Inc., 2005.
59 Caves, Richard E. *Creative Industries: Contracts Between Art and Commerce.* Cambridge: Harvard University Press, 2000.

3.3.3.3 Control Over Release Sequence

Control over distribution is useful for marketing and pricing. While this does not require vertical integration and can be accomplished by contractual arrangements, vertical integration reduces transaction costs even as it reduces flexibility. The primary advantage is the greater ease in the sequencing of time between releases over different distribution platforms.

There are periods in which film theatrical releases are most desirable, such as during major holidays and the summer. In other cases, it could make sense to release a film during uncrowded periods when competition is lower. There are also different national markets with their own peculiarities and holiday seasons. Beyond these seasonal and competitive timing issues there is also the sequencing among different distribution platforms, a practice known as "windowing." A graph provided in ► Chap. 12, Distribution of Media and Information, ◘ Fig. 12.18 shows schematically a film's release "windows" over its lifecycle. According to that graph, theatrical distribution takes place in the first six months. (There is also a partial overlap for non-theatrical release such as airlines.) This is followed by home video rentals and sales, video on demand (VOD), and pay-TV channels. Eventually, most films end up on small independent TV stations for late-night viewing. They have reached the tail end of their economic life.

The basic principle for a release sequence strategy is to first distribute to the platform or market that generates the highest extra revenue per unit of time, and then to cascade down in the order of marginal-revenue contribution. This leads, typically, to a sequencing of distribution. Release sequences exist also for books and music.

To maintain this windowing, it is essential to keep the release stages apart from each other. Therefore, one impact of unlicensed releases ("piracy") is to affect the release timing. Foreign releases, for example, come much sooner now because otherwise key audience segments have already viewed the film online or on unlicensed DVDs. This has practical implications on marketing campaigns. In the past, directors and stars used to visit each major country as their film was about to be released, in order to generate publicity, but this becomes harder to do logistically when all releases are in the same tight time window.[60]

How does one analyze the optimal release sequencing? If one waits too long, the subsequent channels will enjoy less of a promotional buzz from the initial publicity to help gain visibility. But if the follow-up release comes too soon it will cut into higher-value sales. One model uses knowledge of the sales parameters in the first channel (film theaters) to predict sales in the second channel (video rentals).[61] This helps strategy in the second distribution channel, in both pricing and timing. At a certain point in time the firm releases the film on home video. This leads to a sharp drop in theatrical revenues, but also to a second and substantial revenue stream. The optimal time to release a movie as a video is a function of the "opening strength" and the "decay rate" of a movie. Those parameters can be determined early enough in a movie's run to affect the video release timing decision. One can define an equation that expresses the optimal time for secondary release.[62] Obviously, this kind of an equation is not easy to apply in the real world, but it suggests a way to think about this type of question.

3.3.3.4 Vertical Integration in Other Media Industries

In book publishing, vertical integration has been low. Book publishers rarely own distributors or retailers. But there are exceptions. On the retail level, both Bertelsmann and Time Books used to have large book clubs for distribution. On the wholesale level, in 2001, the largest book retail chain in the USA, Barnes & Noble, tried to buy Ingram, the largest book wholesaler/distributor. Predictably, it encountered significant opposition by publishers and other retailers who feared the potential vertical discrimination, price squeeze, and foreclosure. Under pressure by the US Government, Barnes & Noble dropped this plan but moved to seeking vertical integration in the other direction, that of production, by buying Sterling, a specialist in of out-of-copyright classics. ► Amazon.com, the online book retailer that became the world's largest book seller, expanded vertically by providing self-publishing services to aspiring authors. It also launched 14 publishing imprints (labels or brands) that include out-of-copyright classics, new fiction, translations, children's books, and self-help books. It also bought the romance publisher Avalon with its 3000 backlist titles, opened a German subsidiary operation, and bid for publishing rights of star authors' books, paying advances of up to $1 million. Nevertheless, for all its efforts Amazon made little headway. Part of the reason was that bookstores, with the same logic as when they opposed Barnes & Noble's vertical expansion, boycotted Amazon books, not wishing to help their retail rival. Another reason was that Amazon spent too much money.[63]

60 Granados, Nelson. "Changes To Hollywood Release Windows Are Coming Fast And Furious." *Forbes Media & Entertainment*. April 8, 2015. Last accessed April 18, 2017, ► https://www.forbes.com/sites/nelsongranados/2015/04/08/changes-to-hollywood-release-windows-are-coming-fast-and-furious/.

61 Lehmann, Donald R. and Charles B. Weinberg. "Sales Through Sequential Distribution Channels: An Application to Movies and Videos." *Journal of Marketing* 64, no. 3 (July 2000): 18–33.

62 $t_V^* = \left(\frac{1}{m_2 - v_2}\right)\left\{\ln\left[\frac{nm_1^B M_T}{v_2 v_1 M_V}\right] + \left(\frac{pv_2}{rn}\right)\right\}$

t_v^* = optimal time to open the second (video) channel. m_2 = decline rate of sales of the first (movie theater) channel

v_2 = decline rate of the second (video) channel. N = number of rental turns per copy each time period, for example, three per week. P = price to retailer per video.

R = rental fee per copy. M_T = gross margin in the first (theater) channel. M_v = gross margin in the second (video) channel. $\frac{m_1^B}{v_1}$ = Relative size of the potential movie and video market. Lehmann, Donald R. and Charles B. Weinberg. "Sales Through Sequential Distribution Channels: An Application to Movies and Videos." *Journal of Marketing* 64, no. 3 (July 2000): 18–33.

63 Amazon paid $1 million for *The 4-Hour Chef* by self-help guru Timothy Ferriss, and almost as much for *My Mother Was Nuts*, a memoir by Penny Marshall, star of the 1970s *Laverne & Shirley* TV show. In hardcover, Ferriss's book had minor sales in comparison to his earlier self-help books, and Marshall's sold 17,000. Most of Amazon's other books sold even fewer.

The head of one New York publisher was quoted, "hardly concealing his schadenfreude," that "there are certain things it takes to be a publisher. You have to have luck, but you also have to have judgment, discernment. Bezos [Amazon founder and CEO] has moved on to diapers and jewelry—we're still doing books."

John Sargent, head of Macmillan Publishing, described Amazon's weakness: "Book publishing is a very human business, and Amazon is driven by algorithms and scale. When a house gets behind a new book, well over two hundred people are pushing your book all over the place. That's the magic potion of publishing ... That's pretty hard to replicate in Amazon's publishing world, where they have hundreds of thousands of titles."[64]

Alternative sales channels by traditional retailers are another matter. Barnes & Noble has been selling directly to consumers for decades, starting with mail-order catalogs in the 1970s and proceeding to sell books online starting in the 1980s. The company's retail website, ► www.barnesandnoble.com, was launched in 1997, but could not match ► Amazon.com.

In contrast to book publishing, in television vertical integration is high. Of the six major Hollywood film producers, all but one are vertically integrated in the USA into TV broadcasting stations, TV networks, or cable networks. The one large Hollywood company missing from the list is Sony, but that company is vertically extended into consumer media devices and even electronic components. Sony also provides six satellite TV channels in Asia.

Vertical integration in cable TV is moderate. In the USA, the role of cable television operators (multiple system operators, MSOs) in content production waxed and waned. In 2008, Time Warner Cable, the second-largest American MSO was split off from Time Warner. On the other hand, Comcast substantially increased its role by buying NBC Universal in 2010/2011.

In music, production and wholesale distribution are substantially integrated. This was not always the case. There was a time when the music-creating and music-producing labels were distinct from the distribution firms that moved music to retail stores and often physically stocked the racks. But in the 1970s, the label groups moved into distribution and supplanted most independent distributors.

The role of the music groups in retailing has always been modest, however, and the exception—Virgin Music and its megastores—has all but disappeared. There are Virgin stores left in the Middle East, franchised to the French media company Lagardère.

Attempts to generate vertical synergies of film with books or music have similarly been unsuccessful. In the 1970s and 1980s, several film production studios acquired book publishers. The idea was to extend the success of a book into a film or TV series, and vice versa.[65] Examples were CBS with Simon & Schuster, Warner Bros. with Time Warner Books, News Corp./Paramount with HarperCollins Publishing, Bertelsmann RTL with Random House, and Fininvest (Berlusconi) with Mondadori. For an integration of music and books, examples were Bertelsmann (BMG-Random House) and Time Warner. Few of those combinations exhibited synergies. Bertelsmann made a valiant effort, by appointing a "chief creative officer" whose job it was to promote cross-fertilization. But these efforts did not produce business results. Soon, the same investment banks and advisors that had promoted mergers and profited handsomely from the transaction fees, commissions, and success fees (adding up to about 0.3–0.5% of a $10 billion dollar deal, i.e. $30–50 million) were now seeking fees from new deals in reverse, and advocating the breakup of the same vertical integrations. They now spoke of "unlocking value," "enabling investors to benefit from separate strategic opportunities," "pure plays," and the benefits of "more focused management."

3.3.3.5 Conclusions on Vertical Integration

As mentioned, economists are generally skeptical about the advantages of vertical integration. It works where market power lies in one segment and is expanded to a competitive segment, thus foreclosing markets to competitors. But the source of the advantage is the market power in a segment, not the vertical integration itself. When it comes to advantages such as cross-marketing, timing of release, and so on, a media firm can achieve most of the same results through contracts. The existence and magnitude of "synergies" have been exaggerated by empire-builders and deal brokers. The actual performance of the vertically merged entities has often been disappointing.

To conclude the wider point of the analysis so far: the conventional explanations for success as a content producers—as exemplified by Hollywood—have been: domestic market size, stars, and the vertical integration of production and distribution. These factors are helpful, to some extent, but are not the core reasons for success. Instead, the major factor for a content company's sustained economic achievements is the effectiveness of its production system and product development. These are key elements that are not exclusive to Hollywood. They will now be discussed.

3.4 Success Factors for Content Production

There are three factors for a superior production process for content:

1. Organizational structure;
2. Risk reduction;
3. Product development.

3.4.1 Organizational Structure

3.4.1.1 Networked Production

When people discuss film production they tend to talk about the "studios" that they are producing all "Hollywood" movies.

64 Packer, George. "Cheap Words." *New Yorker*. February 17 and 24, 2014. Last accessed April 12, 2017. ► http://www.newyorker.com/magazine/2014/02/17/cheap-words.

65 Holson, Laura M. "Blockbuster With a Joystick; Movie Studios Get Serious About Making Video Games." *New York Times*. February 7, 2005. Last accessed April 12, 2017. ► http://query.nytimes.com/gst/fullpage.html?res=9A07E6DC1E3BF934A35751C0A9639C8B63&pagewanted=all.

This is not so. True, in the 1940s the production and distribution, and even retailing, of films were closely integrated. For example, the Hollywood studios owned the most lucrative theaters in the major cities. Paramount owned 1236 theaters in 49 cities, and Fox owned 423 theaters in 177 cities. However, in the 1948 *Paramount* decision, the US Supreme Court outlawed the vertical integration of distribution and exhibition and the studios had to sell their theaters. The other death blow to the traditional vertical integration was the emergence of television, which undercut studio audiences and revenues. As a result, their organizational model had to change rapidly.

A production process can be one in which all activities are conducted in-house or alternatively by outsourcing many activities, with the firm being more in the nature of assembling the pieces and functioning as a marketing brand. This is true for consumer electronics just as it is for content production. In the 1920s, "formula" films were commoditized entertainment, with the studios cranking out film products like cars on an assembly line, and selling them literally by the foot. One studio, the Universal Film Manufacturing Company (a telling name), produced more than 250 films in a year, one per business day.[66]

Actors were employees of the studio company and had to play every part assigned to them, just like other staff members who were electricians or carpenters. They could also be rented out to other studios. The average cost of producing a Hollywood film in 1947, including all studio overheads, was only $7.8 million in 2017 dollars. The average net receipts for a studio feature were $17 million. The average profit per firm therefore was $9 million, plus profit on overhead.[67] With 50 films produced per year by a studio, profits were about half a billion dollars in today's money. And the industry was recession-proof. When the economy was down, people needed an inexpensive escape more than ever. It is therefore not surprising that in the Great Depression, Louis Mayer, the head of MGM, was the world's highest-paid manager. Of the world's next 25 highest-paid executives, 19 were Hollywood studio officials.[68] On top of straight compensation, these studio managers also had numerous perks.

The studio had elaborate production "sound stages," "back lots," and large warehouses for costume and props. They employed numerous full-time electricians, set makers, sound engineers, camera operators, costume makers, acting and singing coaches, and animal trainers.

Up to the 1950s, the Hollywood film studios were integrated mass-producers, like automobile makers or oil companies. In consequence, they operated with a high overhead cost. The invasion of television forced the Hollywood studios to re-engineer themselves in the 1960s. The main strategy was, first, to position themselves at the high end of the product spectrum and leave cheaper mass-production ("B-movies") to TV. Second—and this has been much more important in management terms, even if it is less noticed by film fans—was to lower overhead costs by shifting to a project-based organization. The studios moved from mass-producing commodity content along the "flow-shop" model of production to a customized production—a "job shop"—based on ad hoc specialists and a networked production system.

Contributors to a project, such as actors, writers, musicians, cinematographers, editors, and financiers became freelancers. Over 100,000 of the film industry's workers are now independents, or work for tiny companies with fewer than ten people.[69] What the major Hollywood studios do is provide back-office support for production teams, some financing, and distribution/marketing. It was an early version of a "gig economy" based on freelancers and independent contractors. This structure has several benefits: it is relatively low on bureaucracy, low in capital overhead, and low on employee fringe benefits such as pensions and health plans.

These trends restructure an industry from vertically integrated producing companies with in-house employee talent and skills, to a system of horizontal specialists for hire. These specialists are brought in for in-house projects or by specialist outsourced companies. This decentralized organizational model was also adopted by other leading industries. High-tech companies in Silicon Valley are a good example. The former chairman of Intel, Andy Grove (former CEO of Intel), compared the software industry to the theater, where producers, directors, actors, technicians, and others are brought together briefly to create a new production.[70]

A networked structure for production thus emerges, and this is shown in ◘ Fig. 3.2.

◘ Figure 3.2 shows that there are three levels of hierarchy in content production: aggregators, integrators, and specialists. The aggregator (I) is a distributor, TV network, or online platform that put together packages of content. The integrators (A–C) are the film and TV producers and entrepreneurs who create specific content products by bringing together specialized talent (1–12) and management. There may be a fourth level, when the specialists are themselves firms that put together individual talent. A fifth level may exist where multiple aggregators (networks) are combined in a larger platform such as cable TV or an online film website.

Such network structures exist or are emerging in many content media:

- Film production;
- Software development;
- Video game development;
- Recorded music;
- Book publishing;
- Many magazines.

66 Rifkin, Jeremy. "When Markets Give Way to Networks…Everything Is a Service." *The Age of Access: How the Shift from Ownership to Access is Transforming Modern Life* (London: Penguin, 2000), 24–95.

67 Epstein, Edward Jay. *The Big Picture, The New Logic of Money and Power in Hollywood.* New York: E.J.E. Publications, Ltd., Inc., 2005.

68 Epstein, Edward Jay. *The Big Picture, The New Logic of Money and Power in Hollywood.* New York: E.J.E. Publications, Ltd., Inc., 2005.

69 Kotkin, Joel and David Friedman. "Why Every Business Will Be Like Show Business." *Inc.* March 1, 1995. Last accessed April 12, 2017. ► https://www.inc.com/magazine/19950301/2182.html.

70 Rifkin, Jeremy. "When Markets Give Way to Networks…Everything Is a Service." *The Age of Access: How the Shift from Ownership to Access is Transforming Modern Life* (London: Penguin, 2000), 361–374.

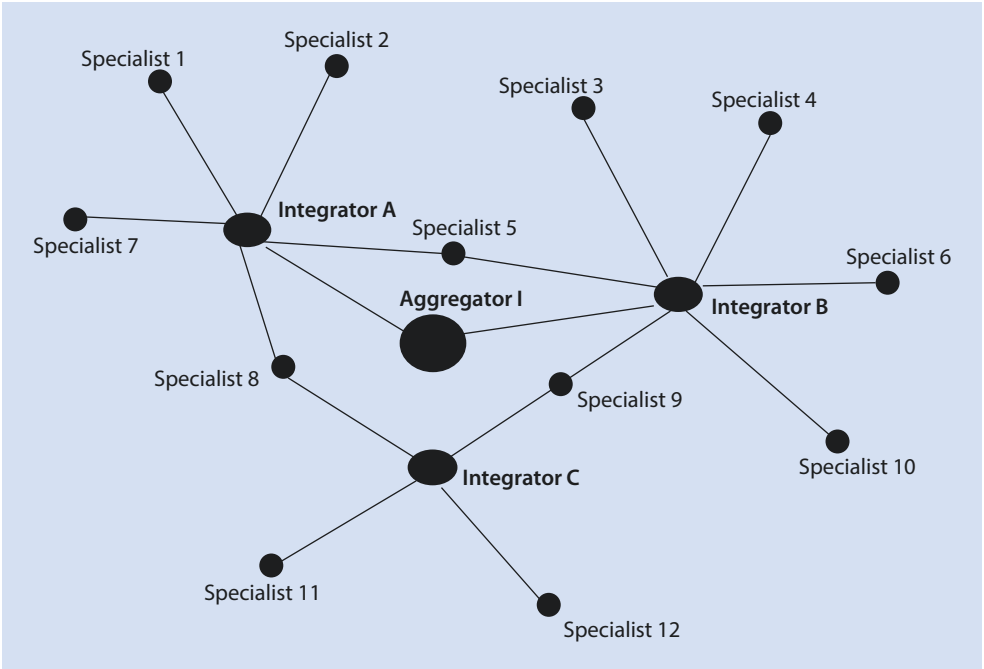

Fig. 3.2 Networked production

An example for the specialist level company is computer-generated animation. In 1977, computer processing was too expensive for long sequences of film animation, and the director, George Lucas, could only afford to use computer graphics for a simple 90-second sequence of his celebrated film *Star Wars*. The sequence took several computers three months to complete. Lucas went on and started a specialized computer graphics company, Industrial Light & Magic, which became a leader in developing computer graphic technologies, followed by other companies such as Pixar and Digital Domain. Whereas in 1977 the credits for the original *Star Wars* listed 143 technicians, the fifth film to be released, *Attack of the Clones*, listed 572 technicians in 2003.[71] *Godzilla* (2014) required 762 computer-graphics imagery artists. The team for Toy Story (1995) included seven PhDs in computer science, 22 technical directors, and 25 puppet, clay, and stop-motion animators.

3.4.1.2 Clustering

Specialization both encourages and feeds on geographic clustering. Clustering enables specialization. It also leads to a disaggregation of the production process into multiple firms and providers that get assembled for each project into an ad hoc organization. Clustering is prevalent in the media and information sectors.

The major reasons for the formation of economic clusters are:

- Positive network effects. The various specialists encourage each other, and this attracts yet more specialists, in a virtuous cycle.
- Clusters encourage investment in reputation for high-quality and co-operative behavior. This is because there are repeated interactions among the parties in a cluster.

Some examples of media clusters are as follows:

- Hollywood, Bollywood, and Nollywood (film industries in Los Angeles, Bombay (Mumbai), and Lagos, Nigeria);
- Madison Avenue (advertising);
- Sixth Avenue (the four US TV networks);
- Silicon Valley, Route 128, and the Research Triangle (technology);
- Publishers' Row (New York publishing);
- Fleet Street (UK newspapers);
- Printers' Row (Chicago);
- Soho (New York art galleries);
- West End and Broadway (London and New York theater);
- Nashville and its Music Row (country music);
- "Tin-Pan Alley" (popular music, New York, early twentieth century).

Film clusters exist in other countries, but the Hollywood cluster is the largest. Companies outside this cluster therefore have to make more of an effort to link up with it and benefit from its scale and network effects. Electronic communications make this easier and in the process are broadening the geographic footprint to a virtual one. Nevertheless, the person-to-person aspect remains important for creativity, deals, and the informal bonds that reduce transaction costs.[72] Thus, beyond the personal there are solid business reasons for physical proximity in a fragmented industry.

71 Epstein, Edward Jay. *The Big Picture, The New Logic of Money and Power in Hollywood.* New York: E.J.E. Publications, Inc., 2005.

72 Kotkin, Joel and David Friedman. "Why Every Business Will Be Like Show Business." *Inc.* March 1, 1995. Last accessed April 12, 2017. ► https://www.inc.com/magazine/19950301/2182.html.

3.4.1.3 Management in Networked Production

The specialization and decentralization of skills require co-ordinators of these specialized skills. In media industries, the key co-ordinators are the distributors (film studios, music groups, publishers,) independent producers, and talent agents.

Talent Agencies

Many small talent agencies exist, but several giant ones—William Morris, Creative Artists Agency, and International Creative Management—play a major role in the USA. Producers negotiate with artists' agents for terms and dates.[73] Talent agencies may package one client's script with other clients such as a director and actors, in a "ready-to-shoot" package.[74] The talent agency's job is to provide the artist with work, in return for 10–20% of the artist's income.

Normally, creators or agents must sell their projects to the publishers or producers. But in other cases, their positions are so strong that they can let the media companies compete for them. Agents will sometimes conduct a formal auction for the rights to the project, or do so informally.

Independent Producers

It is difficult to define or describe the role of a "producer" because of the profusion of titles that incorporate the term. "A producer can be anyone who calls him or herself such."[75] Basically, it describes a manager or entrepreneur in a media project. Theatrical production created the model for independent producers. In film, producers were originally employees of a large production company. But in the late 1930s, ambitious employee-producers left the major studios to operate on their own. *Gone With the Wind* was produced by David Selznick as an independent production and distributed by MGM for half the profits. MGM contributed Clark Gable as a star. Since then, Hollywood has been giving entrepreneurs ("independent producers") a stronger role than in most countries, where producers are often salaried staff members of media firms or public TV institutions. Now, in an age that emphasizes entrepreneurship, this model is spreading across countries and media.

In music a music producer can be a full-time and salaried employee of a record company with the main responsibility to see through the production of a particular album. Such a model was prevalent when music companies had a strong control over music, artists, and the recording process. This changed with the emergence of rock artists in the 1960s who often created their own songs and used their own producers. Independent producers typically receive 2–4% points of retail revenues; a star producer might get 5 or 6% points and a bonus.[76] Another model is a "speculation deal," where producers are the risk-taking entrepreneurs, funding the entire project and then pitching the finished recording to a label. Producers have also started their own labels.

There are also producers for live musical events. They are often called concert promoters, and they take the risks, pay the acts, market the shows, and sell the tickets. They usually rent the concert venue for a flat fee or for a flat fee plus a percentage of gross ticket sales. Performers will also often be paid a guaranteed fee plus a percentage of ticket sales. If the event is free, or if tickets are subsidized by a charity or student activities fund, performers will typically receive a flat fee.

In film, there are several producer categories. Line or assistant producers manage the physical production, administration, and troubleshooting. They are typically younger people hoping to move up in their media career. Associate producers manage specialty tasks such as sound or post-production. Executive producers manage the financing of a film and often of the selection of key talent, including of the director. They have the most prestigious positions, like an entrepreneur in a start-up. They typically have a financial stake in the project, often guarantee the payment of salaries and expenses, and make the major management decisions from script selection to budgets. They are risk-takers who are highly knowledgeable about industry trends. They are also skilled at risk-shifting, as we shall see.

■ Directors

In many countries, the primary co-ordinators for film are the directors. They are the controlling force shaping a film. In contrast, in the studio-system era, most Hollywood directors, even celebrated ones, were mostly staff employees. Later, independent producers became the key people in a project, and they were the ones to select stars and director.[77]

Directors often had an artistic role, often from initial authorship of the script to its subsequent modifications, and all the way down to a final editing. In 2003, over one-third of Hollywood studio movies credited the director as the writer or co-writer. Directors also sought the right to approve the casting.

In the USA, film directors tend to be members of the Directors Guild of America (5,000 members, about 1,000 of them actually working directors). By union contract, a director is guaranteed per film at least eight weeks of work on the lowest-budget films and ten weeks on larger films. While in the studio system directors were rarely paid more than $80,000 for a film (about $1 million in 2017 dollars) in 1945 money, or by 2017 salaries of more than $8 million were common for high budget films.

