

Robert B. Musburger Gorham Kindem

Introduction to
**Media
Production**

The Path to
Digital Media Production

Fourth Edition



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Fourth Edition

Robert B. Musburger

Gorham Kindem



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*To Nancy and Pat
In return for their patience, understanding, and support.*

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PREFACE TO THE FOURTH EDITION

This fourth edition of *Introduction to Media Production* approaches the process of teaching media production from a slightly different perspective from previous editions. Given the wide range and diversity of means by which a production will finally reach different audiences today, a consideration of potential audiences overrides nearly all other considerations in the planning and production of a program, whether it is an audio, video, or graphics production. Although the chapters in this book are arranged in a logical progression, each chapter can be taught as a stand-alone unit, or in any order that fits the curriculum of the school or of the individual faculty member teaching the course. A detailed index and a comprehensive glossary with 128 new digital entries provides definitions to new terms and concepts regardless of the order of presentation to the reader. Each chapter discusses developments in digital media technologies as they affect various topics. All chapters have been streamlined and bulleted for added readability and improved access to key concepts. Some chapters have been combined to recognize important changes in the rapidly evolving digital media production world. In addition to the original 168 images plus 12 color plates, 105 new photographs and illustrations have been added where they best facilitate understanding and illustrate important recent developments. Finally, although all media must start and end as an analog signal, digital technology in preproduction, production, postproduction, and distribution dominate analog technology. The structure and content of the fourth edition of *Introduction to Media Production* reflect those important changes. The authors are grateful to the external reviewers for their valuable suggestions and to Elinor Actipis, Michele Cronin, Lianne Hong, and the staff of Focal Press for their encouragement and strong support for this edition.

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INTRODUCTION FOR IMP IV

The goal of this book is to help young media producers understand the entire process of media creativity, beginning with concepts and audience considerations and continuing through the preproduction, production, and postproduction processes, including distribution and exhibition. A final chapter considers how to plan and guide your future in the field of media production.

The authors feel you need to learn why decisions are made given the many choices involved in producing a media project, which is as important as knowing how to push buttons and turn knobs. Understanding how a piece of equipment works helps to explain what that equipment can and will accomplish for the operator and director. Unrealistic expectations based on ignorance leads to frustration and poor production qualities.

The chapters in this book are written so that you may read them in any order, although the authors feel that, based on their own experience, the chapter order in the text makes the best sense from a professional media producer's point of view.

Topics, professional terminology, and the language of media production are introduced and explained as the text moves from chapter to chapter. If you do not understand a term, you will find it defined and explained in the glossary at the end of the book.

CHAPTER 1: PRODUCING: EXPLOITING NEW OPPORTUNITIES AND MARKETS IN THE DIGITAL ARENA

This chapter is placed first in the book to underline the importance of knowing how the end result of a production will finally meet its intended audience. The radical changes in media production equipment, techniques, and methods of operation have been matched equally with radical changes in the distribution and exhibition of media productions. The quality of a production can now range from such extremes as a high-definition, widescreen, multichannel audio program to a small, low-quality picture on a cell phone. The production could be distributed by a major multinational distribution company placing the project on network television or in motion picture theaters around the world, or a few friends may view it on a personal web site.

CHAPTER 2: THE PRODUCTION PROCESS: ANALOG AND DIGITAL TECHNOLOGIES

Chapter 2 breaks the production process down into three primary stages—preproduction, production, and postproduction—and explains the relationship between the three. Much of the chapter covers the use of digital technology and equipment in the three stages. Finally, the chapter explains the relationships and duties of each member of the production team: audio, video, film, and multimedia.

CHAPTER 3: PRODUCING AND PRODUCTION MANAGEMENT

[Chapter 3](#) describes the different types, duties, and responsibilities of producers and their chief assistants, production managers. The many critical duties and responsibilities of the producers and their teams are more often hidden from public view. These duties include supervising script preparation, writing proposals, and managing a budget.

CHAPTER 4: SCRIPTWRITING

[Chapter 4](#) describes the many genres and methods of writing scripts. Details on writing dramatic, commercial, educational, news, situation comedy, and animation scripts for digital production are illustrated with various rhetorical, expository, and dramatic theories of writing.

CHAPTER 5: DIRECTING: AESTHETIC PRINCIPLES AND PRODUCTION COORDINATION

[Chapter 5](#) describes the functions and skills required of directors of video, audio, film, and animation productions. Scene construction, the use of sound, and the differences between single-camera and multiple-camera productions in the digital age are clearly explained.