To conclude, this then is the organizational structure of Hollywood:

- Entrepreneurial specialization and fierce competition in production;
- Oligopoly in distribution.

There are also similar structures—though less developed—for music labels, book imprints, and video games.

73 Baskerville, David. *Music Business Handbook & Career Guide,* 8th edition. (Thousand Oaks, CA: Sage Publications, 2006), 246.

74 Ross, Alexander G. "Creative Decision Making within the Contemporary Hollywood Studios." *Journal of Screenwriting* 2, no. 1 (January 2011): 99–116.

75 Lindheim, Robert. "What is a Producer?" *Inside Television Producing* (Waltham, MA: Focal Press, May 1991), 10.

76 Baskerville, David. *Music Business Handbook & Career Guide,* 8th edition. Thousand Oaks, CA: Sage Publications, 2006.

77 Epstein, Edward Jay. *The Big Picture, The New Logic of Money and Power in Hollywood.* New York: E.J.E. Publications, Ltd., Inc., 2005.

3.4.2 Funding and the Reduction of Risk

The second major economic factor in content production is money. This is often described as "access to capital," and Hollywood, is said to possess such access. But "access" is a meaningful concept only in association with a price. The price of money is the interest rate (explicit or implicit), and it is determined by the perceived risk to the investor that must be compensated. That risk can be reduced by managerial actions. Thus, the access to capital is ultimately a matter of risk management.

Risk reduction is a major factor for superior production. Media industries such as music, film, or even books face high failure rates, around 80%. According to a 2013 study by the British Film Institute, of 613 UK films between 2003 and 2010, only 7% made a profit, and of low budget films only 3.1%. For big budget films it was still low at 20%. There have been cases where a film flop entirely ruined an entire movie studio, such as the tradition-rich studio United Artists (through *Heaven's Gate*) and of the upstart studio Carolco (through the disastrous *Cutthroat Island*). 20th Century Fox was nearly sunk by *Cleopatra*. More recently, major movie "bombs" were, in millions of dollar losses, *Mars Needs Moms* (2011, −$111), *The 13th Warrior* (1999, −$98), *The Adventures of Pluto Nash* (2002, −$92, and *The Alamo* (2004, −$81).[78]

Historically, the flop rate for Broadway musical comedies has been 76% and for stage plays 80%. A sample study of 948 Broadway shows between 1972 and 1983 finds an aggregate loss of $66.6 million on a total investment of $267.5 million; that is, a negative return of 25%.

The probabilities of success have become still lower. As platforms and productions expanded, the probability of reaching the top of a week's audience rankings (for movies), to platinum status (for music), or the bestseller's list (for books) declined by half. Of new US primetime TV series, only a quarter survive beyond the first season, whereas in the 1980s it was a third.[79]

At the same time, content production has become more expensive. Factors that have increased the production cost of media include rising wages. Audio and video media copyright licensing fees increased by 8.32% per year from 2010 to 2014.[80] In Germany, licensing costs in book publishing grew by 9% per year for some years, and TV sports rights grew at a rate of 914%.

What is the nature of financial success and failure in media projects? As we discussed in ▶ Chap. 2, The Information Environment normal distribution does not describe the media business well. The average is not the most probable outcome. Instead, it is dominated by rare, extreme outcomes which are much larger than the most probable outcome, the median.[81] As mentioned, one often observes a "80–20" outcome in which 80% of all media products do not become profitable, 90% of all profits are generated by 10% of the products, and 50% of profits are generated by 1–2% of products.[82] This is not simply a matter of small odds but also of the statistical properties of media performance, which is not normally ("Gaussian") distributed.

With costs rising, rivals abounding, and attention fragmenting, risk-reduction is a crucial management task in the media production process.

There are various ways to risk reduction:

- Market forecasting;
- Selection of lower risk projects;
- Insurance;
- Shift of risk to others;
- Diversification;
- Hedging.

3.4.2.1 Market Forecasting

Forecasts are basic to many physical production decisions, for the planning of:

- Scheduling of production activities;
- Ordering of materials and components;
- Hiring and scheduling of labor;
- Setting of inventory levels;
- Planning of shipments.

Forecasting tries to predict the future based on historical data, market studies, subjective predictions, surveys, or mathematical models. There are different types of forecasting:

- Economic forecasts: macro-conditions of inflation, interest rates, currency, economic growth, etc.
- Technological forecasts: trends of technology. This includes distribution technologies and consumer devices.
- Demand forecasts: for a product or service. These will help in pricing, in planning, capacity requirements, or deciding whether to enter a market.

Can the success rate of media products be improved by market research? Some of this is discussed in ▶ Chap. 9 Demand and Market Research for Media and Information Products.

3.4.2.2 Selection of Lower-Risk Projects

Selecting projects such as a sequel to a blockbuster reduces risk because it is easier for producers or publishers to predict success. Similarly, products involving a best-selling author or a famous actor and singer, as well as imitations of branded products, have already proved to be successful and

78 Box Office Mojo. "The 13th Warrior." Last accessed June 10, 2014. ▶ http://www.boxofficemojo.com/movies/?id=13thwarrior.htm.

79 Aris, Annet and Jacques Bughin. *Managing Media Companies: Harnessing Creative Value*, 2nd Edition. West Sussex: Wiley, 2009.

80 Bureau of Labor Statistics. "May 2013 National Occupational Employment and Wage Estimates United States." Last accessed April 18, 2017. ▶ https://www.bls.gov/oes/2013/may/oes_nat.htm; Marybeth Peters. "Analysis and Proposed Copyright Fee Adjustments to Go into Effect on or about August 1, 2009." *Register of Copyrights*. March 15, 2009. Last accessed April 18, 2017. ▶ https://www.copyright.gov/reports/fees2009.pdf.

81 De Vany, Arthur and W. David Walls. "Does Hollywood Make Too Many R-Rated Movies? Risk, Stochastic Dominance, and the Illusion of Expectation." *Journal of Business* 73, no. 3 (July 2002): 425–451.

82 Collis, D. J., P. W. Bane, and S. P. Bradley. "Winners and Losers--Industry Structure in the Converging World of Telecommunications, Computing, and Entertainment." In *Competing in the Age of Digital Convergence*, ed. D. B. Yoffie. Boston: Harvard Business School Press, 1997.

are therefore less chancy.[83] Noteworthy among great sequel series ("franchise" films) is the James Bond series (25 films), with a worldwide box office of $7.1 billion. *Star Wars* (seven films) generated $6.7 billion. True, there is also a sub-market of people who prefer the newness and nonconformity of an entirely novel product, but that is a much smaller audience. Most consumers (and financiers) seek to reduce the risk of a bad experience or waste of time by picking a familiar product. To the producer, however, a sure thing in audience terms is not necessarily an economic success. Those who control its essential features—from story, to brand, to star participation—will extract its value and require major compensation. Sequels are therefore more expensive to make. And this pushes the project back into financially risky territory.

In order to reduce such financial risk, it is important for a producer to lock-in sequel costs in advance by contracting and securing sequel rights in the intellectual property, and, if possible, by reducing dependency on a particular star.

3.4.2.3 Insurance

Typically, about 1.5% of a film's budget is spent on general insurance that covers the production if something goes wrong. General Production Insurance is of the type used by any business to cover general liability, workers' compensation, equipment failures, fires, and so on. Errors and Omissions Insurance protects production companies against lawsuits for libel, slander and copyright infringement.

For movies with outside funding, banks or investors require a completion bond to ensure that investors do not lose everything if the film runs out of money. Completion bonds are similar to insurance. They are purchased from a guarantor. Major bonding companies are owned or backed by large insurance companies. The guaranty fee is typically 3–6% of the production budget.

Insuring helps producers absorb costs when things go wrong. A typical Hollywood film production costs half a million dollars or more per day to shoot, and involves hundreds of people on the payroll. In film and live performances, a small injury by a star can become a big deal. The tragic extreme occurred when Natalie Wood drowned during the filming of *Brainstorm*, canceling the entire production and costing $15 million. In 2000, actress Nicole Kidman injured her knee while shooting *Moulin Rouge*.[84] Two claims were made to compensate for the delays, resulting in $3 million of insurance losses. The same injury caused Kidman to drop out of shooting *Panic Room* a year later and exposed insurers to a claim of $54 million. The producers then went with a different actress but still had an insurance claim for $7 million for delays and expenses. Similar things can happen for music performances. In 2010, the rock band U2 had to cancel a series of concerts owing to lead singer Bono's back injury, which cost the insurance company an estimated $17.5 million.[85] To mitigate its own exposure, the insurer can require risk reduction during shooting. For the film *The People vs. Larry Flint*, the insurer worried about actress Courtney Love's alcohol and drug problems, and required the constant presence of a chaperone.

In finance terms, a completion bond provides an enhancement to the producer of its subordinated debt (low-priority, high-risk) to an investment-grade (low-risk) level.[86] The guarantor's existence also keeps a producer and director on their toes to avoid losing control. While bonding companies rarely assume control of a film, in those cases where they do they can decide how the movie will be completed and delivered. For example, the 1998 film *The Adventures of Baron Munchausen* had originally been budgeted by British director Terry Gilliam and German producer Thomas Schuehly for $23 million. When the film went over budget and reached $31 million, the film's guarantors took over. The film required an infusion of another $15 million and its US box office total was a dismal $8 million. In another example, the 1992 film *Malcolm X* was taken over when its expenses reached $33 million by the end of principal photography. It had been planned at $28 million.[87]

In the 1990s the French insurance giant AXA insured about 150 films for a total of about $500 million. AXA went into the insurance of "gap financing" for the many films that could raise only 70–80% of their budgets. This enabled American independent producers to secure loans from banks. Of the approximately 150 films which AXA insured, only about 30 could repay their loans. AXA faced at least $250 million in losses plus huge legal bills.

3.4.2.4 Step-Wise Investment (Option Contacts)

One major way to lower risk is to decompose a project into several phases, each with a different risk level, with the option to proceed or not to proceed to the next phase. Such arrangements are common in venture financing as well as for film and music investments.

In selecting a project for development, financial analysis typically uses a Return on Investment (ROI) approach or its variations, Discounted Cash Flow and Net Present Value (NPV). The NGV approach is discussed further below. Such a financial analysis has problems, because the estimates of future returns and expenses are often quite weak and never more so when it comes to the success of content. But even in economic terms, the analysis is weak, because it does not factor in a step-wise process, and hence discriminates against longer term and riskier projects.[88] Yet the methodology

83 Hirsch, Paul M. "Cultural Industries Revisited." *Organizational Science* 11, no. 3 (May–June 2000): 357.

84 Epstein, Edward J. "Nicole Kidman's Knee: Or, how the insurance business runs Hollywood." *Slate*. May 23, 2005. Last accessed April 17, 2011. ► http://www.slate.com/id/2119328/.

85 94.7 FreshFM. "Bono's Injury Costs Insurance Firm $17.5 Million." Last updated July 30, 2010. ► http://947freshfm.cbslocal.com/2010/07/30/bonos-injury-costs-insurance-firm-17-5-million/.

86 Caves, Richard E. *Creative Industries: Contracts Between Art and Commerce*. Cambridge: Harvard University Press, 2000.

87 Goodell, Gregory. *Independent feature film production: A Complete Guide from Concept Through Distribution*. New York: St Martin's Press, 1998.

88 Mitchell, Graham R. and William F. Hamilton. "Managing R&D as a Strategic Option." *Research-Technology Management* (May–June, 1988): 153.

Table 3.9 Example for the distribution of revenues

Movie	Cost	Probabilities and revenues								Expected value	Net profit
A	10 M	30%	10 M	40%	5 M	20%	4 M	10%	−1 M	5.7 M	−4.3 M
B	50 M	20%	70 M	20%	60 M	30%	40 M	30%	10 M	41 M	−9 M
C	100 M	35%	200 M	15%	100 M	20%	90 M	30%	2 M	102.4 M	9 M
D	200 M	50%	300 M	25%	250 M	15%	190 M	10%	−150 M	226 M	26 M

assumes a one-time investment decision—go or no-go. There is no possibility built into the analysis to stop, abort, and cut one's losses. To remedy this deficiency, an alternative methodology decomposes the investment decision into several stages, with each investment seen as an "option" to proceed to the next stage.[89] This "real options" approach is discussed, with numeric examples, in ▶ Chap. 4 Technology Management in Media and Information Firms, and will not be repeated here. It analyzes an investment as a multistep process in which a company can take a first step in a project and can then determine whether to proceed to a second investment. The option approach may therefore justify in some cases a riskier strategy when there is an opportunity to abort a project.[90]

And indeed, the approach of step-wise investment commitment—an option contract—is prevalent in film and theater. For example, a producer might acquire rights to a book under an option contract for $10,000, and commission a screenplay from a writer for another $40,000 to $100,000. The producer and distributor, at each step, can proceed under pre-negotiated terms that give them an exit strategy in case they choose to get out of the project, and cut their loss.

3.4.2.5 Risk-Shifting

Content producers and distributors will reduce their risk by shifting it to others (beyond insurers), in particular to:

- *Outside investors*, by sharing potential losses with them when they are sequenced into a late position on the ladder of those receiving payments. Being last to be paid, they bear a disproportionate share of losses.
- *Talent and performers*, by profit-sharing-based compensation, which makes them a part of the downside risk. Here, too, they might be last in line for their payout for the upside, whereas the producer receives "first dollar" which is less risky. Risk can be shifted through control over the accounting of profits, in which direct costs and overhead are inflated, while revenues are understated. Fewer than 5% of released films show a profit for "net profit participation" purposes.
- *Suppliers*, by pushing inventory-holding requirements to them.
- *Buyers*, by requiring foreign distributors and other distribution platforms to "pre-buy" as-yet-unproduced projects.

Together, these techniques may make a content project profitable to the producer even if it is a loss to others involved.

3.4.2.6 Content Portfolios and Diversification

If risk reduction is the key for the lowering of capital cost, diversification is the central element of such reduction. Financial theory shows that an investment can achieve a lower risk by being part of a portfolio. This is called diversification.

The first type of diversification is a "product extension," where a company uses its expertise in one area to extend into a related area. For example, the publisher of a business newspaper may also create a real estate magazine. The British firm Pearson has been successful in expanding in such a way into business information publishing, broadly defined. The company diversified its range beyond newspapers (*Financial Times*, until its sale to Nikkei) into other print and broadcasting products, for example FT business magazines, FT online services, and FT newscasts.

The second type of diversification is that of portfolio creation. If there is a slate of four movies, A–D, each with a different probability of success, the expected value of the overall outcomes is the sum of the products of the probability times the result.

Suppose Movie A costs $10 million to make (see Table 3.9), and may return in revenues, based on past experience and depending on the occurrence of certain events, either $10, 5, 4, or -10 million with the probabilities of 30%, 40%, 20%, and 10%. The sum of the probabilities of all possible events for a film must equal 100%, because one of them will occur. After determining the probability of all possible outcomes, one can multiply the probability of each outcome by the dollar value.

The expected revenue for Movie B, for example, is:

$$(0.2\times 70)+(0.2\times 60)+(0.3\times 40)+(0.3\times 10)=41$$

Together, the expected revenue for the portfolio is:

$$5.7+41+109+226=381.7$$

89 Morris, Peter A., Elizabeth Olmstead Teisberg, and A. Lawrence Kolbe. "When Choosing R&D Projects, Go with Long Shots." *Research-Technology Management* 34, no. 1 (1991): 35–40.

90 Boer, F. Peter. "Risk-Adjusted Valuation of R&D Projects." *Research-Technology Management* 46, no. 5 (2003): 50–58.

The expected returns on investment are as follows:

- Movie A: (5.7–10)/10 = −43%.
- Movie B: (41–50)/50 = −18%.
- Movie C: (109–100)/100 = 9%.
- Movie D: (226–200)/200 = 13%.
- Overall Portfolio: (381.7–360)/360 = 6%.

One can see that the expected return on the investment is a moderate return of each separate project, ranging from a positive 13% to a negative −43%. The overall return of the portfolio is 6%. Thus a variety of titles attracts a range of audiences and reduces a media firm's vulnerability to a flop.[91] Of course, the upside is also reduced.

Should film project D be selected? Film D has the highest expected profit ($26 million), and the highest expected rate of return (13%). It has a small but non-negligible probability of losing $150 million, and this could potentially bankrupt the company. Thus one also needs to take into account the tolerance of the firm to high risk. This risk is measured by the variance of the asset's returns from the expected value. That expected value could be the same for two projects, but one of them might have a much greater variance than the other in terms of potential outcomes.

In the media world, portfolio diversification is created, for example, by a music group owning dozens of labels (each of which in turn might have dozens of artists), or by a publishing company with numerous magazine titles, or by a book publisher with many imprints (sub-brands) and titles.

There is a third dimension of risk reduction by diversification. It is based on the possibility that the separate items are not independent of each other but are correlated. People tend to plan to see a movie during the weekend. If they decide against film A, the likelihood that they will see film B increases, and vice versa. A and B are negatively correlated.

The incremental risk of an asset depends on whether its returns tend to vary with or against the returns of the other assets held. If it varies against, then it reduces the overall variability of a portfolio's returns. As long as returns on assets are negatively correlated (when one does poorly, the other does well), even with extremely volatile individual assets a portfolio as a whole may have a low overall volatility.

Finance theorists have used the concept of beta to describe stock portfolios. Beta describes its sensitivity to broad market movements. The overall stock market (represented by an index such as the S&P 500 or FT-100) is assigned a beta of 1.0. By comparison, a portfolio which has a beta of 0.5 will tend to participate in broad market moves—but only half as much as the market overall. In contrast, a portfolio with a beta of 2.0 will tend to benefit or suffer from broad market moves twice as much as the overall market.[92] The formula for beta is:

$$\beta = \frac{\mathrm{cov}\left(Z_\mathrm{p}, Z_\mathrm{m}\right)}{\sigma_\mathrm{m}^2}$$

$\mathrm{cov}(Z_\mathrm{p}, Z_\mathrm{m})$ is the co-variance between the portfolio return and the overall markets return. σ_m^2 is the variance of the market's return. The square root of a variance is called the standard deviation. The standard deviation is a good measure of risk of an asset: the more an asset's returns vary from that asset's average return, the more volatile is the asset said to be. A co-variance describes the volatility of an asset relative to another asset. In our example, the co-variance describes the volatility of the likelihood that a person who watched film A will also watch film B. The larger that number is, in positive terms, the more of a complement the films are to each other. An example would be a film and its sequel. The larger a negative co-variance is, the more substitutes they are for each other.

In finance theory and practice, beta is generally calculated from historical price time series. For example, 60 trading days of stock prices might be used to estimate covariance and variance of a stock. The same approach can be used for film assets. One would measure the co-variance of different film categories against each other.

To calculate the variance of a portfolio, one takes the asset's deviation from the average rate of return for its asset class and squares each of them. The resulting number is the variance for the asset. The higher the number, the higher the potential risk of the asset.[93] The standard deviation for the asset (σ_a), is the square root of the variance. The closer σ_a is to zero, the closer the expected outcome is to complete certainty.

The goal of diversification is to reduce the variances of the portfolio as a whole. In order to estimate the rate at which two asset categories co-vary, one multiplies the deviation of category A by the deviation of category B in each of N weekends and then average the products:

$$\text{Co-variance}(\text{A},\text{B}) = \left(\left(\text{Deviation A}_1 \times \text{Deviation B}_1\right) + \left(\text{Deviation A}_2 \times \text{Deviation B}_2\right) + \ldots \left(\text{Deviation A}_N \times \text{Deviation B}_N\right)\right) / N$$

91 Picard, Robert. *The Economics and Financing of Media Companies*. New York: Fordham University Press, 2002.

92 RiskGlossary.com. "Beta." July 9, 2009. Last accessed August 2, 2012. ► http://www.risk-glossary.com/link/beta.htm.

93 Brealey, Richard A., Stewart C. Myers, and Alan J. Marcus. *Principles of Corporate Finance*. New York: McGraw Hill, 2004.

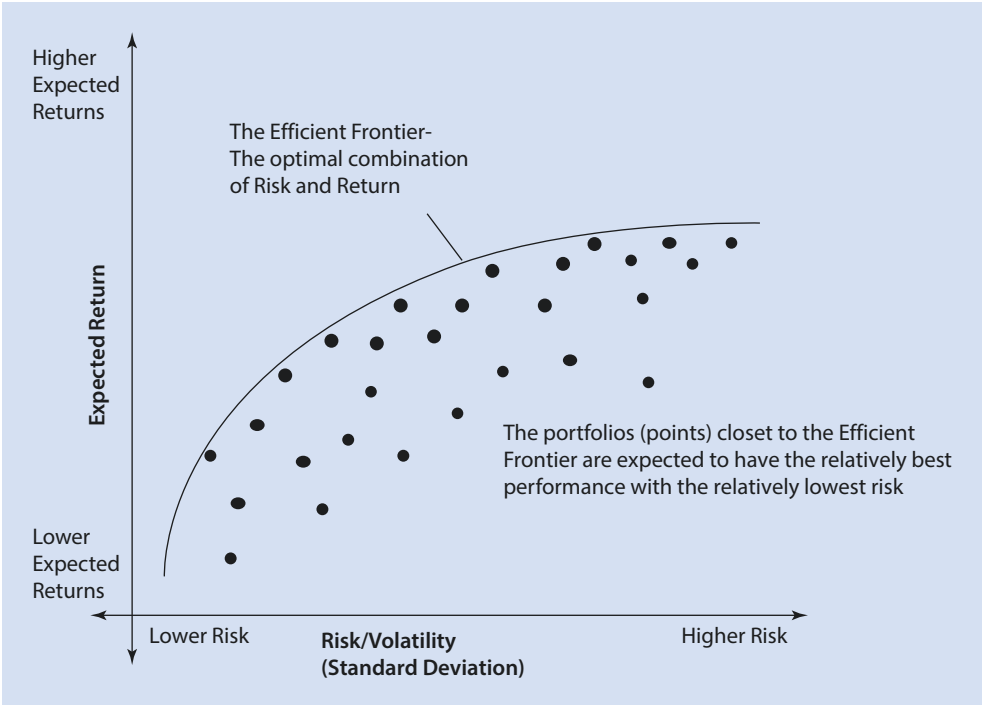

Fig. 3.3 The efficient frontier of risk and return combinations

For the covariance coefficient ρ_{ab}, divide that covariance by the product of the standard deviations of Asset A and of Asset B:[94]

$$\rho_{ab} = \frac{\text{Covariance}}{\sigma_a \times \sigma_b}$$

These correlations can be used with statistical packages of financial analysis to determine the most efficient combinations of risk and return. The asset categories are correlated with each other. These correlations can be used to find a set of efficient portfolios—efficient in the sense that for a given level of risk no other portfolio exists that has a higher expected return. This is known as the Markowitz Frontier. Figure 3.3[95] shows such a Markowitz Frontier where for each level of risk the highest return is found. Or, put differently, for each level of return the lowest risk level is determined.

One can think of a film (or any other item of content) as an asset. That asset has certain attributes and is part of a category of assets with the same attributes. Consider a slate of films. The different films for the season can be categorized along several dimensions; for example, according to their genre, their production budget, and their audience maturity rating. The statistical variance and mean returns (profit) of every combination of these attributes can then be found. The mean return shows the expected profitability while the variance shows the risk. The statistical correlations between all asset categories can then be calculated. It becomes possible to identify the efficient portfolios: combinations of assets where, given a level of risk, one cannot find higher expected returns; or, put differently, where for a particular level of expected returns one cannot find a portfolio with lower risk characteristics. Among the efficient portfolios on such a Markowitz Frontier the distributor or investor can pick the desired portfolio based on its attitude toward risk.

As mentioned, for this illustration, film projects are classified by three attributes: genre, production budget, and the audience maturity rating. Genres are comedy (C), drama (D), and romance (R). Budgets are at two levels: moderate (M) or high (H). Maturity ratings are based on the classifications of the motion picture industry's film rating board. Ratings of G, PG, and PG-13 are combined as "unrestricted" (U), while ratings of R and NC-17 are combined as "mature audience" (M).

The number of asset classes is thus 3 × 2 × 2 = 12. Each film can then be categorized along the three dimensions. An asset of category "HDU" means high budget, drama, unrestricted. An example for a film of this class is Disney's *Pirates*

94 If the returns on the two assets in a portfolio vary in perfect lockstep, the standard deviation of the portfolio would be the weighted average of the standard deviations of both assets:

$$\text{cov}(a,b) = \sum_{i}^{N} \frac{(a_i - \bar{a})(b_i - \bar{b})}{N}$$

The standard deviation of Portfolio (A, B) = $(X_a \times \sigma_b) + (X_b \times \sigma_b)$
- X_a = the fraction of genre A in the portfolio
- X_b = the fraction of genre B

95 Graph based off of image from Smart401K. "Modern Portfolio Theory and The Efficient Frontier." Last accessed April 17, 2017. http://www.smart401k.com/Content/retail/resource-center/advanced-investing/modern-portfolio-theory-and-the-efficient-frontier.

of the Caribbean: Curse of the Black Pearl. The movie had a $140 million budget (high, i.e. H), it was a "drama" genre (D), and had a film rating of PG-13 (i.e. unrestricted, U). The box office receipts of the film were $654 million. From the data for hundreds of these films, three variables can be calculated.

- Mean return per asset class;
- Mean standard deviation per asset class;
- Correlations between all asset classes

For each risk level, one can calculate the share of the 12 asset classes that should be included in the portfolio.[96] In the case of the 300 films for 2009–2011, such a portfolio, for risk category 5 (intermediate) would include 27.1% of asset class HRU (high budget, romance, unrestricted rating), 14.2% of asset class HDM (high budget, drama, mature audience).

As part of a portfolio, the expected profit of a given movie in a genre may be high enough to justify its production within a desired risk level. But such risk may be too high for producers who cannot afford to diversify, and can produce only a single film.

The arrangement in which studios distribute numerous films, or music groups own multiple music labels, or print publishers own multiple magazine titles, reduces risk by pooling many risky projects into a much less risky portfolio. This makes their aggregate cash flow much safer for the lenders. By reducing risk, portfolios reduce the cost of capital for media companies and increase their access to financing. This is one of the major factors for a content company's success: to deal with high-risk projects at a medium-risk financing cost.

3.4.2.7 Funding Levels

Partly as a result of the various techniques of risk reduction, some companies and industry clusters have access to higher levels of project funding at a typically lower cost. In the period 1996–2006, US annual investment in film production grew from $8.7 billion to $14.7 billion, which was 59.6% of world total investment. Europe's growth in production investments has been proportionally larger but from a much lower base, from $2.3 billion to $5.8 billion, which is 23.7% of worldwide film production investment.[97]

To counter-act this Hollywood resource advantage, many countries have assisted their film companies. The major approaches are direct subsidies, tax advantages, and import and exhibition quotas.[98]

Why are countries providing such support? Beyond the cultural and political, the creative sector is believed to have a multiplier for economic development. In the USA, states and local governments have increased their efforts to attract film and television production through tax-based subsidies. The effectiveness of these tax subsidies has been challenged by economists.[99] Film production locates itself less due to tax advantages but more through the presence of supportive film-oriented services and expertise—specialized lawyers, investment bankers, location scouts, agents, production crafts, tech support, creatives, and so on. These need enough steady volume to be economically viable.

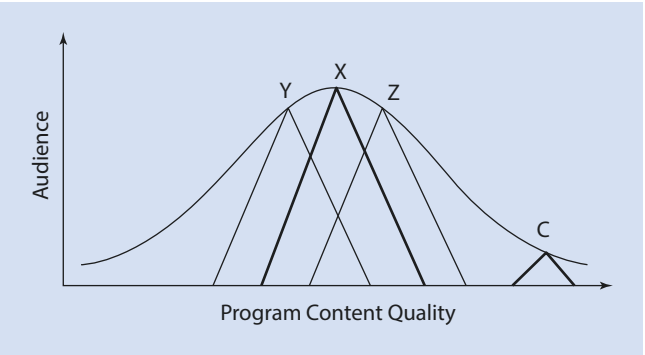

Fig. 3.4 Audience distributions for program styles

3.4.3 Product Development

As presented above, organizational structure and risk reduction are two major factors for advantages in production. Product development is the third key factor and will be discussed now.

3.4.3.1 Concept (Style)

A product needs to be designed based on an understanding of users and the market. For innovative products the design may be ahead of market demand. A product will often fail if it is too far ahead. This is true for media technology as well as for media content. Originality is important for success but radical originality will often miss the mass audience. To be one step ahead of mass taste is innovative; to be three steps ahead is risky in business (and artistic) terms. A media manager can analyze the impact of audience preferences using the distribution shown schematically in Fig. 3.4.

The content producer's business decision (as opposed to the artistic one) is to choose the "pitch" (the quality level) for its product, along some relevant dimension: for example, "high-brow" versus "low-brow" or "middle-brow." Figure 3.4 shows schematically the relation between audience size and content pitch quality. It orders content pitch quality along the horizontal axis, ranging from low quality

96 Bai, Lihui, Paul Newsom, and Jiang Zhang. "Teaching Utility Theory with an Application in Modern Portfolio Optimization." *Decision Sciences Journal of Innovative Education* 9, no. 1 (2011): 107–112.

97 In absolute terms, US film investments increased the gap with Europe: 68.6% of European film theater (tickets) sold for American movies, while European films' share in America, in contrast, was 5.6%. Americans also attend more films than Europeans (4.88 in 2006, vs. 2.21 in Europe). Parrdo, Alejandro. "Europe-Hollywood: Face to Face Comparative Discussion by Sector." *The Europe-Hollywood Cooperation*, no. 8 (2007): 25–39.

98 Lee, Hyangsun. "An economic analysis of protective film policies: A case study of the Korean screen quota system," (paper presented at the annual meeting of the International Communication Association, Sheraton New York, New York City, NY, May, 25, 2009).

99 Christopherson, Susan and Ned Rightor. "The Creative Economy as "Big Business": Evaluating State Strategies to Lure Filmmakers." *Journal of Planning Education and Research* 29, no. 3 (2010): 366–352.

level to high. Shakespeare may be on the right, mud-wrestling on the left. Audiences are willing to watch content in a general range of their first preference, though at a declining rate as one moves away from the first preference. This is depicted by an audience triangle, which shows the overall audience for a program quality.

The maximum area of a triangle (audience) is reached where the content pitch is at the peak of the distribution curve. Popular content, by definition, operates on a broad appeal and aims at the peak of distribution of tastes. A single content provider such as TV network X will position its content pitch quality at the center of the distribution. The second and third content producers such as TV networks Y and Z will position themselves relative to X so as to maximize their audience triangles—not quite identical in quality, because they would then share the overlapping audience, but close to X. As more content providers are added, the spread of offerings moves (rightward) toward higher quality. But it also moves leftward toward the lower-quality offerings. If one seeks a high-quality option (such as triangle C on the right) there are several options:

1. A state-supported public institution with quality mandates, such as public service TV, a municipal theater or symphony, or a university press book publisher.
2. An increase in the companies that supply content. As their number grows, they will expand their offerings both to the left (low quality) and to the right (high quality).
3. Direct payments by audiences where such was free before: on demand, pay-TV, and so on.

It is a misperception that intellectually more demanding media products are harder to create than popular ones. Actually, creating a success in either is similarly difficult, as the numerous failures in gaining critical or audience success at every level attest. It is not easier to create strong episodes of popular shows such as, say, *Friends*, *The Good Wife*, or *Gilmore Girls* on a weekly basis than it is to film a new version of *Romeo and Juliet*.

Media products typically either aim at a mass market or a niche market.[100] Mass-market media products will be near the center of the taste distribution. They are typically short-term oriented and marketing-driven.[101] Niche products will be more at the edges of the distribution, seemingly with low demand. However, the center is likely to be crowded with other products while niches may well be less contested and their audiences may therefore be just as high, while higher prices may be achievable and shelf-life is longer.

Niche-driven content is often less well-known but has a considerable aggregate volume. An example of niche-driven content is the genre Christian Contemporary Music, which has a solid base of millions of listeners in the USA but rarely gets covered in the news or culture pages. Niche books with sales below 40,000 account for almost half of Amazon's revenues. Each niche-driven content is constrained by a limited target audience but the niches add up. As storage and distribution become cheaper, niche products become economically more viable. The opportunities to mass-market niche media products increase as potential users can be identified and targeted, as global distribution becomes easier and cheaper, and as cultures open up to the outside world. This permits a worldwide aggregation of such niche audiences.

Book publishing has always combined a niche orientation with a mass-market orientation ("best-sellers"). An orientation toward specialization is obvious for professional books, but even in fiction publishers have ventured far to attract niche audiences through finely tuned sub-genres.[102]

The divergence of the popular culture approach from the niche approach is one of the differences between Hollywood film and "artsy" films. In film, there are two major perspectives on style. The Hollywood orientation toward popular style is that of the business culture: "Film is show business. No business, no show." In several other film centers, greater reverence is given to the creator than to the audience. The film-maker's orientation is to critical success (*succes d'estime*), and even disdain for the general public. The famous French-Swiss film-maker Jean-Luc Godard put it provocatively: "Who is the enemy? The audience!"[103] This dichotomy is not new. Alexis de Tocqueville, the French political thinker, wrote in 1830, after visiting America: "In aristocracies a few great pictures [paintings] are produced; in democratic countries a vast number of insignificant ones."[104]

The business problem with the "auteur" approach that is centered on the creator/director is known to economists as the "moral hazard" issue. Creators tend to strive more for artistic recognition by their peer group than for creating a business success for the media firm that pays for their services. A media company needs to be able to control such a situation and to balance its economic interests, in order to enable long-term support of production with the need to maintain the commitment of its creative workforce.

Elements of popular culture in film (as well as popular novels, where applicable) include:

- Brisk pacing;
- Sexual tension;
- Episodes of action, violence, and suspense;
- Special effects;
- Intrigue;
- Mood music
- A novel approach to an old fable;
- Happy ending or "wow finish."[105]

100 A third category are "true talent" products which are driven by exceptional artists whose performance cannot be readily replaced. See Aris and Bughin.

101 Aris, Annet and Jaques Bughin. *Managing Media Companies: Harnessing Creative Value*, 2nd Edition. West Sussex: Wiley, 2009.

102 For example, Atria, an imprint of Simon & Schuster, publishes erotic African American romance novels. Another romance novel sub-genre is the Hispanic historical genre. Danford, Natalie et al. "Toujours L'Amour." *Publishers Weekly*. December 1, 2003. Last accessed April 17, 2017. ► http://www.publishersweekly.com/pw/print/20031201/29546-toujours-l-amour.html.

103 Glazebrook, Philip. "Movies versus films." *The Spectator*. May 31, 1997, 39.

104 De Tocqueville, Alexis. "In What Spirit the Americans Cultivate the Arts." In *Democracy in America Volume II*. Charlottesville, VA: University of Virginia. Last accessed April 18, 2017. ► http://xroads.virginia.edu/~HYPER/DETOC/ch1_11.htm.

105 Wasko, Janet. "The Magical-Market World of Disney." *Monthly Review* 52, no.11 (April 2001): 56–71.

The top-grossing films of the period 1999–2004, all with total revenues over $1 billion, were *Harry Potter 1* and *2*, *Spiderman*, *The Lord of the Rings* films, *Star Wars—Episodes I and II*, *Finding Nemo*, and *Pirates of the Caribbean.*

As Edward Epstein observed, all of these successful movies had these characteristics[106]:

- Based on children's stories, comic books, serials, cartoons, or a theme-park ride.
- Featured a child or adolescent protagonist.
- Had a fairy-tale-like plot in which a weak or ineffectual youth is transformed into a powerful and purposeful hero.
- Contained only chaste relationships between the sexes.
- Featured bizarre-looking and eccentric supporting characters that were appropriate for toy and game licensing.
- Depicted conflict in spectacular but non-realistic ways, and were bloodless for a rating PG or PG-13.
- Ended happily, with the hero prevailing over powerful villains and supernatural forces (most of which remain alive for potential sequels).
- Used animation to artificially create action sequences, supernatural forces, and elaborate settings.
- Cast actors who were not ranking stars and thus did not command high compensation.
- Were costly to make: just production costs averaged $105 million.

There is no inherent reason why other countries' studios cannot produce similar popular content. Most European, Japanese, Indian, Korean, Australian, and Egyptian films are not "artsy" but aim at popular taste too. In other words, they also often try to be commercially successful but succeed less, at least when it comes to exports. (Usually only the "high culture" films get exported, thus creating a skewed image of quality.) The Indian film industry, known as Bollywood, aims squarely at popular taste, where (chaste) love conquers all. Bollywood films rarely mention politics, poverty, or the grim social realities of India.[107] They were produced mostly for audiences in South Asia, yet have been moving toward globalization, paralleling the broader shifts in the Indian economy. Both Hollywood and Bollywood succeed with audiences because their orientation is demand-driven and popular.

Media firms must determine the right mix between popular and niche content. This means deciding on the optimal portfolio mix, as described earlier in the analysis of portfolios. Within mass products media companies seek the "comfortable novelty." The content must not repeat past audience experiences, but still be familiar and accessible. Even leading-edge creators who try to be different and unconventional follow many conventions, such as length, pacing, genre, and so on. Based on audience and advertisers' feedback and research, media companies may create "engineered" content. Examples are putting together bands with members who are attractive to various audience demographics, the selection of reality show heroes; the endings of films, and the composition of a film's cast to appeal to multiple nationalities.

Similarly, some books are first conceived as a popular rather than artistic concept, and the publisher then hires writers to create the book. This often happens for non-fiction titles such as travel guides or "how to" manuals. But in fiction, too, editors initiate and encourage projects and even design them. An example is the "Gossip Girl" books series. An editor at Alloy Entertainment, Cecily von Ziegesar, created the concept, story, plots, and the characters, and wrote the first eight books in the series. She also recruited writers who followed the basic format. In April 2006, Alloy Books ranked at Nos. 1, 5, and 9 on the *New York Times*'s children's paperback bestseller list.[108] "In the distant past, the film studios themselves had a recognizable differentiation, not just the individual films.[109] MGM was known for musical fantasies, Warner Bros. for crime dramas, Universal for horror films, Twentieth Century-Fox for social realism, and Paramount for biblical epics. More recently, no brand differentiation exists, with the exception of Disney with its wholesome family-entertainment image. Instead they cover the same broad spectrum and create fairly similar content portfolios."

Innovation, however, is important for long-term survival. Large media companies often try to encourage content innovation by allowing "boutiques" to exist within larger organizations. Film distributors create semi-independent production companies and artistic studios. Book publishers, too, acquire small publishers or create small sub-publishers ("imprints") run by especially valued editors. The music industry uses this model of small creative entities within the large organization. Small independent labels, which are better at spotting new artists, are often bought by the big firms.[110] A similar model applies to the technology sector where small innovative start-ups, if successful, are often bought out by established firms.

3.4.3.2 Product Selection

Selection among content ideas is a key media industry function. The typical investment per content production is significant at the level of major media companies.

- Hollywood film: $70 million;
- Network TV series/pilot: $8 million;
- Video game: $10 million;
- CD: hit potential: $1million;
- Book with bestseller potential: $0.5 million.

Any project competes for access to funding and to other scarce resources such as management attention, marketing

106 Epstein, Edward Jay. *The Big Picture, The New Logic of Money and Power in Hollywood*. New York: E.J.E. Publications, Ltd., Inc., 2005.

107 Mehta, Suketu. "Welcome to Bollywood." *National Geographic.* February 2005, 52–69.

108 Rich, Motoko and Dinitia Smith. "First, Plot and Character. Then, a Book Needs an Author." *New York Times.* April 27, 2006. ► http://www.nytimes.com/2006/04/27/books/first-plot-and-characterthen-find-an-author.html.

109 Epstein, Edward Jay. *The Big Picture, The New Logic of Money and Power in Hollywood.* New York: E.J.E. Publications, Ltd., Inc., 2005.

110 Halbfinger, David M. "California Considers Tax Breaks for Filming." *New York Times*, August 18, 2005. ► http://www.nytimes.com/2005/08/18/movies/california-considers-tax-breaks-for-filming.html.

and promotion priority, production facilities, and release timing.

The main phases of such a process are:

- Understanding the market and identifying needs;
- Attracting, receiving, or generating ideas;
- Selecting the project;
- Monitoring, testing, and modifying the product;
- Feedback.

It is claimed that of 10,000 theater scripts, one play is being produced; of 5000 proposals for TV shows, one is chosen; of film scripts, one in 5000 is made; and of novel manuscripts, one in 15,000 is published. The president of the Doubleday book publishing house reported that of 10,000 submissions he received "over the transom" (i.e. unsolicited) each year, only three or four were accepted. Fox claims to receive 10,000 film screenplays, treatments, books, and oral pitches yearly.[111] Of these, 70–100 projects move into development. Of these, only 12 films are created.[112] And, if only 20% of films break even, that would mean that about two are ultimately successful, out of 10,000 that enter the pipeline.

For TV program selection, out of thousands of proposed ideas for series, in the USA about 600 are chosen each year for further development. Of these only several dozen make it to the pilot stage test production. About 15 shows are then picked for regular programming by each major network, with a funding commitment for about 13 episodes, and an option contract for additional episodes. Most of these shows are not renewed owing to insufficient audience success.

Proposals for content production are received through three major channels:

- Media company managers, independent producers, and established writers, all create concepts (story ideas) and make a pitch for a production decision ("green-light").
- An agent presents a content idea such as a script or manuscript to the media company.[113]
- The work is sent directly by the writers/performers, but without the filtering role of an established agent, their chances are low.

Business factors for selection are as follows:

- Artistic quality;
- If based on a play, concert, or a book, the sales history in that medium;
- Associated talent: directors, producers, authors, and stars, and their track record;
- The track record of past sales of work associated with this talent;
- The potential for sequels, merchandise, and movie-related books and video games;
- Competitive offerings;
- Fit with the company's brand;
- Fit with the company's portfolio;
- Whether the product will enhance the reputation of the firm;
- Pre-existing financing deals[114];
- Anticipated marketing effort (hard sell? likely word of mouth?);
- Sales forecasts;
- How promising the author/artist is for future creations.

Screeners read/listen to submitted proposals, demos, and manuscripts and write internal evaluations. At music labels, content is selected by artists and repertoire (A&R) managers. The initial selection of new artists is usually done by small or independent labels. The selection by a major label is then often based on the success of the artist's previous work or that of the genre more generally.[115] A&R managers also assist with the selection of songs, producer, and recording studio. Some scan the music industry to find underserved market niches and then seek out artists who will fit. Others follow leads by trusted sources or visit live music venues to find new talent.[116]

In any selection process there will inevitably be wrong calls followed by finger-pointing. Universal Pictures, after spending more than three years developing the script of *Shakespeare in Love*, decided in the end to pass on it. Disney's subsidiary Miramax then bought the rights and produced it, and the film went on to win seven Oscars including for Best Picture. To avoid taking blame there may be a built-in incentive to play it safe by accepting projects associated with well-known producers, directors, and stars.[117]

Of course, designing an effective selection system is important. But any selection system, whatever it might be, will be denigrated by many of those left out as biased, prejudiced, and ignorant. And since-inevitably-most projects will be rejected, any selection mechanism will be unpopular with the artistic community.

In practice, the screening is a logistical challenge. Initially it requires so many hours of professional attention that firms are trying to cut the effort (and cost) required. Book publishers may use unpaid interns to go through the "slush pile" of manuscripts. They may also ask potential employees to read an unsolicited manuscript and talk about it as part of their interview process. As a major screening mechanism, many publishers, film producers, or music labels do not accept submissions unless they come pre-screened through a trusted intermediary such as an agent or a person whose judgment is valued. These agents endorse the scripts, in effect. They are filters for quality as well as legal firewalls. They have to

111 One must be somewhat skeptical about all these numbers.

112 Caves, Richard E. *Creative Industries: Contracts Between Art and Commerce*. Cambridge: Harvard University Press, 2000.

113 Levison, Louise. *Filmmaking and Financing: Business Plans for Independents*. (New York: Focal Press, 2013), 64.

114 Levison, Louise. *Filmmaking and Financing: Business Plans for Independents*. (New York: Focal Press, 2013), 47–49.

115 Caves, Richard E. *Creative Industries: Contracts Between Art and Commerce*. Cambridge: Harvard University Press, 2000.

116 Klein, Allison. "How Record Labels Work." *How Stuff Works*. May 25, 2003. Last accessed June 13, 2014. ► http://entertainment.howstuffworks.com/record-label1.htm.

117 Epstein, Edward Jay. *The Big Picture, The New Logic of Money and Power in Hollywood*. New York: E.J.E. Publications, Ltd., Inc., 2005.

do repeat business with a media company and hence must protect their own reputation by maintaining a balanced and objective perspective about their client's work, while at the same time promoting it.

Given the large number of submissions and the need to keep track, a database must be created, including relevant pieces of information. A book manuscript/proposal is then reviewed by an acquisitions editor or similar professional. The screener writes an internal report on recommended projects, and possibly also on those that require significant revision or rejection.[118] The report may include an estimate of market potential and production cost. An author's future potential is factored in.[119]

To make evaluations and selections more objective, transparent, and less prone to personal favoritism there need to be standards and criteria. These must also reflect the company's values and strategies.[120, 121] Being part of a large organization exacerbates the problem. Peter Chernin, when President of News Corp., observed that the business benefits of size—leverage, synergy, and scope—are also fundamentally the enemies of creativity.

At a university press, a professional editor, after an initial screening, sends the manuscript to independent expert "peer reviewers" for evaluation.[122] The manuscript's author may be anonymized to reduce personal bias, as are the identities of the referees, in a "double-blind" system of evaluation.

In film and TV, some companies try to use computer tools to do the initial screening on the script. Scripts that pass are then reviewed by a studio reader who creates a "coverage" report, which very succinctly summarizes concept, plot, principals, commercial prospects, and evaluation. This is reviewed by managers in charge of creative affairs, and goes up the chain for approval. The script may go through a dozen executives. Input must also include that of marketers and financial managers (a sensitive issue for creators).

Economic Tools for Product Selection

Project selection is done in every industry; it is not unique to content industries. How is it normally done?

Table 3.10 NPV of a film project

Year	Cash flow, discounted	Present value
$t = 0$		-$7,000,000
$t = 1$	$\frac{5,000,000}{1.12}$	$4,464,286
$t = 2$	$\frac{2,500,000}{1.12^2}$	$1,992,985
$t = 3$	$\frac{1,250,000}{1.12^3}$	$889,725
$t = 4$	$\frac{625,000}{1.12^4}$	$397,199
$t = 5$	$\frac{312,500}{1.12^5}$	$177,321

Financial tools for project selection are:

- Payback period
- Discounted payback period
- NPV
- ROI
- Internal Rate of Return
- Real Options (RO)

All of these are related and look at profitability over time. Most common is the technique that considers net "present value" (NPV) of a stream of income.

$$\text{NPV} = \sum_{t=1}^{n} \frac{C_t}{(1+r)^t}$$

C_t is the net cash flow in year t, r is the discount rate (the lower value of future cash over present cash), and t is the time of the cash flow.

Consider a film in which the total production cost comes to $7 million. The revenue, after the theater's share of half of the box office receipts, decreases each year by half, from $5 million in the first year to $2.5 million in the second year, and so on. We assume a discount rate of 12%. Table 3.10 shows revenues and their discounted value.

Total NPV is

$$\sum_{t=0}^{n} \frac{C_t}{1.12^t} = \$7,921,516 - \$7,000,000 = \$921,516$$

The film is profitable, with a ROI that is about 13%. [($0.921 M)/$7 M].

The problem with this tool is that the future-oriented revenue numbers are highly uncertain. Statistical tools for project selection were therefore developed to improve the odds on prediction. For film, an example is MOVIEMOD, a decision support system for pre-market evaluation of motion

118 Curwen, Peter. *The World Book Industry.* New York: Facts on File, 1986.

119 Authonomy. "How book publishers decide which books to publish." Last accessed June 13, 2014. ► http://authonomy.com/writing-tips/how-book-publishers-decide-which-books-to-publish/; Legat, Michael. "What Do Publishers Want?" *Writer Services.* 2001. Last accessed April 18, 2017. ► http://www.writersservices.com/resources/what-do-publishers-want; Zacharius, Steven. "To Publish or Pass: The Editorial Meeting &Selecting Books for Publication." *The Huffington Post.* Last updated March 8, 2014. ► http://www.huffingtonpost.com/steven-zacharius/to-publish-or-to-pass-the_b_4542548.html; Bennett, Jeffrey. "How Publishers Choose Manuscripts." *Ezine Articles.* February 10, 2007. Last accessed June 13, 2014. ► http://ezinearticles.com/?How-Publishers_Choose-Manuscripts&id=449959.