CHAPTER 6: AUDIO/SOUND

[Chapter 6](#) covers all aspects of audio and sound production, concentrating on digital techniques. The discussion covers microphones and their uses, the control and monitoring of sound, and mixing for digital productions, along with an explanation of the theories of sound perspective and benefits of using sound in visual productions.

CHAPTER 7: LIGHTING AND DESIGN

[Chapter 7](#) describes and organizes the techniques of lighting and design for digital production. The common areas of lighting and designing sets, costumes, and handling of props for digital production are covered in this chapter. New lighting instruments and techniques specific to digital productions are also explored.

CHAPTER 8: THE CAMERA

[Chapter 8](#) discusses all types of digital cameras, as well as film cameras in common use today. Camera operation techniques, lens operation, and a breakdown of various specific types of digital cameras and their differences emphasize the wide range of digital cameras and their technical variations.

CHAPTER 9: RECORDING

[Chapter 9](#) describes each of the many digital, analog, and film recording methods. Descriptions of audio and video digital formats, their compatibility, and their level of use are provided in great detail. Specific techniques required for digital recording of both audio and video constitute a portion of this chapter.

CHAPTER 10: EDITING

Chapter 10 describes each of the steps of editing digital audio, video, and digital film. Both the physical processes and the theoretical processes of dealing with digital editing as opposed to older analog editing methods are covered. Theories of editing a story, whether it is a commercial, news, or dramatic production, are described.

CHAPTER 11: GRAPHICS, ANIMATION, AND SPECIAL EFFECTS

Chapter 11 describes the digital techniques used in creating all visuals, including the methods used both on camera and off camera. The chapter explores the use of animation, special effects, and time-proven art techniques. The use of color and color theory along with framing and composition make up a major portion of this chapter.

CHAPTER 12: THE FUTURE AND YOUR CAREER

Chapter 12 describes the future of the media production business, as well as it can be determined at this point in time. The chapter then describes, point-by-point, the method of preparing for a career by earning an internship, preparing the paperwork for a résumé and cover letter, and designing and creating a portfolio. The chapter also offers tips for preparing for and handling an interview and negotiating pay and benefits for that first and succeeding jobs.

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Producing: Exploiting New Opportunities and Markets in the Digital Arena

- What new markets and opportunities has the digital area fostered?
- Why are distribution and exhibition so important to the production process?
- What effect does the audience have on the production process?
- What are the chief means of exhibiting media productions?
- How does the economics of a production and distribution affect the content?
- What systems will be used to distribute and exhibit media in the future?

Introduction

The new world of advanced digital media production abruptly appeared in the studios, editing suites, radio and TV operations, independent production operations, and film studios with a suddenness that caught most people in the media production business by surprise. At first, digital equipment and technology appeared at a steady pace, bringing smaller equipment, lower costs in both equipment and production methods, and surprising higher quality. Then the Internet, originally considered as a supersized mail system, became a practical means of distributing all forms of media—audio, video, graphics—at a low cost and within reach of anyone with a computer and an Internet connection. Because of the two factors of low cost and accessibility, most concepts of media production distribution, and exhibition had to be reconsidered and restructured for producers to remain competitive, gain funding for productions, and reach targeted audiences.

This chapter considers the relationship of the audience to distribution of productions, the changing technologies of distribution and exhibition, the economics of distribution, and the future of exhibition.

THE AUDIENCE

Audience Analysis

An accurate estimate of the size, demographic makeup, and needs of a prospective audience is essential for the development of workable funded projects and marketable media ideas. What media should a producer use to reach a specific audience? How large is the potential audience? What size budget is justified? What needs and expectations does a particular audience have? What television, film, or graphics format should be used? These questions can only be answered when the prospective audience is clearly defined. Even in noncommercial productions, the overall budget must be justified to some degree on the basis of the potential size and demographics of the audience:

Audience Analysis

- Choice of medium
- Size of audience
- Budget justification
- Audience expectations
- Choice of medium format

Audiences differ in size and demographics. The age and gender of the members of an audience are often just as important as the overall number of people who will see the production. Television advertisers, for example, often design television commercials to reach specific demographic groups. Even documentary filmmakers, such as Michael Moore who produced the documentaries *Sicko* and *Bowling for Columbine*, often pretest films on audiences to see how effective they are in generating and maintaining interest and waging arguments. The process of assessing audience preferences for and interest in specific projects has become more scientific in recent years, but it inevitably requires an experienced and knowledgeable producer to interpret and implement research findings:

Audience Demographics

- Age
- Gender
- Income
- Education
- Religion
- Culture
- Language

Detailed audience information can facilitate later stages of the production process by giving the audience input into production decisions. The nature and preferences of the audience can be used to determine a project's format, subject matter, and structure, as well as its budget. For example, the reality series *Survival* (2007) was targeted specifically for working-class families interested in outdoor-adventure dramas. Everything from the actual locations to specific character types was selected on the basis of audience pretesting. While the artistic merit of using audience-survey research to make production decisions may be questionable, since it can produce a hodgepodge of styles and content rather than a unified work, its success has to some degree validated the technique in the commercial marketplace. It has also proved vital

for noncommercial productions, where audience response is a primary measure of program effectiveness. Research can also be used during postproduction to assess the impact and effectiveness of a project. While audience research is no substitute for professional experience, it can give scientific, statistical validity to production decisions that might otherwise be based solely on less reliable hunches and guesses.

Estimating the size and demographics—for example, the age, gender, and other characteristics, of the potential audience for a prospective media project—can be quite complicated. Sometimes a project's potential audience can be estimated from the prior success of similar productions. For example, producers can consult the A.C. Nielsen and Arbitron ratings for television audiences drawn to previous programming of the same type. Television ratings provide audience information in the form of program ratings, shares, and demographic breakdowns for national and regional television markets. *Ratings* or rankings refer to the percentage of all television households—that is, of all households with a television set regardless of whether that set is on or off at a particular time—that are tuned to a specific program. If there are 80 million television households and 20 million of them are tuned to a specific program, then that program has a rating of 25, which represents 25 percent of the total television population.

Shares indicate the percentage of television households with the set turned on at a specific time that are actually watching a specific program. Thus, if 20 million households are watching something on television at a particular time and 10 million of those 20 million households are watching the same program, then that program has an audience share of 50, which represents 50 percent of the viewing audience (Figure 1.1).

Methods of determining audience value on the Internet is made easier by the system of counting the number of times a web site has been opened, or “hit,” in a search. The hits provide an exact count of the number of times an audience has opened a site, but it does not tell how often they stayed to read or comprehend what was shown on the site. The method measuring hits is more accurate than ratings, but it is still not an absolute measurement of audience reaction—pleasure or displeasure. A new measuring system, the Total Audience Measurement Index (TAMI) is in development to include an audience's participation in all media simultaneously—broadcasting, cable, satellite, Internet, and mobile use—as a total research value.

Commercial producers and distributors often rely on market research to estimate audience size and the preferences of audiences that might be drawn to a particular project. The title of the project, a list of the key talent, the nature of the subject matter, or a synopsis of the story line, for example, might be given to a test audience, and their responses are recorded and evaluated. Research has shown that by far the best predictor of feature film success is advertising penetration—that is, the number of people who have heard about a project—usually through advertising in a variety of media. Other significant predictors of success appear to be the financial success of the director's prior work, the current popularity of specific performers or stars, and the interest generated by basic story lines pretested in written form.

Audience research has been used for a variety of purposes in commercial production. Sometimes before production, researchers statistically compare the level of audience interest (the “want-to-see” index) generated by a synopsis, title, or credits of a production to the amount of audience satisfaction resulting from viewing the completed project. A marketing and advertising strategy is often chosen on the basis of this research. A film that generates a great deal of audience interest before production, but little audience

THE LANGUAGE OF RATINGS

TERM	ABBREVIATION	DEFINITION
Universe estimate	UE	Total persons or homes in a given population: TV households in the United States
Ratings %	Ratings	Percentage of all households viewing a TV program at one time
Share of audience	Share	Percentage of TV sets in use tuned to a program
Coverage	Coverage	Percentage of TV households that could receive a program
Gross average audience	GAA Rating	Sum of the percentage of households tuned to the program, including repeat telecasts
Gross ratings points	GRPs	Sum of all ratings for all programs in a schedule
Households using TV	HUT%	$\frac{\text{Number of HH with TVs turned on}}{\text{Total HH universe estimate}}$
Persons using TV	PUT%	$\frac{\text{Number of Persons viewing TV}}{\text{Total persons universe}}$
Viewers per viewing HH	VPH	$\frac{\text{Persons projection}}{\text{Household projection}}$
Reach	Reach or CUME	Number of different homes exposed at least once to a program or commercial
Cost per thousand	CPM	$\frac{\text{Media cost}}{\text{Impressions}} \times 1,000$
GRPs	GRP	Rating x frequency
Impressions	Impressions	GRPs x UE

FIGURE 1.1 The terminology used by programmers and salespeople in broadcast media is a language of its own. The terms are both descriptive and analytical at the same time, but they are meant for professionals in the field to be used for accurate and concise communication.

satisfaction after viewing a prerelease screening of the completed film, might be marketed somewhat differently from a film that generates little interest initially but is well received in its completed form. The former might be marketed with an advertising blitz and released to many theaters before “word of mouth” destroys it at the box office, while the latter might be marketed more slowly to allow word of mouth to build gradually.