120 Legat, Michael. "What Do Publishers Want?" *Writer Services.* 2001. Last accessed April 18, 2017. ► http://www.writersservices.com/resources/what-do-publishers-want.

121 Zacharius, Steven. "To Publish or Pass: The Editorial Meeting & Selecting Books for Publication." *The Huffington Post.* Last updated March 8, 2014. ► http://www.huffingtonpost.com/steven-zacharius/to-publish-or-to-pass-the_b_4542548.html; Bennett, Jeffrey. "How Publishers Choose Manuscripts." *Ezine Articles.* February 10, 2007. Last accessed June 13, 2014. ► http://ezinearticles.com/?How-Publishers_Choose-Manuscripts&id=449959.

122 Arnold, Gordon B. "University Presses." In *Encyclopedia of Education* 7 (2nd ed.) ed. James W. Guthrie. (New York: Macmillan Reference USA, 2003), 2601.

pictures that was proposed by several marketing professors.[123] This model produces forecasts of box office performance and offers diagnostic insights into the drivers of box office performance, including marketing strategies. Another example is that of Worldwide Motion Picture Group, which was founded by a former statistics professor. It charges up to $20,000 to compare the story structure and genre of a draft script with past movies and their success rate.[124] The software looks for elements that attract (or repel) target audiences. For example, in horror movies there could be demons who either "target" people or "are summoned" by them. A "targeting demon" is much scarier and has a higher audience appeal than one that is summoned. A second example is bowling scenes, which statistically do not do well. Therefore, from a commercial perspective, they should be avoided. The problem is that this modeling basically mimic whatever has worked before. Generally, it does not work well in the selection process (though might help later in designing marketing campaigns).[125] If it did work, the success rate of films (or books) would improve, and production companies not using such models would suffer; and there is no evidence for this.

3.4.3.3 Product Development

"Development" is the process by which a story idea or editorial concept is written, revised, and improved. For technology projects, it is the "D" in "R&D." According to one estimate, in 2002 the six Hollywood studios and their subsidiaries had more than 2500 ideas in some stage of development with producers. Most do not get produced in the end. For example, 90% of projects under development by Paramount were not green-lighted. Projects that fail to get green-lighted are either put in "turnaround," which gives the producers the right to sell them to another studio, or are simply abandoned. The basic idea for a piece of content must be developed into a full outline of a work. The process is divided into defined stages, with an option at each step to continue for another round.

A film screenplay goes through dozens of drafts, and is rewritten as late as during the shooting or in the editing process.[126] The original writer often has no role or say in the changes. For Broadway theaters, labor union contracts give playwrights veto rights.[127] High end "script doctors" may be paid substantial fees for last-minute emergency revisions.

Feedback to content designers is constant. Films get tested through "sneak previews" to help make changes. In theater, plays and production are tested through public performances, cascading from:

- Informal workshops, sometimes by non-profit organizations, to small non-profit, to commercial theater, to maybe TV and film;
- To off-off-Broadway;
- To off-Broadway;
- To commercial Broadway;
- Maybe to TV pilot episode (for series);
- To a regular TV show.

The development process is even more structured for technology-based content such as video games. Here, the process starts with a lead designer/visionary, who is responsible for the concept. The game is then broken down into a series of levels and missions for a player to complete.[128] The specialized tasks are managed by level designers, software planners, lead architects, and managers responsible for art, sound, and quality. A game design plan also includes an overall budget, a schedule,[129] then sub-schedules for engineering, art, various features, testing, and so on.[130] Most video game console development teams require 20–50 people, and some over 100.

Market Research

Especially for expensive products, the development process will often be dominated by marketability rather than art. This will include a search for appealing endings and special effects with a "wow-factor." The studios will also use test screenings and focus groups to fine tune the film before the "final cut." That said, audience research often misses successes or failures. For example opinion surveys predicted that the film *Fight Club* would be a flop, yet it grossed more than $100 million.[131]

One type of market research is to recruit a focus group and preview audiences for in-depth interviews or more general survey responses. The demographic makeup is either random or selected. Test audiences are often used for film in advance of release. There are two types of such film "previews": for production and for marketing. Production previews help film-makers fine-tune the movie while it is being made, whereas marketing previews study an audience's reactions to complete films and assess marketing strategy.[132]

Many popular movies have been altered after being shown to test audiences. Originally, Glenn Close's character in *Fatal Attraction* as the vindictive, spurned woman survived but audiences hated her, and the ending was therefore changed to see her die.[133] Conversely, in the movie *ET*, the

123 Eliashberg, Jehoshua et al. "Moviemod: An Implementable Decision Support System for Pre-Release Market Evaluation of Motion Pictures." *Marketing Science* 19 (2000): 226–243.
124 Barnes, Brooks. "Solving Equation of a Hit Film Script." *New York Times*. May 5, 2013. ► http://www.nytimes.com/2013/05/06/business/media/solving-equation-of-a-hit-film-script-with-data.html.
125 Eliashberg, Jehoshua et al. "Moviemod: An Implementable Decision Support System for Pre-Release Market Evaluation of Motion Pictures." *Marketing Science* 19 (2000): 226–243.
126 Vascieck, Donald L. "How to Choose a Good Script Consultant." *DonVascieck.com*. October 13, 2010. Last accessed June 13, 2014. ► http://donvascieck.com/screenwriting/how-to-choose-a-good-consultant/.
127 Caves, Richard E. *Creative Industries: Contracts Between Art and Commerce*. Cambridge: Harvard University Press, 2000.
128 Newman, James. *Videogames*. New York: Routledge, 2004.
129 Long, Starr. "Online Product Development Management: Methods and Madness." Presented at the Game Developers Conference, San Jose, California, March 4–8, 2003.
130 Bethke, Erik. *Game Development and Production*. (Plano: Woodware Publishing, Inc., 2003), 19–95.
131 Barnes, Brooks. "Solving Equation of a Hit Film Script." *New York Times*. May 5, 2013. ► http://www.nytimes.com/2013/05/06/business/media/solving-equation-of-a-hit-film-script-with-data.html.
132 Friedman, Robert. "Motion Picture Marketing." In *The Movie Business Book*, Third Edition. Ed. Squire, Jason. (UK: Open University Press, 2006), 282–298.
133 Bay, Willow. "Test Audiences Have Profound Effect On Movies." *CNN*. September 28, 1998. Last accessed April 18, 2017. ► http://www.cnn.com/SHOWBIZ/Movies/9809/28/screen.test/.

lovable alien space traveler character originally perished before test audiences rescued him and sent him back to his galaxy. In *Pretty Woman*, Julia Roberts initially rejected her suitor Richard Gere, but audiences sought a happy ending and it was tacked on. Thankfully, test audiences do not always prevail. *Wizard of Oz* test audiences complained that "Somewhere Over the Rainbow" slowed down the movie, but the song stayed and became a classic.[134] The actual testing usually done by specialists with no particular axe to grind, National Research Group is a film testing company for Hollywood, specializing in test screening. Concept testing is unpopular among screenwriters and other creative Hollywood types, who suspect it to be responsible for rejecting their exciting, movie ideas.[135]

Test marketing is the next step, with a limited launching of the media product with full marketing and advertising efforts in several test cities. The consumer response is then tracked, for example from exit interviews. There are many problems in test marketing. It is slow, expensive, highly aggregate, and exposes the product to competitors.

In controlled studies, researchers manipulate the important variables to observe their effect; it can be fairly accurate but also costly and time consuming.[136] In contrast, in an uncontrolled study, researchers are the only observers.

The statistical approaches include factor analysis, which detects and locates current and potential preferences, and which narrows the many variables into a smaller number of factors. Some media firms have also used "psychographic" studies to categorize readers by psychological rather than demographic characteristics.[137]

These audience analysis tools are not used only by electronic media with audience maximization on their mind. Newspaper editors, too, use various types of audience analytics to help shape their selection and placement of stories. On the internet, it becomes much easier to track the popularity of individual stories, the time spent reading them, and potential sharing with others. This can be correlated with other data about the reader herself. Experiments become much easier on the internet. If Amazon.com wants to find out whether a new design of a webpage increases sales, it can run a controlled experiment. It will show the page design to, say, every hundredth visitor. Determination of whether the new design increases sales can be made within a few days.[138]

134 Bay, Willow. "Test Audiences Have Profound Effect On Movies." *CNN*. September 28, 1998. Last accessed April 18, 2017. ► http://www.cnn.com/SHOWBIZ/Movies/9809/28/screen.test/.

135 Marich, Robert. *Marketing to Moviegoers: A Handbook of Strategies Used by Major Studios and Independents.* Burlington, MA: Elsevier Focal, 2005.

136 Holden, Reed and Thomas T. Nagle. *The Strategy and Tactics of Pricing: A Guide to Profitable Decision Making.* 3rd edition. New Jersey: Prentice Hall, 2001.

137 Meyer, Philip. *The Newspaper Survival Book: An Editor's Guide to Marketing Research.* Bloomington: Indiana University Press, 1985.

138 Varian, Hal R. "Kaizen, That Continuous Improvement Strategy, Finds its Ideal Environment." *New York Times.* February 8, 2007. ► http://www.nytimes.com/2007/02/08/business/08scene.html.

3.5 Production Planning

3.5.1 Operational Challenges for Content Production

3.5.1.1 "Scientific Management"

"Scientific management" was a concept conceived in the early twentieth century by Frederick Taylor. He envisioned the firm as a well-oiled machine, with defined process rules, clear hierarchy, and each component being replaceable. Taylor introduced the stopwatch measurement of the time required for various tasks and indeed for each body movement. Taylor was lionized in his time, but his examples and stories were later revealed to be factually and analytically weak. Yet the basic concept of a management company operations based on models and numbers has survived.

Tools of operations management are:

1. Budgeting;
2. Capacity planning;
3. Scheduling;
4. Priority assignment;
5. Inventory control.

Software programs aim to guide managers, by using internal and external data and various analytical modules. Manufacturing Resource Planning systems are used to organize production.[139] They use models of operations research business process management and economic/finance analytical business models. But to reach a proper judgment, a manager needs to understand the elements of such programs. This will be the subject of the next sections.

3.5.1.2 Budgeting

For a successful development process, a firm must balance three essential variables: budget, time, and quality (◘ Fig. 3.5).[140]

In the real world, projects tend to achieve only two of these goals[141]:

1. On budget and on time while sacrificing quality;
2. High quality and on budget, but requiring more time;
3. High quality and on time, but requiring extra spending.

The challenge to production planners is how to reduce overspending, while maintaining the schedule and the required quality.

To create a budget, one needs to know comparative data for similar projects and activities. Some are available to the producer or publisher from their own past activities, others

139 Investopedia. "Manufacturing Resource Planning - MRP II." Last accessed April 19, 2017. ► http://www.investopedia.com/terms/m/manufacturing-resource-planning.asp.

140 Based on Bethke, Erik. *Game Development and Production.* (Plano: Woodware Publishing, Inc., 2003), 19–95.

141 Bethke, Erik. *Game Development and Production.* (Plano: Woodware Publishing, Inc., 2003), 19–95.

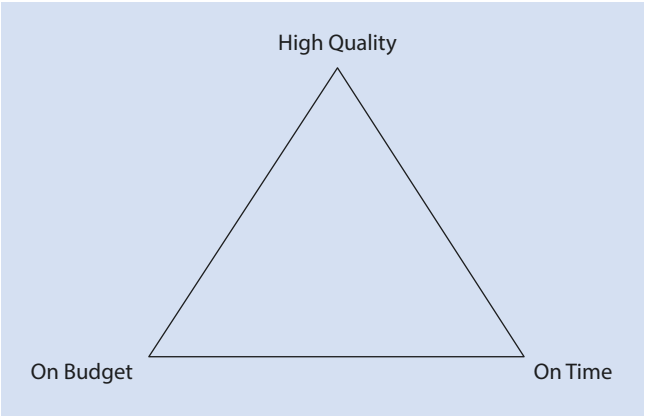

Fig. 3.5 Tradeoffs in the development process

must be found in databases, trade papers, and industry magazines.[142] The rest need to be calculated based on specific cost items, hours, pay levels, rental fees, and so on.

An example is the budget of several types of theater in New York City. Theater productions and their budgets vary greatly according to the nature of the production itself, whether it is a Broadway show (premium commercial), an off-Broadway (commercial or non-profit), or off-off Broadway (low-budget and non-profit). The figures were compiled for the year 2001 and no updates have been published. (Table 3.11).

For the high-budget theater categories, advertising/marketing and physical production account for about 40%. Within physical production, scenery is the largest expense, 12.5% of the entire budget.[143]

One particular thorny issue in budgeting is how to allocate costs among several different activities. Most media organizations pursue, at any given moment, more than one project. How then does one separate their revenues, costs, and investments? This is discussed in ▶ Chap. 13 Accounting in Media and Information Firms, Here, we introduce one element, that of activity-based costing or budgeting (ABC or ABB).

ABC enables budget accounts for various activities based on cost allocation for those activities. The full cost of each activity is calculated, and "cost drivers" are established that link cost elements to the various activities of the firm. ABC breaks down overall costs according to how many resources a particular activity consumes. ABC differs from traditional cost accounting, which assumes that the volume of the end product is the only driver of costs. ABC thus helps an organization to analyze which activities create what cost, and enables firms to control their costs based on tangible activities rather than general accounting reports. Steps are:

1. Identify all activities that are performed within the operation;
2. Categorize the activities as value-added or non-value-added;
3. Select cost drivers;
4. Allocate total budget to the activities;
5. Identify the relationships between cost drivers and activity centers.[144]

An activity-based budget, by enabling managers to create a clear relation between project costs and profits, permits managers: to uncover waste and hidden costs; view the cost structure, efficiency, and probability of projects; identify places to cut spending, or introduce technology changes that reduce effort requirements for the activity; and enable informed company budgets.[145]

Here is an example for ABC (with data provided in Table 3.12).

Suppose a company makes music CDs as well as video DVDs. CDs are sold for $10 wholesale and DVDs for $16. Of each type of disc, 20,000 are sold each week. Both use the same factory, same workers, and same materials. One would therefore think that DVDs are the more profitable product line, with a sales price of $16 versus $10 for CDs. But before reaching such a conclusion, one would have to allocate the various costs associated with production.

The two products have the same cost for a jewel case and the underlying disc. But the DVD manufacturing also requires a patent license fee per unit, whereas the CD patents have expired. Furthermore, the space requirements for DVD stamping are four times as high as for CDs, and rent should be allocated accordingly. The overall wage bill ($160,000) should also be allocated between the two product lines. Suppose it takes longer to make a DVD because 50 steps are required, whereas CDs require 20 steps. To calculate the share in wages, one first determines the number of total steps for making the CDs (20,000 CDs = 20 steps) = 400,000 and the number of steps for making a DVD = 20,000 DVDs × 50 steps = 1 million. The share of work steps in overall is, for CDs, 400,000/1.4 million = 28.57% of the total labor steps, and correspondingly 71.43% for DVDs. The total labor cost of $160,000 is then allocated accordingly.

Energy cost is allocated in a simpler fashion. Suppose that DVD machinery uses four times as much electricity. The percentage allocation then would be 80% for DVDs and 20% for CDs.

The results, after the ABC allocation are done based on our assumptions, show that the simpler and cheaper product, the CD, is more profitable in total ($92,280 vs. $57,720) and on a per unit basis ($4.61 vs. $2.89).

142 Levison, Louise. *Filmmakers and Financing*. 4th edition. (Oxford: Elsevier, 2004), 153–168.
143 Brown et al. *Wonderful Town: The Future of Theater in New York*. New York: National Arts Journalism Program, 2001.
144 Blackmon, Kate, Steve Brown, Paul Cousins, and Harvey Maylor. "Performance Measurement and Improvement." *Operations Management: Policy, Practice and Performance Improvement* (St. Louis: Butterworth-Heinemann, 2001), 313–314.
145 Shane, John M. "Activity-Based Budgeting: Creating a Nexus between Workload and Costs." *FBI Law Enforcement Bulletin* 74, no. 6 (June 2005): 11–23.

Table 3.11 Theater budgets[a]

Production type	Broadway	Off-Broadway (commercial)	Off-Broadway (non-profit)	Off-Off-Broadway
Capacity	1350 seats	287 seats	165 seats	60 seats
Length of run	Open-ended	Open-ended	56 performances	15 performances
Ticket price	$25–$70	$47.50–$50	$40	$15
	Cost $/%			
Physical Production	**$418,250 (20.9%)**	**$66,500 (11.1%)**	**$34,050 (15.5%)**	**$1250 (16.7%)**
Scenery	$250,000	$37,500	$18,000	$900
Costumes	$50,000	$7500	$2000	$250
Lighting	$50,750	$11,000	$3000	$100
Fees	**$179,300 (9%)**	**$42,789 (7.1%)**	**$22,500 (10%)**	**$3150 (42.1%)**
Director	$50,000	$9138	$3800	$1000
Author	n/a	$7000	$3600	$0
Designers	$100,300	$14,388	$10,000	$1300
Salaries	**$161,288 (8.1%)**	**$40,050 (6.7%)**	**$51,180 (23.3%)**	**$0 (0%)**
Actors	$75,120	$24,000	$23,760	$0
Understudies	$30,048	$2108	$0	$0
Stage Management	$36,670	$5958	$9770	$0
Rehearsal Expenses	**$187,000 (9.4%)**	**$55,100 (9.2%)**	**$12,900 (5.9%)**	**$1000 (13.4%)**
Stagehands, load-in	$130,000	$15,250	$11,500	$0
Rehearsal space rent	$13,000	$5000	$0[b]	$1000
Workshop expense	$0	$28,500	$0	$0
Front of House	**$40,000 (2%)**	**n/a[c]**	**$12,730 (5.8%)**	**$120 (1.6%)**
Box office	$40,000	n/a	$9460	$0
Programs	$0	n/a	$750	$120
Advertising/marketing	**$469,000 (23.5%)**	**$165,500 (27.6%)**	**$57,300 (26.1%)**	**$1955 (26.1%)**
Publicist	$8000	$5500	$2400	$1000
Opening Night	$60,000	$7500	$2500	$0
General admin.	**$211,162 (10.5%)**	**$75,459 (12.6%)**	**$15,423 (7.2%)**	**$0 (0%)**
Payroll taxes	$28,778	$10,727	$9323	n/a
Insurance	$25,000	$5000	n/a[d]	n/a
Legal	$20,000	$16,000	$0	$0
Contingency	**$166,500 (8.3%)**	**$100,000 (16.6%)**	**$0 (0%)**	**$0 (0%)**
Union bonds	**$167,500 (8.4%)**	**$54,602 (9.1%)**	**$13,678 (6.2%)**	**$0 (0%)**
Actors Equity	$150,000	$27,882	$11,014	$0
ATPAM (Association of Theatrical Press Agents and Managers)	$10,000	$2740	$0	$0
Total (pre-opening)	**$2000,000**	**$600,000**	**$219,761**	**$7475**
Per-week expenses	$223,281	$50,000	$5000–$11,000	$937.50

Brown et al. *Wonderful Town: The Future of Theater in New York*. (New York: National Arts Journalism Program, 2001), 49
[a]Budget sub-categories of "other" are omitted.
[b]Company pays annual rent
[c]Front of house expenses accounted for under other categories
[d]Included in annual company budget

Table 3.12 Activities-based cost allocation

Sales revenue	$10/CD	$16/DVD	Total
(20,000 sold in each product line)	200,000	320,000	520,000
Costs of goods sold			
$0.60 jewel case	12,000	12,000	24,000
$1.60 disc	32,000	32,000	64,000
$1.60 special license for DVD	0	32,000	32,000
Total cost of goods sold	44,000	76,000	120,000
Gross margin	156,000	244,000	400,000
Operating expenses			
Rent	20,000	40,000	50,000
Wages	45,720	114,280	160,000
Energy	8000	32,000	40,000
Total operating expenses	63,720	186,280	250,000
Net profit	92,280	57,720	150,000

3.5.2 Production Design

Production planning requires a time horizon. Some products such as a hit song are short-term oriented, for maybe a single year. Others aim at an intermediate duration for a handful of years such as a smartphone app. And still others are strategic and long range, such as the entry of Apple into the music distribution business.

To configure the production process, a firm needs to design a layout for equipment, people, and materials that must interact. The product moves through that process. This design may be expensive and require a commitment to a particular hardware, and it must therefore be planned carefully.

The configuration of the process can be designed either according to product or by function. In a functional layout, the job moves among specialized functions that process many products. A film is a good example. One unit dubs films, another adds music, a third produces the opening and closing credits, and so on. Once done, the same people and equipment then process other projects or products. By contrast, in a product layout, equipment, technology, and people and equipment are allocated and dedicated to a particular product. The production crew and post-production of a TV talk show are likely to be dedicated exclusively to the show. In planning its process layout, a firm needs to synchronize the speed at which various production stations function in order to avoid bottlenecks. This is known as line balancing. To achieve it may require speeding up the throughput of slower (or less predictable) segments, or in some cases the firm may reduce the throughput speed of a fast segment, thereby reducing cost. The greater the line imbalance is, and the more of an impact a bottleneck has on subsequent production tasks, the more important it is to deal with the problem. Tools for the planning and coordination of capacity are discussed further below. Thus, a firm needs to carefully plan its production and consider capacity needs, scheduling of activities, and its supply chain. At the same time, a firm needs to maintain flexibility and the ability to customize its products, something that is especially important in the media environment.

Assembly-line production is where machinery has made the greatest inroads. However, machines have become smarter in terms of ability to assemble mass elements in differentiated ways, and mass-customization has emerged that combine the advantages of mass production with the greater personalization of custom assembly of features. The way that the computer maker Dell assembles its computers is an example: mass-production, but each product being assembled based on the buyer's desired specifications.

We will now discuss three critical dimensions of production planning: the supply chain, production scheduling, and capacity planning.

3.5.3 Location and Supply Chain

An important management decision about production is its location and the extent of its outsourcing. Whether it is the assembly of electronic media devices or the editing of book manuscripts, production activities have been decentralized within highly developed countries and have also migrated to other countries. Factors are labor costs, taxes, local resources, market size and access to it, proximity, distribution costs, regulatory environment, and governmental support.

For film, high labor cost and subsidies elsewhere have led to the out-migration of some production activities from Hollywood to North Carolina, Florida, or Canada. This kind of "runaway production" to flexible-union, subsidy-embracing territories has enabled the production of films for 40% less than in Hollywood.[146]

Book publishers, too, have moved production activities, especially to India. For example, Springer Science Publishing employs 1200 Indian typesetters and editors for English and German language works.[147]

Outsourcing to other firms allows firms to concentrate on their core activities while benefiting from the economies of scale of specialist firms.[148] For example, the UK public service broadcaster BBC has not been engaged in the technical aspects of actual broadcasting since 2001, but has used the transmission service company Red Bees (a commercial BBC spinoff that also transmits for Virgin Media TV,

146 Labor union contracts allow studios to finance low budget non-union movies and TV shows as long as the studio has no creative control.

147 Srinivasan, S. "German publisher Springer to shift 1550 jobs to India." *Rediff*. September 14, 2005. Last accessed April 19, 2017. ► http://www.rediff.com/money/report/jobs/20050914.htm.

148 Outsourcing has different categories. BPO (business process outsourcing) is the outsourcing of a specific operational task, such as payroll or invoicing. KPO (knowledge process outsourcing) involves technological, analytical, and R& D skills. PPO (production process outsourcing) is provided by a contractor to manufacturing.

Channel 4, Canal Plus, Channel 5, RTE, and others).[149] This has lowered costs for the BBC and gained access to updated broadcast technology and infrastructure with expert engineering support.