Some television programs and commercials will be dropped and others aired solely on the basis of audience pretesting. Story lines, character portrayals, and editing are sometimes changed after audience testing. Advertising agencies often test several versions of a commercial on sample audiences before selecting the version to be aired. A local news program may be continuously subjected to audience survey research in an attempt to discover ways to increase its ratings or share. A sponsor or executive administrator may desire concrete evidence of communication effectiveness and positive viewer reaction after a noncommercial production has been completed.

Audience research has to be recognized as an important element in the production process. While it is no substitute for professional experience and artistic ability,

research nonetheless can provide some insurance against undertaking expensive projects that have no likelihood of reaching target audiences or generating profits.

Noncommercial audience research often focuses on assessments of audience needs and program effectiveness. A project that is not designed to make money often justifies production costs on the basis of corporate, government, or cultural needs as well as audience preferences and size. Sponsors need to have some assurance that the program will effectively reach the target audience and convey its message. Audience pretesting can help to determine the best format for conveying information and reaching the audience. Successful children's programs are often based on audience research that assures program effectiveness. For example, the fast-paced, humorous instructional style of *Sesame Street*, which mirrors television commercials and comedy programs, was based on exhaustive audience research. Whether it is used during preproduction or postproduction, audience research can strengthen a program and widen its appeal.

THE TECHNOLOGY OF DISTRIBUTION

Media production requires both analog and digital technologies. The advent of digital technologies stimulated a number of important changes in media production, including the convergence of technologies as well as corporate integration. The digital revolution describes a process that started several decades ago. Technicians developed uses for the technology based on “1” and “0” instead of an analog system of recording and processing audio and video signals. Rather than a revolution, it has been an evolution, as digital equipment and techniques have replaced analog equipment and processes where practical and efficient. Digital equipment may be manufactured smaller, requiring less power, and producing higher-quality signals for recording and processing. As a result, reasonably priced equipment, within the reach of consumers, now produces video and audio productions that exceed the quality of those created by professional equipment of less than two decades ago. But it must be remembered every electronic signal begins as an analog signal and ends as an analog signal, since the human eye and ear cannot directly translate a digital signal (Figure 1.2).

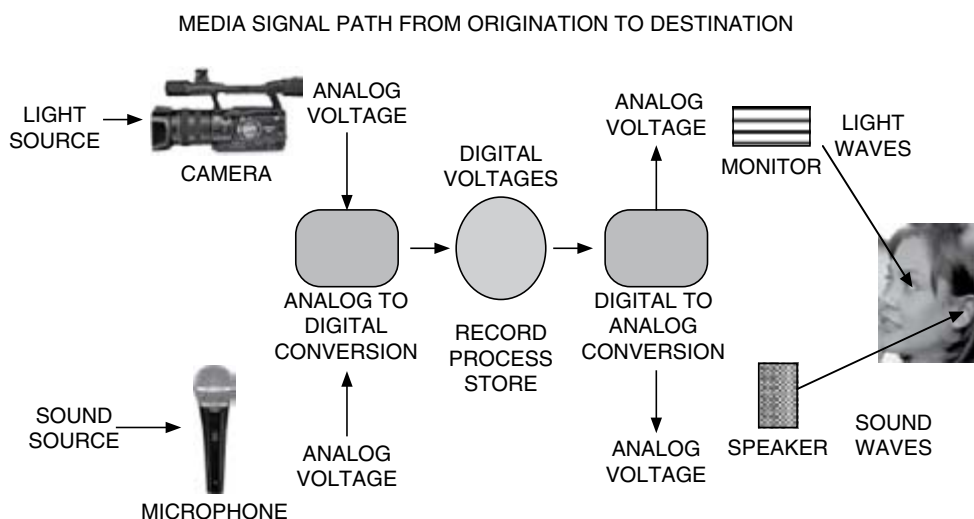


FIGURE 1.2 All sounds and light rays are analog signals as variations in frequency from below 60 Hz as sound to a range above 1 MHz for light. Any frequency may be converted to a digital signal duplicating the original analog signal, but for humans to be able to see and hear an audio or video signal it must be converted back to an analog signal.