One must also recognize the downsides: most outsourcing relationships are unsuccessful: the failure rate is said to lie between 40% and 70%.[150] For building solid relationships with suppliers, particularly those in distant countries with different legal systems, trust is a crucial element.[151] Such a relationship develops slowly. Typically, the first contracts with a new supplier will be on a project-by-project or shipment-by-shipment basis, and lengthens and deepens from there. A contract includes a service level agreement (SLA) between the buyer and the supplier. If the supplier fails to meet the agreed levels of service, SLAs usually provide for compensation, often in the form of price rebates.

Such an agreement is followed by constant co-ordination and careful attention.[152] It requires:

- Co-ordinating production schedule of buyers and vendors;
- Updating vendors on strategic changes or new products early on;
- Engaging in forecast of sales and sharing this in real time;
- Using a purchase order system to monitor the purchases;
- Paying bills promptly;
- Integrating each other's inventory planning or forecasting systems, electronic data interchange (EDI) and enterprise resource planning.

The supply relationships have costs, of course. They include, besides the direct procurement costs, the costs of transactions, relationship handling, and supply management. Some relationships have a high involvement, with extensive operational and personal interaction. Low-involvement relationships work best when the products and services in question are stable, specified, and standardized. But overly detailed specifications may reduce innovation by a supplier. Conversely, there may be hidden costs in a loose relationship, because in the absence of tight co-ordination the buyer might need to build up inventories as a buffer against surprises.

A typical way for a buyer to lower cost is to use several vendors to split orders and to rotate among them. However, multiple sourcing can also include hidden costs. Relationship handling costs are multiplied, and there will be lower economies of scale by a supplier and hence a higher cost.[153]

An "arm's length" relationship to a supplier may therefore not be the best approach. Instead, vendors become part of a stable production network relationship across the value chain. In that scenario, suppliers do much more than delivering low-priced items. The supplier relationship becomes an important asset of a company and it requires investment and maintenance. It is a two-way interaction with intense co-ordination of various activities and mutual adaptation of resources. Such tight relationships may also have downsides as they may tie a company to a particular design. Operating these interdependencies is part of supplier relationship management.

As these production relations become more efficient they strengthen a firm. At a certain point competitive advantage is no longer based on a company's own capabilities but rather on its relationships with other companies. Its production moves from one of internal value chain to one of an external/internal value network.[154] This is a management approach which Hollywood studios have mastered for a long time in their interactions with independent producers and the numerous specialist vendors that are part of a production and distribution project.

3.5.4 Inventory Management

Operation research (OR) is a collection of mathematical and statistical techniques for decision-making and management tasks. It often incorporates stochastic elements of uncertainty and random variables.

An example is the management of the supply chain, in other words how to obtain the inputs for the production process. A firm must find and select suppliers, provide storage for its inputs, and store the finished products while awaiting distribution. The challenge is to reduce an expansive inventory that is sitting around without creating value, but incurring cost. At the same time, the inventory level must be consistent with the risk levels the firm seeks.

For several media products, there are also a reverse logistics chain. Books and magazines, in particular, are returned by the retailers to the publishers if they are left unsold; and for many products, buyers can engage in returns if they are unsatisfied.

It is usually important to maintain a sufficient and reliable inventory of inputs and outputs for future use. Inventory provides the following positives:

- Protection against unforeseen supply interruption;
- Smooth production flows;
- Meeting a higher demand than expected;
- Improved delivery speed;
- Flexibility.[155]

149 "Outsourced Broadcast." *Cable & Satellite Europe* no. 261 (September 1, 2006): 1. ► http://ezproxy.cul.columbia.edu/login?url=http://search.proquest.com/docview/221819396?accountid=10226.

150 Overby, Stephanie. "The ABC's of Outsourcing." *CIO*. June 8, 2007. Last accessed April 19, 2017. ► http://www.cio.com/article/2438784/outsourcing/the-abcs-of-outsourcing.html.

151 Outsourcing requires considerations beyond direct cost. There are legal considerations. Who is liable if a product causes harm? What is the recourse in case of a dispute (which will be frequent)? How reputable is the supplier?

152 Board of Trade of Metropolitan Montreal. "Manage Your Suppliers." *InfoEntrepreneurs*. Last accessed May 22, 2014. ► http://www.infoentrepreneurs.org/en/guides/manage-your-suppliers/.

153 Gadde, Lar-Erik and Ivan Snehota. "Making the Most of Supplier Relationships," *Industrial Marketing Management* 29 (2000): 305–316.

154 Gadde, Lar-Erik and Ivan Snehota. "Making the Most of Supplier Relationships," *Industrial Marketing Management* 29 (2000): 305–316.

155 Brown, Steve et al. *Operations Management: Policy, Practice and Performance Improvement*. (St. Louis: Butterworth-Heinemann, 2001), 202–237.

Examples are:

- Paper supply by printers of magazines and newspapers;
- Printed books to meet orders by retails and libraries;
- Copies of DVDs in a retail store for buyers and renters;
- Parts and components for producers of electronic devices;
- Advertising space or minutes in media to provision ad agencies.

Inventory, however, is expensive to maintain since it ties up capital and requires the expense of storage. In some circumstances, inventory holding costs may account for as much as 60–80% of the total cost of a product or service. On the other hand, inventory shortages also end up costing money by losing present and future sales.

Perhaps the best organized supply chain system is the renowned Japanese just-in-time (JIT) system. A JIT system requires major co-ordination and reliability of all participants, with constant communication and interaction. It reduces inventory and waiting time. It favors production clusters that are geographically proximate.

More generally, the supply chain process is being increasingly helped along through taggings such as bar codes and radio-frequency identification (RFID). For internal production management, especially for supply chain management, software tools include EDI. With this a buyer's internal system contacts the supplier's system and transmits the information, instead of having a buyer generate a purchase order and transmit it to a supplier (via humans operating fax, mail, digital transmission), and the supplier then entering the order into the system. A related software language XML (Extensible Markup Language), is used for documents to communicate across organizations. XML is more flexible than EDI as it does not require a standard across the organizations. Instead, it uses tags which allow information to be passed in different formats and be understood based on these tags.

Another set of software tools is material requirement planning software. This takes target output figures and calculates input quantities, identifies necessary delivery schedules, organizes the ordering of inputs, and tracks performance.

The computer maker Dell has an inventory strategy where it basically has no inventory at all. "Inventory is a four letter word at Dell."[156] The company claims that it turns over inventory 107 times per year. CEO Kevin Rollins says, "The longer you keep it the faster it deteriorates—you can literally see the stuff rot … Cutting inventory is not just a nice thing to do. It's a financial imperative." Dell used to carry 20–25 days of inventory in a network of warehouses. It created a Japanese-style JIT manufacturing model, and this has cut costs drastically. On the other hand, it makes the company more vulnerable to future labor strikes, natural disasters, and other disruptions.

Dell gets paid immediately by customers but does not pay suppliers for over a month. It has no inventory cost because its suppliers must hold it for Dell. When a customer places a purchase order, Dell immediately generates orders for parts from its main suppliers, who are located around Austin, Texas, and have 90 minutes to deliver the parts. But if something goes wrong in the supply chain, production is jeopardized, given the skimpy buffer of inventory. A close attention and planning are important. Thus when Dell was alerted to the possibility of a labor lockout in American port facilities, it created a "tiger team" and developed contingency plans. Well in advance it chartered 18 Boeing 747 jumbo jets to carry parts and products from Asia to the West Coast.[157] Each plane could hold enough parts to make 10,000 Dell computers. After the lockout began the charter rates for cargo planes rose by nearly half a million dollars on every Boeing 747, but Dell was covered. It survived a ten-day supply-chain interruption while holding only three days of inventory.

Inventory order management can be done either in a fixed-order system or in an economic order system. In a fixed order system a specific amount is reordered whenever the level of inventory drops below a certain point.[158] For example, if the minimum desired inventory is 1000 units, and the reorder quantity is set at 200, then when the inventory dips to 999, 200 new units will be ordered. In contrast, an economic order quantity (EOQ) minimizes total inventory cost, which consists of the cost of ordering, purchasing, and holding. The calculation for an EOQ uses the Wilson Formula. Its simplest form assumes that demand for the product is constant and known, no quality discount is obtainable, replenishment is instantaneous, and orders take place when supply is down to zero. EOQ minimizes the sum of purchase cost, holding cost, and ordering cost.

The Wilson Formula for the optimal ordering quantity is

$$\text{EOQ} = \sqrt{\frac{2AB}{C}}$$

where A is annual demand, B is the ordering cost per order, and C is the holding cost per unit.

Consider this example. A maker of 3D devices requires a special twizzle for each pair of 3D goggles. It wants to minimize its inventory costs. It estimates its annual demand as 24,000 twizzles. There is a $10 cost per order for twizzles, and a $5 holding cost per twizzle per year. By using the Wilson formula, the EOQ would be $\sqrt{[2\ (24000)(10)/5]} = 310$ units, in other words about every three business days. Ordering less, or more, would raise its cost. If the holding costs double, the order size would decline to 219, with a frequency of an order every other business day.

However, the assumption of the Wilson model is restrictive. Suppose that demand is uncertain: when the seller does not have enough product on hand it will lose the sale. On the other hand, unsold merchandise might be worthless at the end of the period. This problem is known as the news vendor

156 Breen, Bill. "Living in Dell Time." *Fast Company*. November 1, 2004. Last accessed April 19, 2017. ► http://www.fastcompany.com/magazine/88/dell.html.

157 Breen, Bill. "Living in Dell Time." *Fast Company*. November 1, 2004. Last accessed April 19, 2017. ► http://www.fastcompany.com/magazine/88/dell.html.

158 Brown, Steve et al. *Operations Management: Policy, Practice and Performance Improvement*. (St. Louis: Butterworth-Heinemann, 2001), 202–237.

Fig. 3.6 Example of film production planning

BREAKDOWN SHEET Page:_____

Show:_____ Production #:_____

Location:_____ Date:_____

Description		# of pages
Scene #	[Ext] Road leading to the lake [Day]	
6	Boys walk toward lake	1/8
8&9	The boys hide	5/8

#	Cast	Atmosphere	Props
Stand-ins			
		Camera	Wardrobe
Stunts			
		Special effects	Visual effects

Makeup	Transportation	Sound/music

model—one cannot sell today's extra newspapers tomorrow, or make up for missing papers today. The calculation has to balance the cost of being overstocked with that of being understocked.

3.5.5 Production Scheduling

A major operational challenge for content production is scheduling: production timetables, release dates, sequencing, and so on. Software packages make this easier and faster. For film, in particular, planning must be elaborate. Each day of production costs a lot of money. For example, the film *Terminator 3* was running a daily operating cost of $300,000. Stars may become unavailable after certain dates. It is therefore important to organize the production process.

In the James Bond film *Tomorrow Never Dies*, while the main star Pierce Brosnan was playing the 007 hero in London, a stuntman playing James Bond was being filmed at another English location, a third Bond was parachuting out of a plane in Florida, a fourth Bond was piloting a speedboat in Bermuda, and a fifth Bond was shooting a swimming scene in London. The co-ordination of these scenes and their logistics requires elaborate planning, especially since they included many uncertainties such as weather.[159]

An important function of production management is thus the scheduling of facilities and people. In a flow job operation, with a high and standardized process, this is a more predictable task. A rotogravure printing company, for example, will schedule the various magazines it prints very tightly in order to optimize the very expensive machine. In order not to create problems for other magazines with their varying distribution schedules, they must adhere absolutely to these times.

The scheduling issue becomes more complex for job shops where no two products might be the same, and thus their production is non-routinized as well as often volatile.

Another task of production management is sequencing. This leads to the question of prioritization: which jobs get priority, and under what principles (e.g. is it 'first com, first serve'; or, is it 'closest to deadline'; or shortest time to complete').

For a film, the script is broken down into scenes. Each scene must be planned in a breakdown sheet, which includes) locations, cast, props, wardrobe, extras, stunts, visual and special effects, animals, vehicles, and so on.[160] The number of work days required at each location. The length of each scene is estimated by its page count, measured in eighths of a page (Fig. 3.6).

Planning is similar for a monthly magazine, with tasks that need to be done by specific days before publication. Table 3.13 illustrates this.

For example, the editorial copy may be started 49 days before publication date. The first stage of editorial work

159 Epstein, Edward Jay. *The Big Picture, The New Logic of Money and Power in Hollywood.* New York: E.J.E. Publications, Ltd., Inc., 2005.

160 Honthaner, Eve Light. *The Complete Film Production Handbook*. (Burlington, MA: Focal Press, 2010), 57.

Table 3.13 Production schedule—working days prior to publication day

	Copy	Page proof	Page OK	To printer
Editorial				
Start	49	45	40	37
First third completed	41	37	35	31
Second third completed	34	30	28	24
Final third completed	29	26	23	19
Covers completed	34	32	28	26
Advertisements				
First			28	
Final new copy			26	
Supplied images			19	
Final flat-plan[a]			21	
Editorial Cromalins[b]			23–15	
Advertising Cromalins			20–15	
Band[c] artwork			34	
Bound inserts			19	
Sections to printer			13–11	
Imposed proofs OK			11–9	
Print order/close date			14	
Press date—cover			10	
Press date—text			10–8	
Bind commence			7	
Subscription delivery			6	
Wholesalers delivery			5	
Publication date			0	

Kobak, James B. *How to Start a Magazine*. New York: M. Evans & Company, 2002
[a]Flat-plan is an imposition that shows the position of advertisements and editorial
[b]Cromalin is a type of color proof
[c]Band refers to a printed band encircling each issue, either promoting the issue or concerning an advertisement

must be completed 41 days before publication. The pages are then proofed and finalized, and that copy goes to the printer 31 days before, and back to editorial on day minus 24, and so on. The schedule incorporates other items, such as the cover, advertising, printing, and delivery. The planning of this process includes a "thumbnail" version with blank text pages.[161] This permits decisions about the design of the issue and its layout. Production artists can then be tasked to create and arrange text, photos, artwork, and ads into intermediary proofs and then final versions of page layouts.

Gantt Chart

A popular planning tool is the Gantt Chart, which displays how a project proceeds over a timeline, and where the project stands in terms of overall completion.[162] An example, as applied to book production, is the graph that appears here as Fig. 3.7.[163]

The Critical Path Method

A different tool used for scheduling is the critical path method (CPM). The CPM methodology was developed in

161 Daly, Charles P., Patrick Henry, and Ellen Ryder. "How Magazines Are Made." *The Magazine Publishing' Industry*. (Needham Heights, MA: Allyn & Bacon, 1997), 217.

162 Gantt, H.L. *Work, Wages and Profit*. New York: The Engineering Magazine, 1910.

163 Based on McKay, Hannah. "The Production Timeline." *Shadow Time Writers*. May 30, 2014. Last accessed April 19, 2017. http://shadowtimewriters.com/tag/production-timeline/.

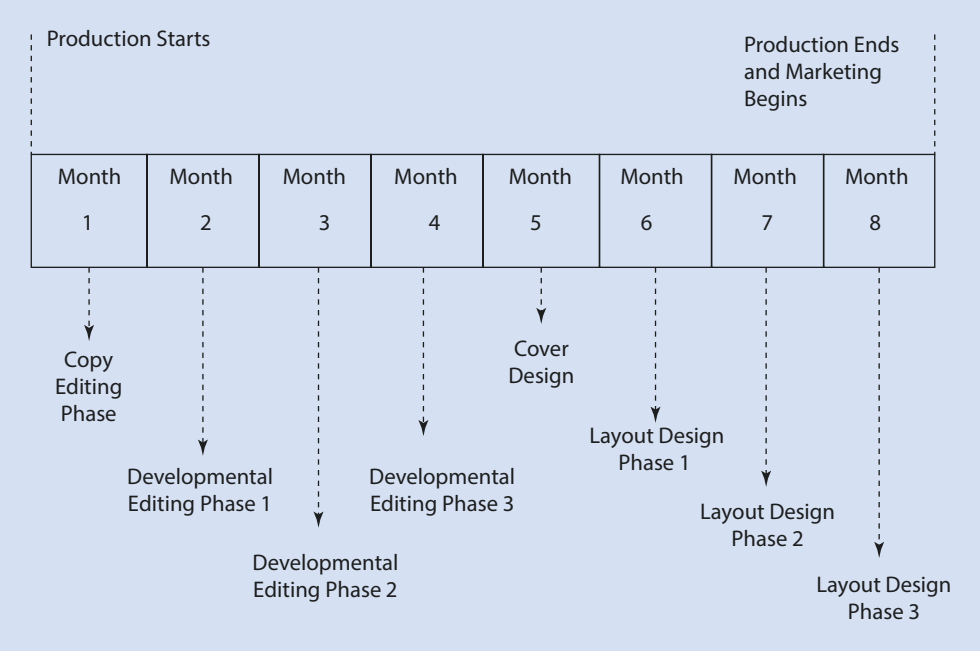

Fig. 3.7 Gantt schedule for book production

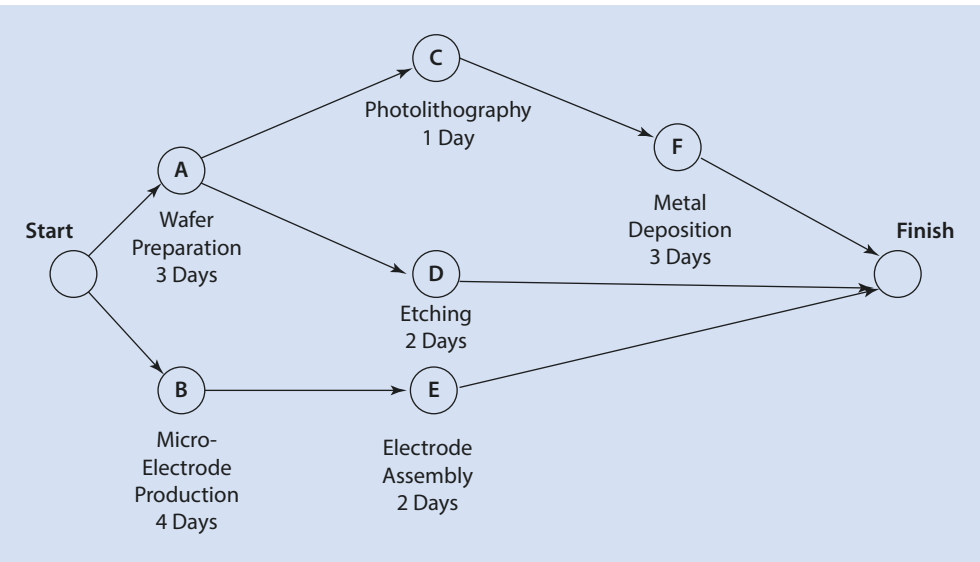

Fig. 3.8 Critical path method (CPM)

1957 by the chemical company DuPont. A critical path displays a timeline of the project development, but additionally prioritizes different parts and identifies activities that could delay the entire project.

The steps in CPM project planning are:

- Specify individual steps;
- Determine the sequence of steps and draw a diagram;
- Estimate time for each step;
- Provide a graphical view of project stages;
- Show which activities are critical to maintaining the schedule and which are not;
- Identify bottlenecks and slack activities;
- Identify the critical path (longest path through the network) (Fig. 3.8).[164]

A hypothetical example for a CPM diagram is a production of a new microchip. The project comprises the task of (A) wafer preparation—three days, (B) micro-electrode production—four days, (C) photolithography—one day,

164 Figure based on "CPM Diagram." *NetMBA* ► http://www.netmba.com/operations/project/cpm/.

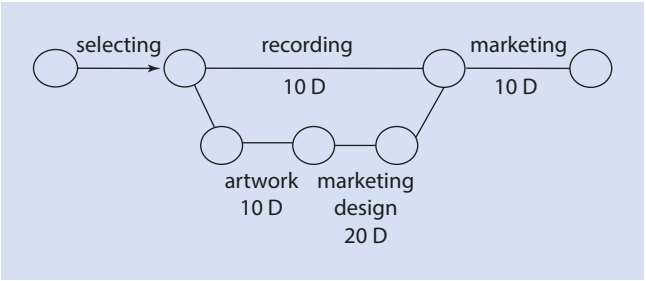

Fig. 3.9 PERT chart example for music video production (schematic)

(D) etching—two days, (E) electrode assembly—two days, and (F) metal deposition—three days. These tasks have their own start and end date. Activities C and D cannot be started unless activity A is completed. If task A is delayed then C and D will be delayed as well, as would the entire project. Conversely, there is no point in tasks D and E being completed, as they are, in days five and six and then sit idle while F is scheduled to be completed only after seven days, even without delays. Therefore, the project manager has to accelerate the finish of F by one day, possibly by using resources from D which would slow down that activity by a day. This juggling would result in all tasks being completed at the same time, on day six.

CPM works best as a scheduling tool for projects with a fairly high certainty as to the completion times of the various stages. Applications include the scheduling of magazines, books, and regular TV series, where the estimated completion times tend to be predictable. Many other projects, however, present uncertainty in this respect. Here, a closely related methodology, the product evaluation and review technique (PERT) is applied.

The PERT chart approach helps to plan where different activities are involved. It defines required activities that are part of the project, their estimated completion period, with a certain probability, and whether they are a prerequisite to other steps.[165] The methodology was initiated in the 1950s for large defense systems where hundreds of contractors with thousands of tasks each contributed to a project with a certain probability distribution for completion. For each activity the expected time is approximated by incorporating the most optimistic, the most pessimistic, and the most likely, in this weighted average:

$$\text{Expected time} = (\text{Optimistic} + 4 \times \text{Most likely} + \text{Pessimistic}) / 6$$

An example for a PERT chart is the production of an online music video. The process is broken down into five activities: selecting, recording, artwork, planning marketing, and marketing. Each of these activities has an expected length of time (in days) in which it is to be accomplished (Fig. 3.9).[166]

The expected time is based on an optimistic scenario (O), a pessimistic one (P), and the most likely one (L). $E = (O + P + 4L)/6$.

For example, suppose that for recording the scenario would mean, in days, either 8 (optimistic), 16 (pessimistic), or 9 (most likely). The expected time would be $E = (8 + 16 + (4 \times 9))/6 = 60/6 = 10$.

In a similar way, the other expected times can be estimated for each operation. Two parallel tracks are designed for the production. While recording is taking place, artwork and marketing design is taking place. Their expected time is 10 + 20 = 30. This is a considerably longer time path than the expected time for recording, which is 10. Thus the recorded music would have to wait for 20 slack days for the other necessary tasks to be completed. The only way for the two tracks to converge in time would be for recording to perform on the worst-case (pessimistic) scenario (20 days), while the marketing design and artwork performs on the most optimistic scenario (5 and 15). This is a conceivable scenario, but highly unlikely. Its probability is

$$\left(\frac{1}{6}\right) \cdot \left(\frac{1}{6}\right) \cdot \left(\frac{1}{6}\right) = \frac{1}{256}, \text{i.e. four chances in a thousand.}$$

The alternatives would be to speed up the artwork and the marketing design to match the expected recording activity time, which could be expensive, or to deliberately slow down recording (for potential cost savings but slower output), or to create a parallel track for artwork and marketing.

This is a simplistic example, of course, but imagine its extension to a more complex project such as making a film, with numerous activities—some that can be in parallel, others that must be sequential, and all with varying likelihood of on-time performance.[167]

3.5.6 Capacity Planning

A major question in production is the upper limit of the organization to create output. This capacity must match expected demand. This is true for quantity but also for diversity. If capacity falls short the firm will have problems with distributors and customers. But the other extreme, over-provision of capacity, is costly. The proper balance is determined by demand analysis but even more so by a production process that can adjust its capacity rapidly. And this also requires tight co-ordination with suppliers, who in turn must be rapid in adjustment. There are various analytical tools for capacity planning. Generally, "flow-oriented" media with repetitious operations makes more use of these planning techniques than "job oriented" projects. Examples include:

1. Design and construction of telecom and cable infrastructure;
2. Physical production of books, magazines, CDs, DVDs;

165 NetMBA. "PERT." *NetMBA Business Knowledge Center*. Last accessed April 19, 2017. ► http://www.netmba.com/operations/project/pert/.

166 McGraw-Hill Technology Education. "Multimedia: Making It Work." *Lesson 15-Planning and Costing* (2003): 14. ► http://ewibowo.files.wordpress.com/2009/02/10-planning-costing.pdf.

167 Manchester Metropolitan University. "PERT Analysis Toolkit." *MMU*. Last accessed April 19, 2017. ► http://www2.mmu.ac.uk/media/mmuacuk/content/documents/bit/PERT-toolkit-v1.pdf.

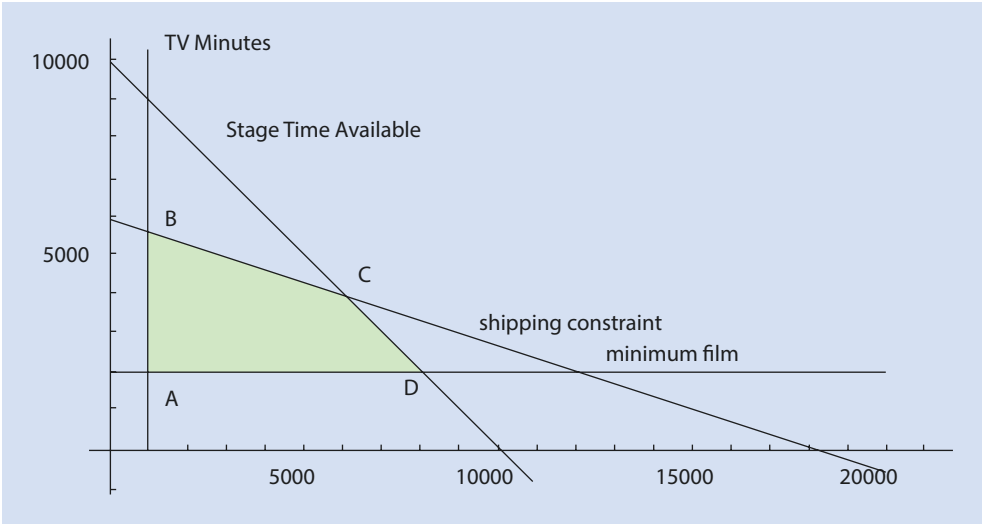

Fig. 3.10 Production studio linear programming

3. Production of media consumer electronic devices;
4. Soap operas and TV series ("batch jobs").

3.5.6.1 Linear Programming

Linear programming is a technique for solving some operation management problems. It uses an algebraic linear expression that defines the production as an objective function that must be either maximized or minimized (depending on the task definition), and uses other equations (or inequalities) as the constraints on that function.

For this type of linear programming one can use the Simplex Method to find the optimal solution. One can plot the objective function, show the constraints, find their corner points (vertices), and then check the vertices with the objective function to find maximum and minimum.[168] There is a fundamental Corner Point Theorem, according to which a maximum or a minimum of an objective function with constraints will be found at a vertex.

An example: a film production studio produces two products, films and TV shows. The profit for the studio is $10,000 per minute of a TV episode, and $20,000 per minute of film. The following conditions must be met:

1. Only 10,000 minutes of sound stage time is available for shooting.
2. The studio has a TV network contract to produce at least 1000 minutes of TV shows.
3. The studio has a private contract to produce at least 2000 minutes of film.
4. To protect against piracy and bootlegging, both products are delivered in armored trucks with an annual delivery capacity of 180,000 miles
5. The TV show recordings are delivered to a network located 10 miles from the studio.
6. The film recordings are transported 30 miles to the film distributor.

How much of each product should be produced for maximum profit?

Let x represent the number of minutes of TV shows and y represent the number of minutes of film. Then the profit function is $p(x,y) = 10{,}000x + 20{,}000y$. The constraints are as follows:

$$x + y \leq 10{,}000$$

$$x \geq 1000$$

$$y \geq 2000$$

$$10x + 30y \leq 180{,}000$$

To find the optimal solution one should first graph the constraints to find all the vertices (Fig. 3.10).[169, 170]

As mentioned, the maximum will be at one of the vertices that are bounded by the constraints (A, B, C, and D). Thus, maximum profit is at vertex C, where $X = 6000$ minutes of TV shows and $Y = 4000$ minutes of film, for a total profit of $140,000.

The underlying assumption of the approach of linear programming is linearity, in contrast to, for example, an exponential relationship that increases or decreases more rapidly. Linear programming generally ignores the effects of uncertainty, instead assuming that the results of decisions are predictable and easy to foresee. A variant is non-linear programming where the objective function or constraints are not linear. Such a model is much more difficult to solve.

Linear programming can also be used in the creation of a movie production schedule. The main task is to find a feasible start time for each activity. Each activity has a set of required resources. These required resources are added up when the movie script has been broken down into activities.

168 Pease, Katie. "Simple Linear Programming Model" (M.A. diss., Earlham College, 2008).

169 Boehm, George A.W. *The New World of Math.* New York: The Dial Press, 1959.

170 Figure based on Pease, Katie. "Graph for the Refinery Model" in "Simple Linear Programming Model" (M.A. diss., Earlham College, 2008).

Constraints for the activities arise from resource limitation from, for example, working day time constraints and blocked times. There can also be different and conflicting objectives, such as to minimize location changes.[171] A small film project might have 40 activities and require 120 resources (actors, electricians, stagehands, etc.) to be planned around and scheduled. A larger project might include 600 activities and 200 different resources.[172]

3.5.6.2 Queuing Models

A sub-area of OR is queuing theory, which is a mathematical and statistical analysis of waiting lines. The methodology permits the calculation of performance measures such as the average time spent waiting in a queue, the total number of people waiting or receiving service, and the likelihood of people giving up and abandoning their wait.

Waiting lines for service or production processing are formed in many operations: customers in a movie box office line, callers for a cellphone customer service representative, installation orders for cable TV, artists seeking time in a recording studios, films requiring time on a sound stage, or components needed in an assembly line.

The optimization question is partly how to reduce wait times (shorten the queues). But doing so also raises costs. To calculate the balance between capacity and output is easy enough when demand is constant. In that case, capacity should be equal to demand. But usually demand is not a constant but fluctuates unpredictably. In statistical terms, demand follows a stochastic processes: variables take on values according to some probability distribution.

Queuing problems can be solved by analytical formulas or simulation methods. Analytic models can be used for simple situations and approximations. Simulations are used for complex situations or more precise solutions.[173]

3.5.7 Quality and Contingency Planning

Production management includes the management of product quality. This does not mean the assurance of the highest possible quality, the creation of a premium product, but rather, for a chosen level of quality, a consistent result in terms of performance and expectations. For media products, the chosen level of the product might be called the "pitch" of the product, for example a 'high-brow' versus a popular culture product. Within the chosen pitch level the quality of the product should be consistent. For a TV series, an inconsistent episode—either at a lower or higher pitch level than expected—will create disappointment.

The costs of quality defects are considerable. Product design and the production process may need to be redone and retested. Products will be delayed in reaching the market. There might be warranty and liability issues, complaints, and the development of a poor reputation. On the other hand, it is also costly to control and maintain quality, and this might delay a product's introduction to the market.[174]

Examples where the consistency of quality is important are the production of DVDs and CDs. Almost always a certain percentage of products is defective. Similarly, in film shooting, the technical quality of the take might not be at the expected level. In mobile phones, batteries might not work properly.

Another example is software design, where there are many ways in which a new product can malfunction in unexpected ways.[175] Each module within the software product undergoes testing. Selected users perform acceptance testing.[176] Statistical testing is based on random usage,[177] with "beta testing" being undertaken by people who do not work for the company but use the product.[178] At the beta testing stage, the product has been completed and tested, and no serious errors have been left unaddressed.

To assure quality, companies have engaged in a variety of initiatives. One process is *Total Quality Management*, where the entire organization is engaged in continuous improvements over a product's entire life-cycle. This requires the firm to determine and specify a customers' needs, then design a product to meet that need, monitor the results for feedback, incorporate improvements, and expand the process to suppliers.

Another approach is *Six Sigma*, whose goal is to reduce variation in a mass-production process. This kind of quality control is statistically driven by performance statistics, thereby applying more to flow job production such as telecoms or consumer electronics and less to the production of unique content. Sigma is the standard deviation that shows how much variation there is from the expected result. The ideal target, six standard deviations, means a probability of 99.99966 of a feature not having a defect, or 3.4 defects in a million. Six Sigma is a management tool that identifies where firms need to make improvements in order to reach their desired sigma. Motorola introduced Six Sigma in the late 1980s, followed by Honeywell and GE.[179]

Failure Mode and Effect Analysis (FMEA) is a methodology that analyzes the potential ways in which a product might fail.[180] It is a way of identifying potential reliability problems before they occur. This methodology was initially developed

171 Bomsdorf, Felix and Ulrich Derigs. "A model, heuristic procedure and decision support system for solving the movie shoot scheduling problem." *OR Spectrum* 30, no. 4 (October 2008): 751–772.

172 Tague, Nancy R. *The Quality Toolbox*, Second Edition. (Milwaukee: ASQ Quality Press, 2004), 236–240.

173 Schroeder, Roger G. *Operations Management*. New York: McGraw-Hill, 1981.

174 Schroeder, Roger G. *Operations Management*. (New York: McGraw-Hill, 1981), 528.

175 Coleman, M.J. and T.S. Manns. "An Approach to Software Quality Assurance Training." *The Statistician* 36 (1987): 493–498.

176 Harter, Donald E., Mayuram S. Krishnan, and Sandra A. Slaughter. "Effects of Process Maturity on Quality, Cycle Time, and Effort in Software Product Development." *Management Science* 46, no. 4 (2000): 451–466.

177 Kenett, Ron S. and Emanuel R. Baker. *Software Process Quality: Management and Control.* New York: Marcel Dekker, Inc., 1999.

178 Kaner, Cem, Jack Falk, and Hung Quoc Nguyen. *Testing Computer Software* Second Edition. New York: John Wiley & Sons, Inc., 1993.

179 Cavanaugh, Roland, Robert Neuman, and Peter Pande. *The Six Sigma Way: How GE, Motorola, and Other Top Companies Are Honing Their Performance*. New York: McGraw-Hill, 2000.

180 Tague, Nancy R. *The Quality Toolbox*, Second Edition. (Milwaukee: ASQ Quality Press, 2004), 236–240.

for the military in order to assure system-wide reliability. It makes no sense to have some components of a system designed to be much more reliable than others of equal importance. Thus the failure probabilities of each component and the impact of such failures need to be analyzed. In a typical application, the probability of failures of a component are classified as being one out of five levels: extremely unlikely, remote, occasional, reasonably possible, and frequent. The severity of the failure is classified in six steps, from very minor to catastrophic. The detection probability is classified in five levels, from certain to low or undetected. Together, one can obtain a score that prioritizes and highlights problems. Problem components can be classified according to their risk level (probability x severity x detection) into categories of low, moderate, high, and unacceptable.

Where all three factors are high the risk becomes unacceptable. If two of them are high but the third is low, the risk might become moderate or even low. A threshold of unacceptable failure can be set. For example, if for an activity detectability is moderate (4), while probability is reasonable, possible and repetitive (4), and severity is critical (5), the overall failure risk score is $4 \times 4 \times 5 = 80$. If the firm sets its unacceptable rate at a moderate 37 ($3 \times 3.5 \times 3.5$), then the activity would fail that threshold. The consequence is for the firm to improve its operations such that detection and probability are reduced, and possibly the severity mitigated, in order to reduce its FMEA score.

Toyota, for example, assigns measures of 1–10 for each of severity, probability, and detection, and prioritizes improvement actions based on the overall scores (0–1000). After addressing these items, it then recalculates the improved score, and addresses the remaining issues accordingly.

The FMEA process can be used to analyze a movie production in its early planning. It can be used to deal with movie shoot scheduling and increase its reliability. FMEA can identify potential problems, failures, their probability, and their effect on the film shooting. It suggests responses to mitigate the failures. Of course, one can never anticipate every single possible failure, but one can deal with a long list of potential failures.[181]

Such planning needs to take into account resource constrains.[182] One could reduce each potential problem by vastly overprovisioning resources to deal with every conceivable worst-case scenario, but that would not be economically efficient.

There is software to help manage the schedule, track actual performance, and adjust the plan. The problem with this approach is that some of the most severe consequences are hard to conceive in advance. There are also interactive risks, where each component on its own seems quite safe, but not in some unforeseen combination with others. It also does not function well in assessing the risk of human operators who control and intervene in the system. That said, FMEA is helpful in identifying and dealing with quality and risk issues in complex systems.

3.6 Production Control

To control and run the success of a business or product, one must be able to measure performance. Traditionally, performance measurement has been financial, going back to the double-entry book keeping of fourteenth-century Venice and to cost accounting adoptions by Josiah Wedgwood and Alfred Sloan as part of modern cost accounting. Measurement techniques became more refined for the continuous-flow type of production. Cost, however, is not the only measure to be measured. In media products, performance metrics also include:

- Audience size and trend;
- Audience composition;
- Market share;
- Churn and loyalty;
- Speed to prototype[183];
- New subscriptions;
- Number of new products launched.

3.6.1 Budget Control

Once production has started, expenses rise rapidly, and it is essential to maintain control over them before it is too late to take action. There is nothing new about cost overruns. The very first book ever printed, Johannes Gutenberg's Bible, went greatly over budget and schedule, and his financier, Johann Fust (or Faust), obtained a court order in 1455 to get control over all the printed Bibles, selling them subsequently at a profit.

Monitoring of actual time used, cost of various activities, performance, and a comparison of planned (budgeted) and actual figures helps decide whether corrective action is needed. There are several cost tracking techniques. For a "job shop" production, job-costing is used, which compiles direct costs (materials and labor) as well as a share of overhead and indirect costs attributed to each project. "Flow shop" firms with repetitive production of homogeneous goods use process costing, and calculate unit costs or total costs divided by the number of units.[184]

Budgeting needs to be continuously adjusted. Software packages make this easier and faster.[185] To control cost, high

181 Crow, Kenneth. "Failure Modes and Effects Analysis (FMEA)," *NPD Solutions*. Last accessed April 19, 2017. ► http://www.npd-solutions.com/fmea.html.

182 Brucker, Peter et al. "Resource-constrained project scheduling: notation, classification, models, and methods." *European Journal of Operational Research* 112, no. 1 (1999): 3–41; Demeulemeester, Erik L. and Willy S. Herroelen. *Project scheduling — a research handbook*. Norwell: Kluwer Academic Publishers, 2002; Strong, Kraig. "Using FMEA to Improve Software Reliability." *Tektronix*. August 16, 2013. Last accessed April 19, 2017. ► http://www.uploads.pnsqc.org/2013/papers/t-026_Strong_paper.pdf; U.S. Department of Energy. "Failure Modes and Effects Analysis Flowchart". Last accessed April 19, 2017. ► http://www.hydrogen.energy.gov/permitting/risk_flowchart.cfm.

183 Aris, Annet and Jaques Bughin. *Managing Media Companies: Harnessing Creative Value*, 2nd Edition. West Sussex: Wiley, 2009.

184 Wild, Ray. *Production and Operations Management*. London: Cassell, 1995.

185 Honthaner, Eve Light. *The Complete Film Production Handbook*. (Boston: Focal Press, 2001), 27–34.

Show_____*Another Day, Another Dollar*_____ Prod. #_2777_____

Date____07/05/2017_____Day#_4_____

Start Date:_07/01/2017____Scheduled Finish:_07/18/_2017____Revised Finish:__07/20/2017_____

	Per Call Sheet	Shot	Ahead/Behind
# of scenes	6	4	2 behind
# of pages	5 3/8	4 5/8	6/8 behind

	Budgeted	Actual	Cost Overrun (-)
Cast overtime	$5000-	$6500-	$1500-
Shooting hrs.	12	13	$20,000-
Meal Penalty	$500-	$300-	$200
Extras	$632-	$577-	$55
Catering	$840-	$960-	$120-
Tech Equipment	$2,250-	$1,687-	$563
Unanticipated	Addt'l prop asst.	10hrs. @ $22/hr.	$242-
	Fringe		$44-
		Total for today_____	$21,088-
		Previous total _____	$4,000-
		Grand total_____	$25,088- (over)

Fig. 3.11 Example of daily cost overview accounting

budget activities such as film shoots utilize daily production reports. They state how many minutes were filmed or recorded, the estimated running time of the film created, the hours of all crew and cast members, and events on the set.[186] One measure of production effectiveness is the shooting ratio, which is the footage to be used for post-production editing relative to the footage shot.[187]

A daily cost overview is provided in Fig. 3.11[188] as an example.

What does this daily cost sheet show? It was the fourth day of shooting the film *Another Day, Another Dollar*. During the day, four scenes, accounting for four-eighths and five-eighths of script pages were completed. However, this was two scenes and six-eighths of a page behind schedule. At the same time, cost ran over by $21,088, chiefly owing to an extra hour of shooting, which also led to various other charges. A few budgeted items such as extras and a meal penalty, however, came in at less the cost, and slightly offset the day's deficit. Thus, on that particular day the production was behind schedule, took longer, and cost more than planned.

3.6.2 Productivity Measurement

Productivity describes how efficiently a company transforms inputs into outputs. It measures the units of product or service produced per inputs such as employees or unit of time, space, and capital investments. This can be expressed, in principle, by the ratio $\frac{\text{Output}}{\text{Input}}$. The higher the ratio, the greater the productivity. Operationalizing this, the following are measures for such an output/input relationship:

1. Revenues/employee;
2. Value-added/employee;
3. Revenues/cost of inputs;
4. Total factor productivity (output not caused by individual inputs).

Different methods of measuring productivity yield different insights, as Table 3.14 shows, which compares productivities for film for the USA, Europe, and India. When outputs are measured in physical units (i.e. films or TV shows), Hollywood's productivity is much lower than that of India's or Europe's (in the investment required per unit produced). It is $70 million per film in the USA, versus $7.5 million in Europe and $1.5 million in India. But when output is measured by tickets sold per invested dollar, India is highest (2.33), while Europe is very low (0.08). The USA is in between at 0.24. The

186 Patz, Deborah S., *Surviving Production: The Art of Production Management for Film and Television.* (Studio City: Braun-Brumfield, Inc.), 114–122.

187 Kindem, Gorham and Robert Musburger. *Introduction to Media Production*. 2nd ed. (Woburn: Focal Press, 2010), 55–60.

188 Table based off of "Daily Hot Costs" figure from Honthaner, Eve Light. "Basic Accounting." *The Complete Film Production* Handbook. New York: Elsevier, 2010.

Table 3.14 Film investments, revenues, and ROI

	Investment/film (US$ M.)	Worldwide tickets/film	Worldwide tickets/ investment	Overall rev./ investment	ROI
US	70	17	0.24	1.27	0.27
Europe	7.5	0.6	0.08	0.40	−0.60
India	1.5	3.5	2.33	1.19	0.19

Hollywood big budget is spread over a much larger audience, and its production budget per actual viewer is hence smaller than for a European film. For each ticket that is sold, Hollywood spends significantly less than its European counterparts. Its budget is much higher, but so are the number of tickets it generates per film.

On a per-ticket basis, Bollywood is even more efficient. But when output is defined as revenues generated per investment, Hollywood at $1.27 per dollar of investment becomes more productive than India ($1.19) and much more productive than Europe ($0.40). In Europe, films on average thus lose 60 cents on the dollar, and the deficit is made up by non-theater revenues, subsidies, and co-production with TV networks. In India, films return 0.19 cents on the dollar, while in the US they return 0.27 cents on the dollar.

When it comes to the productivity of individual creators, this is difficult to measure and such measurement is deeply unpopular with creatives. It is most accepted for software programming, where metrics for measuring productivity in software development exist and data can be tracked and collected fairly easily. This includes measures such as:

1. Lines of code or function points[189];
2. Number of software products completed;
3. Number of features delivered in products.

For other types of writing, one method of measurement involves tracking production output, such as articles or pages, completed by journalists, scriptwriters, or editors.[190] A daily one-hour soap opera episode requires the production of about 75 pages of script per day by a writer or a team.[191] However, such output-oriented approach lacks considerations of quality or of difficulty. It takes much less of an effort for a journalist to cover a routine sports event than to break a local corruption story. Other ways to measure journalistic productivity therefore include measuring input activities done by journalists, such as interviews conducted. A third and more recent approach, made possible by online publishing tracking technology, is to count "clicks," "hits," or time spent by readers; in other words, measuring the ratings of a story in terms of audience. What size of a readership does the writer generate? Neither of these approaches is particularly satisfactory for an individual story or day, let alone for the quality of journalism, but over time the numeric aggregates might reveal trends.

3.6.2.1 Production Functions

To estimate the efficiency of production, economists and managers use a production function or its close relative the cost function. A production function describes a relationship between the quantity of the outputs and the quantity of inputs. Given the right data, managers can use production functions to determine the least-cost combination of inputs for a given output or given levels of inputs to determine the maximum output. These are short-run decisions. Production functions can also support long-run strategic decisions. They can show the direction for a company to expand its production levels.

An example. A newspaper prints 10,000 newspapers per day, which it sells for $1 each. It employs four print workers. An additional worker would cost $300 per day and would result in 1000 additional newspapers printed per day. The marginal revenue is therefore $1000 and the marginal cost of hiring the additional printer is $300. As long as there is enough demand for the increased output, the firm should hire the new worker. But as more printers are hired, their marginal product will decline because they crowd each other. The firm should stop hiring when hiring the extra printer results in fewer than 300 extra copies being printed and sold. How can the relationship of printers and output be measured? One estimates production functions by identifying and measuring a firm's output relative to input factors such as capital, labor, and materials. The analyst chooses among several forms (specifications) of the equation to be measured based on the data available, and picks the techniques of regression analysis for an estimation of the parameters.

A linear production function with two input factors capital (K) and labor (L) is:

$$Q = aK + bL. \tag{3.1}$$

The output level Q is the sum of capital and labor inputs, each multiplied by their respective productivity coefficients. These coefficients are found by using the data with a statistical method of estimation.

189 Zells, Louis. *Managing Software Projects: Selecting and Using PC-Based Project Management Systems*. Wellesley, MA: QED Information Sciences, 1990.
190 Picard, Robert G. "Measuring and interpreting productivity of journalists." *Newspaper Research Journal* 19, no. 4 (Fall 1998): 71–84.
191 Allen C. Robert. *Speaking of Soap Operas.* (Raleigh, NC: University of North Carolina, 1985), 46–73.

Equation 3.1 is a linear approximation of the reality. But since it does not reflect trends in the output quantity, such as a steadily increasing or decreasing productivity, a linear production may not be a sufficient approximation. Therefore, the exponential Cobb-Douglas function offers a better approximation of the reality (Eq. 3.2).

$$Q = AK^{\alpha}L^{\beta}. \tag{3.2}$$

The exponential parameters α and β are also known as the elasticities of the output with respect to capital or labor.[192]

In the "Cobb-Douglas" specification, where $\alpha + \beta = 1$, there exist constant returns to scale. An increase of K and L by 10% would also increase Q by 10%. Where $\alpha + \beta > 1$, increasing returns to scale exist, and where $\alpha + \beta < 1$, there are decreasing returns to scale.

To find the parameters of a Cobb-Douglas function, one needs to first take its logarithm, making an exponential equation into a linear one that can be readily estimated statistically.

$$\log Q = \log A + \alpha \log K + \beta \log L \tag{3.2'}$$

If one has enough observations of Q, K, and L, this kind of equation can be readily estimated by econometric software packages.

How would one get the data to estimate production functions? One way is an engineering approach based on the performance of machinery and the required people. A second method is the statistical approach, by collecting observations from either time series data (usually from the firm's own production over time), cross-section data (over several firms/industries in one time period) and using them as data points, or a combination of the two.

Example 1

A simple linear production function for the newspaper printing plant mentioned above, with two variables (see Eq. (3.3)). Using the linear equation:

$$Q = a_1 + b_1K + c_1L \tag{3.3}$$

The observations of outputs, machinery, and labor (number of workers) for each quarter over seven years permits the estimation of the best line that fits the scatter of these data points. Using an ordinary least square (OLS) regression, one finds that the production relations can be expressed as:

$$Q = \underset{(0.58)}{-35.654} + \underset{(5.31)}{3.120}K + \underset{(4.62)}{1.951}L$$

with a statistical fit of $R^2 = 0.805$ (fairly good), and an f-statistic of 47 (significant). The numbers in parenthesis show the so-called t-statistic for the coefficients, which show a high statistical significance.