The signals that create light and sound are analog signals. The types of equipment that make up optics in lenses and cameras, physical graphics, sets, and the human form all exist as analog forms. The signals a camera and microphone must convert from light and vibrations to an electronic signal must be an analog signal first and then may be converted to a digital signal. At the opposite end of the media process, a human cannot see an image or hear sound as a digital signal but must wait for the digital signal to be converted back to analog to be shown on a monitor and fed through a speaker or headset.

Communication production systems now move from the analog original to a digital signal, not a digital rendering of a video or audio signal, but straight to a pure digital signal without compression or recording on any media such as tape or disc. The analog of the light and sound need not be converted to a video, audio, film, or graphic signal but may remain as a digital stream until converted back to analog for viewing and or listening. All acquisition, storage, manipulation, and distribution will be in the form of a simple digital signal. Digital systems obviously will continue to improve from 8-16-32-64-128 bits as storage and bandwidth factors improve and expand. The number of bits indicates the level of conversion to a digital signal. The higher the bit rate, the better the quality of the digital signal, although the higher bit rate also requires greater bandwidth for storage and for transmission during distribution.

Tape will slowly disappear as the primary means of recording, distribution, and storage of media systems before discs and film disappear as a useful and permanent medium. Some forms of tape recording for high-end cameras will continue to be used to record digital, but not visual or aural signals that are then fed directly to postproduction operations. The lifetime of discs also may be dated as solid-state recording media such as P2 and other flash-type drives increase their capacity and costs decrease.

NEW PRODUCTION CONSIDERATIONS

Today production personnel may take advantage of the digital evolution to change the production technologies now available as well as the increased range of the methods of distribution of media productions. Production and distribution methods now must be considered together or the value of the production may never be realized.

Digitized signals of any media production now may reach an audience in almost infinite different paths of distribution. The traditional mass communication systems of radio-TV-film, cable, and satellite now are joined by digital signals distributed via a vast number of new systems by means of the Internet and Web variations now joined by mobile systems of podcasts, cell telephones, and other handheld computers ([Figure 1.3](#)).

Instead of media distribution via terrestrial radio and television broadcasts, cable, and motion pictures, the ubiquity of wireless digital signals distributed via WiFi, WiMax, and other “open” distribution systems has necessitated changes in media production theory, methods, technology, distribution, and profit sources. Digital production methods and operations are covered in [Chapter 2](#).

There are four areas of consideration that must be contemplated to make key decisions between the birth of the original production concept and the first rollout of equipment:

- Which distribution method will be used?
- Which production format will be used?
- Which electronic media will be used?
- Which genre will tell the story best?