Interpretation: Adding \$1 million of machinery raises the printing capacity up to 3,120,000 newspapers per period. Adding one additional worker can raise the printing capacity up to 1,951,000 newspapers per period.

In a scenario of 200 workers and \$80 million of capital, the output quantity is 604.15 million newspapers per period.

Example 2

For the same data of the preceding example, we apply the Cobb-Douglas function by using its logarithmic function:

$$\ln(Q) = \ln(A) + \alpha \ln(K) + \beta \ln(L) \tag{3.4'}$$

The results of the regression estimation are

$$\ln(Q) = \underset{(2.05)}{3.5198} + \underset{(6.2)}{0.413}\ln(K) + \underset{(4.55)}{0.629}\ln(L) \tag{3.4''}$$

$$R^2 = 0.839\,(\text{high}); F \quad \text{Statistic} = 59.89\,(\text{significant}).$$

This can also be expressed as:

$$Q = 33.777\,K^{0.413}L^{0.629} \tag{3.4}$$

$\alpha + \beta = 1.042$, which is slightly bigger than 1; therefore, slightly increasing returns to scale exist, of about 4% per doubling of output.

We find that the result of the logarithmic Cobb-Douglas function gives us better results in statistical terms, and also allows for a more realistic non-linear relationship.

An example for the Cobb-Douglas production function relates to several industries in the country of Oman.[193] Using data for the years 1994–2007, the regression estimates for several industries are as noted in Table 3.15.

Paper/paper products and machinery show almost constant return to scale ($\alpha + \beta \approx 1$), whereas chemicals have decreasing scale economy (0.57) and printed materials increasing returns to scale (1.61).

3.6.2.2 Cost Functions

Gathering data for the production function can be difficult, as information is usually not easily available on capital, machines, or labor, and these measures are often inconsistently defined. It is usually easier to obtain information about aggregate cost and prices. Firms usually know how much money they spend, and the price of an input, and such data can be used in a cost function, which is closely related to the production function. A cost function tells us how the total cost varies as the output level is changed or as the factor prices vary.

Generally speaking, cost functions show how a firm's cost relates to determinants such as the output level, the input prices, the technology, the size of the plant, or other factors. It helps managers to estimate the effects on cost of expanding the output level or of the plant. Consequently, the cost function is especially helpful for the production

192 A third type of specification for a production function is the translog function, a generalization of the Cobb-Douglas function. It is defined as

$$\log Q = \beta_1 + \beta_2 \log K + \beta_3 \log L + \beta_4 (\log K)^2 + \beta_5 (\log L)^2 + \beta_6 (\log K)(\log L).$$

When $\beta_{4,5,6} = 0$, the translog function equals the C-D function.

193 Hossain, Mohammad Zakir and Khalid Said Al-Amri. "Use of Cobb-Douglas production model on some selected manufacturing industries in Oman, Education, business and society." *Education, Business and Society: Contemporary Middle Eastern Issues* 3, no. 2 (2010): 78–85.

Table 3.15 Industry regression estimates (Oman)

Industry	*K* (capital)	*L* (labor)	Returns to scale	R^2
Paper/paper products	0.01	0.98	0.99	0.83
Printed materials/recorded media	0.64	0.97	1.61	0.77
Chemicals	0.48	0.09	0.57	0.95
Machinery	0.27	0.79	1.06	0.74

planning purposes. Generally, we can denote total cost C as a function of the price levels of the inputs I and of output level Q.

$$C = f(P_i, Q)$$

While cost functions tend to be easier to measure than production functions, they also have some problems. Output data is based on units of products, but these might vary greatly across firms or within a firm. Films or computers made by different producers are not identical. Output levels are often aggregated across several products. And, perhaps most fundamentally, cost data is based on accounting numbers and often does not include depreciation.

A linear specification of a cost function might look like this:

$$C = a + bQ + cC_K + dC_L \quad (3.5)$$

C_K is the cost of capital and C_L the cost of labor. Together, they define the cost C of production for a certain level of production Q.[194] The cost of capital is expressed as the rate of return that capital could be expected to earn in an alternative investment of equivalent risk. C_L is the wage rate.

It is more realistic to opt for an exponential cost function, one where the added contribution of labor or capital cost gradually declines with the size of operation.

$$C = aQ^b C_L^h C_K^h \quad (3.6)$$

When $b + h = 1$, cost will increase proportionally with output (constant return to scale).[195]

This helps managers to estimate the effects on cost of expanding production on changing costs. This makes the cost function useful for planning purposes.

Using linear regression:

$$\ln(C) = \ln(a) + \alpha \ln(Q) + \beta \ln(C_L) + \gamma \ln(C_K) \quad (3.6')$$

$$\ln(C) = -1.25 + 0.415 \ln(Q) + 0.351 \ln(C_L) + 0.274 \ln(C_K) \quad (3.6'')$$

$$\text{With } R^2 = 0.96(\text{high}), F\text{-statistic} = 189.4(\text{significant})$$

This can also be expressed as:

$$C = 0.2865 Q^{0.415} C_L^{0.351} C_K^{0.274} \quad (3.7)$$

This becomes relevant in real life, for example, when labor unions push to raise salaries (C_L) by 10%. This would raise the total cost (holding the other variables constant) by 0.1 × 0.351 = .0351, that is, by about 3.5%. Similarly, when the cost of capital (C_K) rises by 10% owing to higher interest rates, overall costs would rise by 2.7%. If the firm wants to ramp up production by 10%, its costs would rise by 4.15%. By varying one or all the variables (Q, C_K or C_L) the company can calculate the impact of the change on total costs (C).

Suppose C_K = 8, C_L = 9.5 and Q = 580. Then the overall cost C is

$$C = (0.2865 \times (580 \wedge (0.415))) \times (9.5 \wedge (0.351)) \times (8 \wedge (0.274)) = \mathbf{15.6522}$$

3.7 Revenue Shares of Producers in Media

The overall revenues of a medium must, in the final analysis, be split up among producers, creators, distributors, suppliers, wholesalers, retailers, and so on. For all of their efforts, what is the share, approximately, that the producers get from the overall consumer spending for their medium? A table in ▶ Chapter 12, Distribution of Media and Information, shows average numbers for various media industries.

On average over average, of 18 media industries, the share in revenues that is going to producers is above 44%, by far the largest share, much higher than for retailers, wholesalers, and creators. However, the producers' share also covers various inputs, components, and materials bought from suppliers. The producers' share is particularly high for print publications that are based on advertising—newspapers and magazines—because advertising revenues remain with publishers. For magazines, the publishers' share in revenues is 70%. This is because of the low share of creators (hired writers) and distributors (most distribution is conducted and subsidized by the mail service). The substantial advertising revenues flow to the publishers.

194 Modigliani, Franco and Merton H. Miller. "The Cost of Capital, Corporation Finance and the Theory of Investment." *The American Economic Review* 48, no. 3 (June 1958): 261–297.

195 Pindyck, Robert S. and Daniel L. Rubinfeld. *Microeconomics,* 3rd Edition (Englewood Cliffs, NJ: Pearson/Prentice-Hall, 1995), 233.

For music, the producer (label/music group) obtains about 40% without including the music group's compensation for its distribution role (18%). (Often, labels, distributors, and music publishers are vertically integrated.)

For consumer electronics, the producer's share is substantial at 50% (not including 5% for its creatives—the designers, programmers, and engineers), from which a major share goes to component manufacturers. For instance, for the Apple iPhone 6S+ the components cost Apple $216,[196] for a phone that retails at $749; that is, 29% of the retail price of which Apple's share, before its expenses, is $570. Apple's revenue share is 76% of the retail price.[197] The component cost share in Apple's revenues is then 38%. For a 2013 Samsung TV set, the retail price was $2300 and the component costs were $1008.52, 43.8% of the retail price.[198] The share of consumer electronics revenues going to wholesale distributors is low since their role is mostly logistics. It is also low for retailers (25%) given price competition.

For theatrical film, the producers' share is low at 14%, the share of distributors (i.e. the studios) is 30%, of theaters (exhibitors) 45%, and of creators 11%. Film producers' share rises to 20% for pay-TV and to 22% for online distribution. These increases can be explained by the lower share of retailers.

3.8 Content Production in the Next Generation of Technology

Although the cost of production hardware has declined, thus enabling the entry of small independent producers, it would be a mistake to believe that overall production costs have therefore dropped. Hollywood's average "negative costs" rose for a film from $47.7 million in 2001 to $88.6 million in 2011. This rise in production cost will be even greater with next-generation content that is based on broadband and ultra-broadband connectivity throughput. These elements will create entertainment experiences with user immersion, user participation, and some user control.

The lower costs of technical equipment apply to everybody, and as a result much more content is being produced and supplied. As content supply grows relative to the fairly steady stock of attention, the general expectations related to production quality standards rise, and with them the cost of production. There will thus be an even greater pressure for "blockbuster" content that stands out from the crowd, and for content that makes the most of the multimedia and interactive features of broadband communications.

To produce such content is expensive. It requires creativity, programmers, performance testing, and continual new versions. The production of the film *Avatar* required 900 graphic designers.[199] Such content exhibits strong economies of scale on the content production side, and strong network effects on the demand side.

At the same time, the broadband internet means that such content can be distributed globally at a relatively low cost. This has been termed the death of distance. People in Peru, Panama, and Portugal can select, click, and download. The protection of distance is thus giving way, as are many of the protections of regulation and licensing.

To produce this kind of content involves several elements. None is a necessary or sufficient condition for success in next-generation video media, but each is helpful, and in combination with the others important:

- Access to investment funds;
- Diversification of risks;
- Access to distribution over multiple platforms;
- Recognized brand;
- Ability to co-ordinate specialized inputs;
- Ability to create product tie-ins;
- Ability to establish global user communities.

The content itself exhibits strong economies of scale. Once produced, it can be reproduced at almost no cost. Of course, there will also be opportunities for other producers to create and distribute specialized programs for niche and general audiences. Providers and producers will also emerge in other production centers, such as India, Europe, and Japan. They them will be based on those regions' cultural, technological, and financial resources.

There is also room, in creating innovative content, for new ideas about content, format, and interactivity to come from new directions and new firms. New types of content production specialists will emerge on the technology side, often in the Silicon Valley cluster of innovation.

The major audiences will still be attached to big-budget and technically sophisticated productions that combine glitz with technology. In this environment, Hollywood will be even stronger, because it will have a more direct link to global audiences. It does not have to go through the intermediaries of TV networks or pass through the regulation of governments. It has also the ability to fine-tune prices, and it can deploy in its network of specialists talent and creativity from everywhere—animators from Japan, special effects software in India, post-production in Shanghai, venture finance in London, technologists in Silicon Valley, advertising companies in New York.

Such a networked-firm structure can cope with change and innovation. It is strengthened by more powerful communications pipes, since the clustering can spread beyond those of geography. "Hollywood" will thus become less of a description of geography and more of an industry structure.

196 Hesseldahl, Arik. "Teardown Shows Apple's iPhone 6 Cost at Least $200 to Build." *Recode.* September 23, 2014. Last accessed April 19, 2017. ► http://www.recode.net/2014/9/23/11631182/teardown-shows-apples-iphone-6-cost-at-least-200-to-build.

197 Smith, Dave. "A Full Cost Breakdown of Apple's New iPhones." *Business Insider.* September 24, 2014. Last accessed April 19, 2017. ► http://www.businessinsider.com/iphone-6-iphone-6-plus-cost-breakdown-2014-9.

198 Electronics 360. "Samsung LN-T4665F 46 Inch LCD Television Teardown." Last accessed April 19, 2017. ► http://electronics360.globalspec.com/article/2211/samsung-ln-t4665f-46-inch-lcd-television-teardown.

199 Webneel. "3D Animation Movie Making Process and Behind the Scenes - Avatar." Last accessed April 19, 2017. ► http://webneel.com/3d-animation-movie-making-process-and-behind-scenes-avatar.

3.9 Conclusion of Case Discussion

Canal Plus and the Hollywood Advantage

In pursuit of a global role in content production comparable with that of the Hollywood content companies, Canal Plus has strategic options, or could use a combination thereof:

1. Buy Hollywood (and European) studios;
2. Seek governmental support;
3. Vertically integrate content and distribution;
4. Integrate multiplatforms;
5. Expand language reach;
6. Globalize content;
7. Sign up stars;
8. Use advanced technology;
9. Allocate high budgets;
10. Use cheap and substantial financing;
11. Diversify;
12. Shift to a two-tier system of independent producers and co-producers.

First Strategy: Buy Hollywood (and European) Studios

In the early 1990s, Canal Plus bought the library of the failing Carolco Studio in Hollywood. More significantly, in 2001, the parent company Vivendi bought Universal Film and Universal Music—both of them top American and global media firms. But in 2004, in financial distress, Vivendi sold 80% of Universal Film to the American conglomerate GE in return for $14 billion and a 20% partnership in NBC Universal, which GE created by combining its NBC TV subsidiary with Universal. In 2011 Vivendi sold these remaining 20%, for $5.8 billion, to GE.[200] Thus this strategy ended up unsuccessfully for Vivendi.

Second Strategy: Seeking Governmental Support

The French film industry is subsidized in a variety of ways. The Centre Nationale de la Cinematographie (CNC) contributed about $500 million a year. There is also support by several regional governments. France requires theaters to reserve 20 weeks of screen time a year for French (now European) films. DVDs cannot be sold or rented out for six months after the end of theatrical distribution.

There are also subsidies from the EU. There is a budget of €1.46 billion for the Creative Europe Programme. Although publicly advocating an absence of national support programs, the EU Commission, in *New State Aid Rules for Cinema*, in 2013 adopted new film-support rules that permitted aid to be "limited" to 50% of the production, distribution, and promotion budget. Co-productions funded by more than one member state may receive aid of up to 60% of the production budget. There are no limits on aid for script writing or film-project development or for "difficult" audiovisual works, and definitions are left open. Territorial spending obligations are permitted as long as they do not exceed 80% of the production budget.[201] There are also subsidies in other countries for film where Canal Plus films are being created, and tax shelters in France known as Sofica (Societes de Financement du cinema et de l'audiovisual), where wealthy investors can write off 40–50% of the investment against tax. France's financial auditing body Cour des Comptes ► warned in 2014 that the system of film subsidies had grown opaque and inefficient, and that direct public financing of film had grown four times as fast as overall public spending in the preceding four years.[202]

This is possible because France, and Canada, were successful in inserting a "cultural exception" into international trade agreements in 1993. Cultural goods and services are left out of international treaties and agreements that otherwise preclude states from subsidizing industries in ways that affect trade.[203]

The strategy enlisting government support for cultural activities is traditional in France, as it is in many countries. Canal Plus has been effective in making use and extending it, and receiving significantly more governmental financial and tax support than Hollywood studios. This has raised French film production above that of other European countries, but it has also had drawbacks. French film, as observed in 2016, is much less political than US cinema, or German, Spanish, or Italian films. One reason for the decline of politics in French films may be the business model.[204] In that system of subsidies various bureaucratic bodies in effect decide what will be produced. As one young director put it – anonymously since he did not wish to offend the funding committees – "Every one seems to have a suggestion on what to do—add a character here or there, change the ending, etc."[205]

Third Strategy: Vertical Integration of Production and Distribution

A common view is that Hollywood firms dominate through their greater vertical integration. Canal Plus therefore set out to do the same. It became the predominant French and European distribution system (through pay-TV and film distribution) and a major producer of filmed content. There are similar vertical integrations of production and distribution in Germany (Bertelsmann with its divisions RTL and Ufa); in Italy with Mediaset and its film and TV production, including the large Dutch TV producer Endemol Media. Canal Plus/Vivendi has been successful in pursuing this strategy to provide its pay-channels with in-house content. But such content would have been forthcoming anyway from other providers, given the dominant role in retail pay-TV distribution which Canal Plus has. Neither European nor American content can easily bypass Canal Plus, and this, not the vertical integration, gives the company an economic advantage.

Fourth Strategy: Multiplatform Integration

A common view is that Hollywood content providers dominate through their greater horizontal multiplatform, multimedia integration.

Actually, no Hollywood company has been as much horizontally (and vertically) integrated as Canal Plus and its parent Vivendi. Vivendi's activities include (or

200 "Vivendi Sells Its Last Stake in Universal." *Contact Music*. January 27, 2011. Last accessed on June 25, 2013. ► http://www.contactmusic.com/news/vivendi-sells-its-last-stake-in-universal_1197129.

201 Katsarova, Ivana. "An overview of Europe's film industry." *European Parliamentary Members' Research Service*. December 2014. ► http://www.europarl.europa.eu/RegData/etudes/BRIE/2014/545705/EPRS_BRI(2014)545705_REV1_EN.pdf.

202 Briançon, Pierre. "Politics fade from French Cinema." *Politico*. Last updated November 2, 2015. ► http://www.politico.eu/article/politics-fade-from-french-cinema-movies-culture/.

203 Members' Research Service. "TTIP and the Cultural Exception." *European Parliamentary Research Service*. August 29, 2014. Last accessed April 19, 2017. ► http://epthinktank.eu/2014/08/29/ttip-and-the-cultural-exception/.

204 Olivier Séguret, a French culture journalist, author, and critic writes: "These movies [Hollywood films about Iraq and the corridors of power in Washington, for example] can be very good or terrible, but they do exist. France has what you could call a social cinema, not a political one. Social cinema doesn't bother anyone, you don't need to take sides, you just look at things. It's either that, or stories about couples and their problems." Briançon, Pierre. "Politics fade from French Cinema." *Politico*. Last updated November 2, 2015. ► http://www.politico.eu/article/politics-fade-from-french-cinema-movies-culture/.

205 Briançon, Pierre. "Politics fade from French Cinema." *Politico*. Last updated November 2, 2015. ► http://www.politico.eu/article/politics-fade-from-french-cinema-movies-culture/.

included) music, television, film, publishing, telecommunications (mobile) and wireline, internet, and video games. For example, Vivendi acquired video game leader, Activision Blizzard, which created successful franchises such as *Call of Duty* and *World of Warcraft*.[206] Vivendi acquired the film businesses of Universal, and Universal Music Group, the leading music producer in the world with more than 20% of the global market. Universal Music Group has produced and distributed successful artists such as Mariah Carey, Lady Gaga, Justin Bieber, Bon Jovi, Eminem, Jennifer Lopez, Madonna, Sting, Elton John, U2, the Rolling Stones,[207] Björk, Metallica, Pearl Jam, and numerous classical, jazz, and country artists.

In advertising, Vivendi took control of Havas, one of the world's largest advertising groups. In telecommunications, Vivendi acquired SFR, France's second largest mobile telecommunications company and a major internet provider. Vivendi also acquired Maroc Telecom, Morocco's leading mobile, landline phone, and internet provider. Obviously, these platforms could be used for content distribution. However, the platforms cannot discriminate against other content providers and distributors. Nor would Canal Plus limit its content exclusively to SFR subscribers and leave out the other 75% of French mobile subscribers. That would make sense only if its content was so important that the mobile subscribers of Orange and others would switch their subscription to SFR just to receive it; and this is unlikely. It is therefore not surprising that in 2014 Vivendi sold 80% of SFR to the French telecom and cable company Altice for $23 billion.[208] Additionally, Vivendi acquired GVT, the leading high-speed internet and connected television company in Brazil.

Subsequently, control of Vivendi fell into the hands of French billionaire Vincent Bolloré, a close friend of former French president Nicolas Sarkozy. Bolloré, a major investor in Africa, also started the Direct 8 TV station and *Direct Soir*, a free newspaper. Bolloré then acquired enough shares in Vivendi to become its largest stockholder, and in 2014 was appointed chairman of the board.

In comparison, major US media companies also have a conglomerate structure, but this is not as strong and diverse as Vivendi's. But did this create much success for Vivendi? There is no evidence that conglomerate ownership of music, or games, or mobile phones has strengthened Vivendi beyond making it a more powerful presence as a company. The multiplatform integration, while it may make for an interesting story, did not seem to create much of an advantage in terms of synergy. Indeed, it is possible to argue the opposite; that the conglomerate structure ended up dragging down Vivendi financially. After billions of Euros in losses, Vivendi sold or spun off SFR, GVT, Havas, Activision Blizzard, Universal Pictures, and Maroc Telecom. It explained these deals not as based on financial revenue but as a way to "unlock" shareholder value. At the time, its P/E (stock price to earnings) ratio was 3–6, whereas US media companies had a multiple of about 10. In other words, Vivendi was undervalued by investors.

Vivendi is left with the music group Universal Music Group, possibly because the music business has dropped so much that no one is willing to buy it at a decent price. It is not clear how ownership of music labels and distribution helps Canal Plus or a film. This leaves Vivendi with one major asset—the Canal Plus group. That unit is strong, but not because of a conglomerate structure.

Fifth Strategy: Expanding the Language Reach

Film companies in smaller language markets are often said to be disadvantaged in comparison with those of English-language countries. Traditionally, the French government has made major efforts to spread the French language. Canal Plus, however, took the opposite approach with a strategy to join the widespread English language rather than fight it. In 2006, when Olivier Courson became StudioCanal's CEO, 90% of StudioCanal's films were in French, but by 2012, 70% of its films were in English.[209] To deal with the criticism of cultural language advocates, Courson argued that the goal was to add a "European touch" to English-language films. The strategy, successful on the whole, illustrates the point that reaching world export markets can be done by companies from a smaller language market, but that it requires a reduction of country-specific characteristics such as language and national culture components.

Sixth Strategy: Content Mainstreaming and Globalization

Courson began to support international co-production and local films that could be distributed globally to a bigger market.

StudioCanal's stated production priorities were the following:

1. International co-production;
2. Family entertainment;
3. Elevated genre (e.g. *The Last Exorcism*) and complex films;
4. Local productions with international appeal.[210]

Of these priorities, the first two and the last are export-oriented and focus on popular films, whereas the third is more culturally ambitious. Managing director Frederic Sichler said that StudioCanal is a production company but it is still a segment of Canal Plus—meaning that production initiatives need to be in line with the needs of the channel. Sichler defined this as producing more entertaining and more commercial films, although he clarified that StudioCanal is still "interested in any project that has an artistic and commercial value."[211]

StudioCanal still presents its brand as aiming at audiences with intellectual and artistic tastes. But its focus has become increasingly films that have mass appeal. Inevitably this has led to a blockbuster orientation in which the revenue successes of its films are touted. Officially, the shift to a commercial orientation was downplayed. Courson stated that, "We at [StudioCanal] are developing more entertaining movies, but we also keep the link we have with auteurs."[212] *Brotherhood of the Wolf* (2001) is a film in which StudioCanal was the senior partner and which was described as a "horror historical comic-book detective western," and it maintains commercial film techniques with wide appeal through the action-packed and fast-paced nature of the movie. With a budget of $29 million, it became one of StudioCanal's most successful films and grossed over $11 million domestically and $70 million worldwide. Furthermore, the movie was produced like a Hollywood blockbuster and used

206 Hall, Jessica and Scott Hillis. "Guitar Hero meets Warcraft in Vivendi-Activision deal." *Reuters*. December 2, 2007. Last accessed June 4, 2013. ► http://www.reuters.com/article/2007/12/02/us-activision-vivendi-idUSN0236714920071202.

207 Pereira, Miguel Mendes. "Vertical and Horizontal Integration in the Media Sector and EU Competition Law." (Presented at The ICT and Media Sectors within the EU Policy Framework, Brussels, April 7, 2003). ► http://ec.europa.eu/competition/speeches/text/sp2003_009_en.pdf.

208 Altice tried to acquire the remainder of SFR with a stock swap, but was blocked in October 2016 by the French securities regulator.

209 Pereira, Miguel Mendes. "Vertical and Horizontal Integration in the Media Sector and EU Competition Law." (Presented at The ICT and Media Sectors within the EU Policy Framework, Brussels, April 7, 2003). ► http://ec.europa.eu/competition/speeches/text/sp2003_009_en.pdf.

210 Barraclough, Leo. "Canal Plus at 25." *Variety*. November 2, 2009, A27-A28.

211 Hopewell, John. "Financial Sense Yields Solid Results." *Variety*. May 11, 2012. Last accessed April 19, 2017. ► http://variety.com/2012/film/awards/financial-sense-yields-solid-results-1118053320/.

212 James, Alison. "StudioCanal Restructures with Focus on More Mainstream Fare." *Variety*. May 10, 2004, 20.

similar techniques.[213] StudioCanal was also a senior partner in another project, *Carlos* (2010), about the terrorist Ramirez Sanchez's attacks in the 1970s–1990s, which won "best miniseries" at the Golden Globes. It aired as a miniseries on Canal Plus and was ultimately licensed it to 17 countries as a film and miniseries.[214]

StudioCanal was a senior partner in *My Piece of the Pie* (2011) (*Ma Part du Gateau*). The film is about a single mother who loses her factory job and moves to Paris where she is employed and cleans the apartment of a rich broker. The film was not well received in the USA, and an American critic, expecting a "French movie," noted that it was just "another glossy coffee table book of a film, presenting familiar content through handsome, instantly forgettable images."[215]

Canal Plus and StudioCanal took the commercial route through co-productions. In 2003, management decided only to co-produce films.[216] This often means to be a junior partner, mostly engaged in the financing. For example, StudioCanal financed and co-released *Tinker, Tailor, Soldier, Spy* as a junior partner. *Basic Instinct* is a film for which Canal Plus takes credit; however, the film was actually produced by Carolco, a Hollywood independent, written by Joe Eszterhas, and starred Michael Douglas and Sharon Stone. In 1992, after the film's release, Carolco experienced financial trouble and was rescued by an international partnership. When Carolco filed for bankruptcy, Canal Plus bought its film library, including that film.

Thus, StudioCanal's films might have become less "French movie" for critics, but their global box office (not including USA/Canada) increased by 32% over five years (2007–2011).[217] In France itself, in 2014, five of the top ten box-office hits were US movies, and the top three French movies were two light comedies of which one was *Lucy*, a Luc Besson film starring the American actors Scarlett Johansson and Morgan Freeman. This was considered French only because it was partially shot and produced in France.

Seventh Strategy: Technology

Canal Plus adopted some of the content and special razzle-dazzle effects which Hollywood employs. Audience interest led StudioCanal to finance and to distribute one major 3D computer-generated animated film per year, jointly with the Belgian 3D company nWave. This resulted in *Sammy's Adventure* (2010), *Sammy's Adventure 2* (2012), and *House of Magic* (2013), which had a substantial production budget of $34 million.[218]

Eighth Strategy: Sign up Stars

A stereotype is that "European films are less concerned with A-list actors."[219] But quite to the contrary, to broaden the appeal of Canal Plus films, its productions and co-productions include foreign stars in its own films or co-productions. Some have already been mentioned. Others include: *Unknown* (2011), Liam Neeson; *The Tourist* (2010), Angelina Jolie and Johnny Depp; *Serena* (2013), Bradley Cooper and Jennifer Lawrence; *Cliff Hanger* (1993), Sylvester Stallone; *Terminator 2* (1991), Arnold Schwarzenegger; and *JFK* (1991), Kevin Costner, Kevin Bacon, and Tommy Lee Jones. Thus, Canal Plus has taken a similar approach to casting as do the Hollywood studios, by anchoring its marketing appeal on expensive big-name stars.

Ninth Strategy: Large Budgets

European films typically have much lower budgets than Hollywood films. But StudioCanal's budget range is now $15 million to $25 million—lower than Hollywood but higher than in the past.[220] In several co-production deals where it was the junior partner, the budget was much greater for example, *The Tourist* (2010), was a big budget film that cost $100 million to make.

Tenth Strategy: Financing

In the past, most financing for European films came from the following sources[221]:

1. Direct governmental subsidies;
2. Private investments attracted to tax shelters for high-income individuals, set up by governments;
3. TV networks, in particular the public broadcasters with a mission to support national culture;
4. Private credit institutions and banks such as Credit Agricole, Société Générale, and Deutsche Bank.

When it comes to financing, it simply cannot be said that there have been no commercial funding sources for films in France aside from the governmental ones. Credit Lyonnaise (CL) was France's largest bank in the 1990s. It was owned by the French state, but became a leading lender to Hollywood in the 1980s. CL's top entertainment finance executive was Frans Afman, whose projects included movies by De Laurentiis (*Serpico*, *Three Days of the Condor*), and various Cannon Films. *Pirates*, with Roman Polanski and Jack Nicholson, cost $40 million and garnered a box office of $5 million. CL also financed other independents—Carolco, New World, Vestrom, Hemdan—and many of them went bankrupt or were reorganized. CL often funded second-rate films by second-rate production companies, usually with big names past their prime but impressive to the bankers.[222] These included Katharine Hepburn, Charles Bronson, Robert Mitchell, Faye Dunaway, Shelly Winters, Elliot Gould, Jon Voight, Brooke Shields, and Bo Derek. It also financed Grancarlo Parretti's disastrous takeover of MGM. After losing $5 billion the bank had to be bailed out by the government. CL filed for bankruptcy in 1993. In 1996, its headquarters burned down, and with it its data archives.

Canal Plus also diversified its funding beyond its own subscriber base. In 2011, it departed from the traditional use of bank loans and engaged in Europe's first slate financing to fund films.[223] In that slate deal, rather than buy a single film project investors bought into a whole portfolio of films.[224]

The Canal Plus system shifted much of the funding to a private pay-TV channel,

213 Turan, Kenneth. "Movie Reviews; A Pack of Cinematic Styles," *Los Angeles Times*. January 11, 2002. Last accessed April 19, 2017. ► http://articles.latimes.com/2002/jan/11/entertainment/et-turan11.

214 Hopewell, John and Elsa Keslassy. "'Carlos' gives French TV momentum." *Variety.* June 5, 2010. Last accessed April 19, 2017. ► http://variety.com/2010/scene/features/carlos-gives-french-tv-momentum-1118020227/.

215 Sachs, Ben. "My Piece of the Pie." *Chicago Reader*. February 2, 2012. Last accessed April 19, 2017. ► http://www.chicagoreader.com/chicago/my-piece-of-the-pie/Film?oid=5502884.

216 James, Alison. "StudioCanal Restructures with Focus on More Mainstream Fare." *Variety.* May 10, 2004, 20.

217 MPAA. "Theatrical Market Statistics: 2012." *Motion Picture Association of America, Inc.* Last accessed March 29, 2013. ► http://www.mpaa.org//Resources/3037b7a4-58a2-4109-8012-58fca3abdf1b.pdf.

218 Hopewell, John. "StudioCanal works 'magic' on sales." *Variety.* February 7, 2013. Last accessed April 17, 2017. ► http://variety.com/2013/film/news/studiocanal-works-magic-on-sales-1118065857/.

219 Dawtrey, Adam. "Euros Create Hits on Their Own Terms." *Variety*. May 10, 2010, A14, A33.

220 Hopewell, John. "Variety's Achievement in Int'l Film Award: Olivier Courson." *Variety.* May 11, 2013. Last accessed June 4, 2013. ► http://variety.com/2012/film/news/creative-punch-meets-biz-savvy-1118053319/.

221 Saigal, Kanika. "Slate financing: StudioCanal signs Europe's first slate financing." *Euromoney.* November 2011. Last accessed April 19, 2017. ► http://www.euromoney.com/Article/2928950/Slate-financing-StudioCanal-signs-Europes-first-slate-financing.html.

222 Stadiem, William. *Moneywood: Hollywood in Its Last Age of Excess.* New York: St. Martin's Press, 2012.

223 Saigal, Kanika. "Slate financing: StudioCanal signs Europe's first slate financing." *Euromoney.* November 2011. Last accessed April 19, 2017. ► http://www.euromoney.com/Article/2928950/Slate-financing-StudioCanal-signs-Europes-first-slate-financing.html.

224 The main investor was the European media fund, Anton Capital Entertainment, which put in about $200 million. Other investors included US-based Falcon Investment Advisors and the Bank of America, as well as the Union Bank of Switzerland and various European institutional investors representing private parties.

supported by its viewers who were charged non-competitive prices. In 2014, a monthly subscription to its channels was €40 per month/$52.83 per month.[225] In comparison, in the USA the HBO and Showtime packages cost, respectively, $14–18 per month on cable and satellite, and $15 per month on Verizon FIOS.[226] This is a huge price difference (about 350% over Showtime's price), and cannot be explained as based on scale. Instead, it is the result of market power. In return, Canal Plus is obliged to invest 12.5% of its revenues into European films (10% must be dedicated to French productions.)

Eleventh Strategy: Diversification

The stereotype is that only Hollywood has the scale to diversify in content and platforms. Yet StudioCanal currently releases around 40 movies per year in European countries and owns rights to around 5000 movies.

StudioCanal distributes around 15 feature films each year in France directly to theaters. Distribution activities include marketing, publicity, theater owner relations and transactions, TV/cable/VOD deals, and video releases. More than 2000 StudioCanal films are available online. StudioCanal also provides films for mobile phone viewing. Thus the company has considerable diversity in distribution and volume.

Twelfth Strategy: A Two-Tier System with a Shift to Independent Producers and Co-producers

Just as Hollywood has created dependent-independent producers, in France Canal Plus distributes independent films to theaters—in a shift to a two-tiered structure. With these independents, StudioCanal's involvement is mainly that of financing and distribution, but the company also makes decisions about the script and other artistic aspects and may also provide technical support.[227]

Government film policy in France pursues the goal of allowing artistically minded independent film producers to flourish. By law, 2.125% of its considerable revenues (17% of the 12.5% that Canal Plus must invest into other films) must be allocated to films that have a budget of less than $5.2 million per year. That comes to a pool of about $140 million per year. Canal Plus could thus cover half of the budget of 50–100 such films annually. Independent film producers account for 95% of films made in France.[228] Canal Plus helps to finance at least 64% of French films, plus any films that might have been licensed or are acquired later in negative pickup deals. On one level such support of independent producers is a positive contribution. On the other hand, when Canal Plus supports two-thirds of French film productions it also creates major dependencies and enormous cultural power. If its orientation in picking projects to support is increasingly commercial, then it also affects the entire content direction of the French film industry and thus French culture.

Conclusion: How Does It All Add Up for Canal Plus?

Canal Plus and its production subsidiary StudioCanal have become Europe's closest counterpart to a major Hollywood studio. They are rooted in a new financial model—a pay-TV near-monopoly of a commercial company based on a de facto exclusive government license.

The official mission of Canal Plus is to create "mainstream auteur films that have audience punch without sacrificing artistic ambition." Officially, it is trying to merge the popular and artistic, but is a "mainstream auteur," yet another oxymoron. Canal Plus has said that "StudioCanal needs to avoid dependency to any one market and develop line-ups that are common for each of the three main European markets that it serves."[229] Translation: less French. It is also declared that it also needs to further focus on UK productions which are popular throughout Europe. Translation: content that is more American-style. StudioCanal adopted a "mixed model of co-ordination and decentralization." This means it works with other distribution and production companies and often outsources production duties. Translation: the Hollywood production model.

Though it will usually be denied, in the process Canal Plus is becoming indistinguishable from a Hollywood major. The main difference is that it has a government-granted virtual monopoly over pay-TV, allowing it to charge high prices. There is also a government-mandated support quota for independent film-makers. In effect, it is a system that forces French consumers to subsidize French independent film-makers.

Thus, for the production and distribution of film content, certain fundamentals seem to operate. Hollywood majors, too, have moved in a direction that embraces more foreign stars, locales, themes, and funding. On both sides of the Atlantic, we observe a convergence from national to global. There is also a counter-trend to more small independent film-making, made possible by cheaper digital equipment and online distribution. But the main viewing around the world is that of expensively produced premium products, and these have their distinct business dynamics.

Lastly, where does this leave *Cahiers du Cinema*, that bible of cinephiles? *Cahiers* itself became commercialized and mainstreamed. It was first acquired by the main newspaper group *Le Monde*, then by Phaidon, a London publisher, in 2009. In 2012, Phaidon itself was bought by Leon Black, American owner of Apollo Global Management and son of the former owner of United Fruit Company (now known as Chiquita Banana and United Brands), one of the world's quintessential "neo-colonialist" companies.

Cahiers has therefore come a long way from its post-modernist and Maoist days. It is owned by the same people who control Caesar's Palace, Harrah's Casino, Elvis Presley Enterprises, Twinkies, Century21 Real Estate, Norwegian Cruise, American Idol, Veil Resorts, and Jacuzzi. Will it be the same trajectory for French cinema, whose renewal and character the magazine has shaped for decades?

225 "Canal+." *CanalPlus*. Last accessed August 22, 2014. ► http://www.lesoffrescanal.fr/homepage-univers-canalplus. In 2016 Canal Plus revamped pricing by offering intro package at €20/$21.51 per month for only the Canal Plus main channel. A sports package costs €50/$53.93, a Cinema/Series package €40/$43.12, a family package €50/$53.93, and a complete package about €100/$106.99 a month. Keslassy, Elsa. "Canal Plus Revamps Pay-TV Plans to Double Subscribers, Widen Scope." *Variety*. Last accessed April 19, 2017. ► http://variety.com/2016/film/global/canal-plus-revamps-pay-tv-plans-to-double-subscribers-widen-scope-1201887826/.

226 DirecTV. "HBO." Last accessed April 17, 2017. ► https://www.directv.com/premiums/hbo; DirecTV. "Showtime." Last accessed April 17, 2017. ► https://www.directv.com/premiums/showtime. Smith, Alex. "Verizon FiOS Custom TV – New Pricing, Deals in 2016." November 8, 2016. Last accessed April 19, 2017. ► http://www.catv.org/verizon-fios-custom-tv/.

227 StudioCanal. "Activities." Last accessed May 29, 2013. ► http://www.studiocanal.com/en/activities/france.

228 Goodfellow, Melanie. "French Producers boycott CNC over Crew Pay Deal." *ScreenDaily*. March 21, 2013. Last accessed June 17, 2013. ► http://www.screendaily.com/news/french-producers-boycott-cnc/5053189.article.

229 Hopewell, John. "Variety's Achievement in Int'l Film Award: Olivier Courson." *Variety*. May 11, 2012. Last accessed May 30, 2012. ► http://variety.com/2012/film/news/creative-punch-meets-biz-savvy-1118053319/.

3.10 Conclusion: Success Elements for Content Production

What does it take for success in content creation and production? Creativity and originality, of course; but that is not enough. Content creation requires "organized creativity." The image of content production is one of individualism. The reality, once one moves beyond an initial flash of inspiration, is collaborative effort, in the same way that individual inventors have largely been superseded for major innovation by organized R&D efforts by development teams from large or specialized firms.

In the media and communication sector, content creation has been an increasingly organized team effort. Newspapers, for example, rely on reporter teams, editors, a newsroom, and so on. Performance arts, such as theater, dance, and music, depend on troupes, orchestras, and bands. Software and game companies rely on large development teams. In novels, the author (still largely the solitary creator) works with teams of editors and marketers. Other books—such as educational, reference, and "how-to" books—do not depend on an individual creator but rely on author and editor teams.

Content creation is a high-risk activity, trying to meet the great but unpredictable audience demand for entertainment and information. There is an intense competition for audience attention.

Film may be the forerunner and path breaker for most types of content creation. By analyzing Hollywood, we may find the success factors for content production more generally.

So, what do we deduce to be the elements of success for commercial content production? People can imagine dark conspiracies that keep Hollywood successful, but they should instead look at it as a different business model. Most of its elements are only secondarily artistic, but firstly managerial.

Key success factors for media production are diverse and can be grouped by focus:

■ Risk-Reduction Techniques

Enable expensive production under uncertainty and risk through:

- A system of risk financing;
- Portfolio diversification;
- Transformation of discrete projects into a flow model.

■ Product Development

- Popular-taste oriented style and niches;
- A strong pipeline of project proposals;
- A strong system of selection and testing;
- Budget and cost tracking.

■ Organizational Structures

The most important success factor of content business is its evolving business model. That business model is important to all industries and all companies, not just in the media and digital sector.

- Project-based, ad hoc organizations with low fixed costs and high project entrepreneurship;
- Skewed reward system as incentive to creators.

■ Put Together, the formula seems to be: *Competitive Creation and Oligopolistic Distribution*

The elements of content production reinforce each other. There is geographic clustering, as well as constant artistic and business interchange, as well as interaction and information exchange. There is also a physical agglomeration of activities, which creates proximity to skills and restructuring (disintegration) of content production. We can see these developments now moving to the breakup of electronics and other companies, with some specialist firms doing the design, others making the components, others manufacturing, and others doing the marketing. Hollywood has developed this model not because of its superior access to management gurus, but because it has been engaged in a Darwinian process. Each year about 200 major films are being produced. Each of the major films costs about $70–100 million to make, and $40 million or more to promote. Many of these films disappear within days. Thus, under the pressure to sink or swim, companies and business practices evolved and reengineered themselves continuously.

In that model, the Big Six Hollywood studios are mostly in the business of distributing films made by small independent or semi-independent firms. The studios also finance some of them, fully or partly. They may rent them production facilities, but their share in the actual production of the major films they distribute keeps declining, and is probably less than 20% now. (There are many gray shades between outright studio production and truly independent production.)

The studio companies (and similar companies in other sectors of the media) are the integrators of this system, but they themselves are small relative to their activity level: low-central bureaucracy, low overhead, low risk assumption, and low employee benefits to support. Even much of management staff is project-based.

Content production in film today is thus in the hands of hundreds of small independent production companies, some established, some ad hoc, and some start-ups, which in turn use hundreds of specialized firms with special skills. This has restructured the industry from one of vertically integrated firms with in-house skills to one based on specialists for hire. It forces the central media companies to concentrate on the co-ordination of multiple skills and elements, with an emphasis on multinational, multicultural, and multimedia orientation. Their other major roles are in financing production and managing the distribution of the product.[230]

Such a model of the project-oriented, increasingly "virtual" production firm may be the forerunner model for many business operations in general, which integrates creativity with business needs:

- Decentralized;
- Networked;

230 Rifkin, Jeremy. "When Markets Give Way to Networks… Everything Is a Service." *The Age of Access: How the Shift from Ownership to Access is Transforming Modern Life.* (London: Penguin, 2000), 24–95.

- Virtual;
- Freelance;
- Global.

The major content firms then are mainly co-ordinators, integrators of the specialist firms, and branders of the final products. This might be, for many industries, the business model of the future. It would not be the first time that media has led the way for a general business transformation. The printing press led the way for an industrial mass-production system. Perhaps the film industry model, created in the Darwinian process described, is a forerunner for the next stage: the global post-industrial production system and economy.

3.11 Review Materials

Tools Covered

- Portfolio diversification for content
- Markowitz Frontier
- Options approach to project selection
- Project selection and valuation
- Queuing models
- Process flow diagrams
- Linear Programming
- CPMs
- PERT
- Release Sequencing
- Gantt Charts
- FMEA
- Six Sigma
- Production and Cost Functions
- ABC

Issues Discussed

- Diversification
- Role of distribution
- Development
- Budgeting and cost control
- Specialization and clustering
- Risk reduction strategies
- Diversification of content
- Selection and development of content
- Insuring movies
- Budgeting
- Integration
- Hollywood success factors
- Production types
- Globalization of content
- Film industry history
- Film industry worldwide
- Book industry production
- Music industry production
- Video game industry production
- Software industry production
- Theater industry
- Industry structures
  - Specialization
  - Industry clustering
  - Vertical integration
- Print process
- The role of stars
- The role of technology
- The impact of budget
- Productivity
- The future of content production.

3.11.1 Questions for Discussion

1. What is the effect of vertical integration of production with distribution and supporting industries (books, toys, music games) on the success of Hollywood?
2. What media production industry (book publishing, Hollywood, TV, video games) is least dependent on the others? Why? Is that an advantage or disadvantage?
3. Can lack of diversification be used as a risk reduction technique? When and how can it be successful, if at all?
4. What accounts for the high selectivity of the book industry since even bestsellers have the lowest investment cost when compared with blockbusters of other major content production industries?
5. Which characteristics of major non-Hollywood industries (automobiles, manufacturing, services) should Hollywood adopt to better itself?
6. How can one define and measure productivity in content production? Is it increasing?
7. How will advancements in technology influence the future of film production? Newspaper production?
8. How can the European film industries become more financially successful? Why, in contrast, are European book publishers more successful?

9. Is the Hollywood production model a suitable model for other industries of the economy? What is an example?

10. What are the ingredients of successful content production in music? What do they suggest for content production in general?

11. Can content production be organized on an industrial scale? How can mass-production accommodate individualized creativity?

12. Where can individual production processes be applied to the content industry?

3.11.2 Quiz

1. Of the following answers, which one is *not* a reason for the unfavorable economics of theater?
   A. Expensive to promote;
   B. Difficult to create special effects;
   C. Expensive to produce;
   D. Expensive to distribute.

2. When did Hollywood produce the most films annually?
   A. 1950s and 1960s;
   B. 1990s and present day;
   C. 1920s and 1930s;
   D. 1970s and 1980s.

3. The television and the film industries have always worked together to maximize their profits.
   A. False;
   B. True.

4. The video game industry is becoming more creative with its products and taking more financial risks.
   A. True;
   B. False.

5. Of the choices below, which country annually produces the most films per population?
   A. France;
   B. Italy;
   C. USA;
   D. Germany.

6. Films with which ratings are the most profitable for Hollywood?
   A. R rated;
   B. PG-13 rated;
   C. PG rated;
   D. G rated.

7. Which of the following is *not* a negative cost for a production company?
   A. Printing;
   B. Paying "below the line" cost;
   C. Film editing;
   D. Script development.

8. Which of the following is a disadvantage of vertical integration?
   A. Raising of entry barriers for competitors;
   B. Cross-marketing possibilities;
   C. Alternative distribution for independent films;
   D. Creation of captive suppliers and buyers.

9. What structure is today's media production firm taking on?
   A. Market model of the firm;
   B. Centralized firm model;
   C. Network firm model;
   D. None of the above.

10. In Hollywood, along with the music and video game industry, which is more important?
    A. Cost reduction;
    B. Revenue generation.

11. Which of the following is *not* a reason for Hollywood's project selection success?
    A. Hollywood has learned to influence legislation;
    B. Hollywood has a superior selection system to other film industries;
    C. Hollywood has first pick to the best projects;
    D. Hollywood has available investment funding for development.

12. A strong financing structure to invest significant capital into movies is missing from the European film industries relative to the structure of Hollywood financing.
    A. True;
    B. False.

13. Which of the following is *not* a risk-reducing strategy in production?
    A. Insurance;
    B. Shadow pricing;
    C. Step-wise investment;
    D. Diversification.

14. Which of the following statements is true of the magazine publishing industry?
    A. Despite the recent mergers of global media companies, magazine-only companies can still prosper as only 160 of over 22,000 magazines have a circulation over 500,000;

B. With the mergers of global media companies, there are only a handful of companies which print 22,000 consumer magazines;
C. Both are true;
D. Neither is true.

15. Which factor influences the production budget of a music recording?
A. How many recordings the label thinks it can sell of the artist;
B. Reputation and experience of artist;
C. Genre of music;
D. All of the above.

16. The primary co-ordinator for a new film in many countries outside the USA is:
A. The distributors;
B. The talent agency;
C. The executive producer;
D. The director.

17. Which of the following is *not* a media product content category?
A. profit-driven;
B. segment-driven/niche;
C. talent-driven;
D. marketing-driven.

18. What are the limitations of PERT (Program Evaluation and Review Technique)?
A. May only be a guess;
B. Consistently underestimates the expected project;
C. Activity time estimates somewhat subjective;
D. All of the above.

19. In a Broadway theater production, what two aspects make up nearly 40% of the budget?
A. Physical production and advertising/marketing;
B. Advertising/marketing and salaries;
C. Physical production and salaries;
D. Salaries and general administrative.

20. What percentage of films produced in India come out of Bollywood?
A. 50%;
B. 25%;
C. 100%;
D. 75%.

21. What is not a way to reduce risk in content production?
A. Market forecasting;
B. Insurance;
C. Shifting of risk to others;
D. Specialization;
E. Hedging.

Quiz Answers

1. A
2. C
3. A
4. B
5. A
6. D
7. A
8. D
9. A
10. B
11. B
12. A
13. B
14. A
15. D
16. D
17. A
18. D
19. A
20. B
21. D