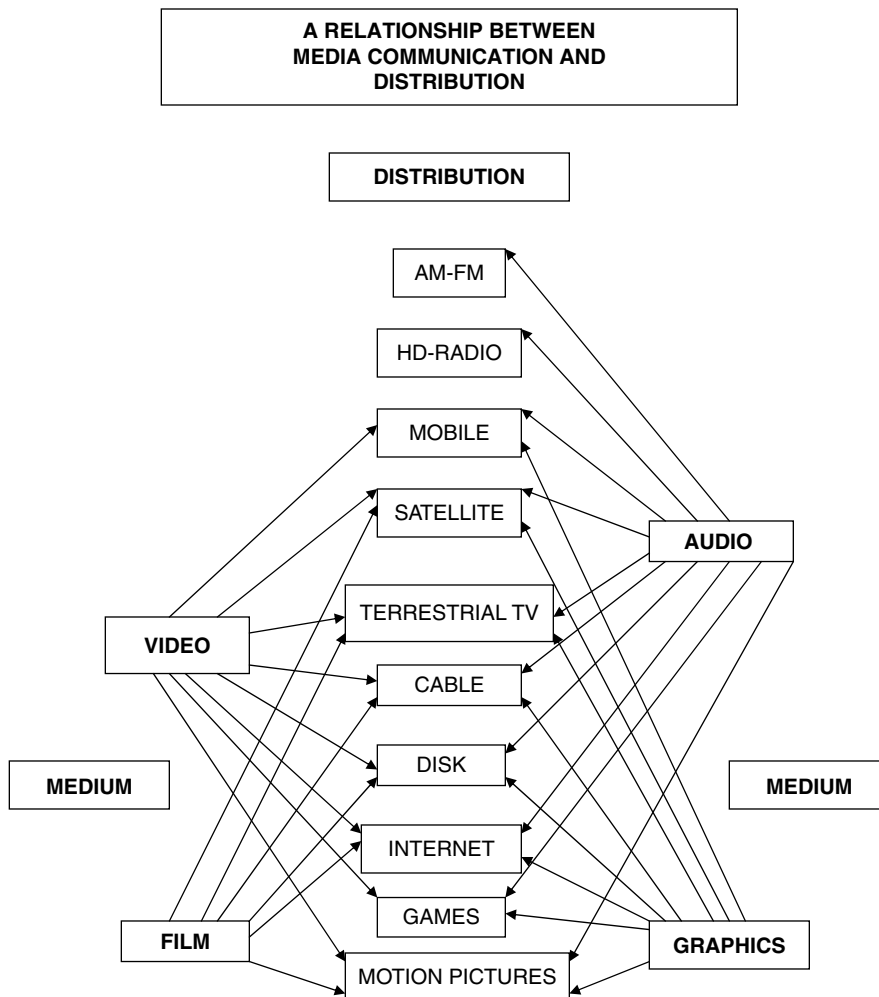


FIGURE 1.3 The relationship between the many possible media distribution forms and the communication media production formats indicate an interlocking relationship that is neither linear nor hierarchical.

THE BIG TEN OF DISTRIBUTION

AM-FM Terrestrial Radio

Terrestrial radio programming consists of music, news, public affairs, documentaries, and dramas, programming aimed at the largest possible audience. Except for public radio there is very little niche or specialized programming on standard radio channels. Terrestrial radio includes high-definition (HD) digital radio along with traditional analog radio, now often simulcast together.

HD-Radio (IBOC)

In-band on-channel (IBOC) and HD radio are trademark brands of digital radio broadcasting that allows for multichannels, both digital and analog programming to be

broadcast on the same primary channel. The primary audience target of digital radio is the car driver, who is enticed with specialized high-quality, static-free programming.

Mobile

Mobile equipment consists of a rapidly expanding range of miniature digital-based equipment designed to provide the same services fixed position equipment provides in sending and receiving telephone messages, Internet information, photographs, video, audio, and streaming programs. Mobile systems also use wireless public systems to deliver a wide variety of mass communication programming.

Satellite

Separate radio and television systems use satellites to feed signals from central head-ends to a wide area of receiving antennas aimed at the satellite. Both systems, like digital radio and cable television, require a monthly subscription fee. Satellite radio offers programs that might not be available on terrestrial radio, as producers seek to reach audiences dissatisfied with standard broadcast radio. Satellite television competes directly with cable, offering the same program channels, but it may provide local stations to specific areas (Figure 1.4).

Terrestrial Television

By the spring of 2009, all terrestrial television in the United States will be broadcasting a digital signal on new or reassigned channels. Broadcast television, like broadcast radio, aims to please the largest audience to serve advertisers who pay for free television. Digital channels will allow broadcast television to carry more than one line of programming simultaneously on the assigned channel, opening the possibility of new and more varied programming opportunities. After that date, all digital broadcast signals may be viewed only on specific digital receivers, cable, and cable satellite systems with converter boxes, or a converter box between an antenna and the receiver to allow a standard analog receiver to view the new digital signals.

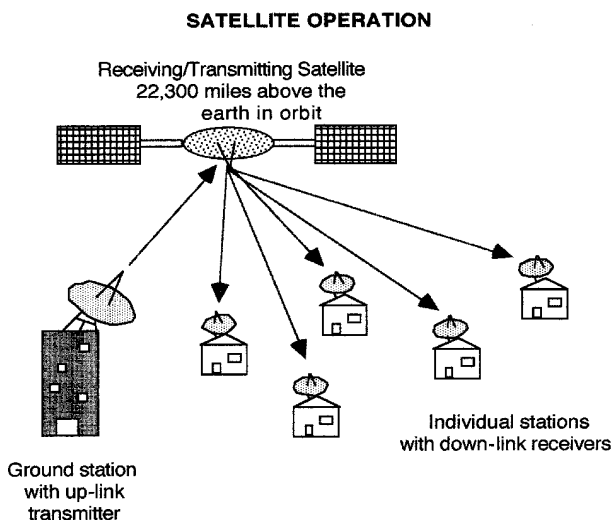


FIGURE 1.4 A basic satellite system consists of three parts: a ground station that gathers programming and transmits the signals to an orbiting satellite, which then retransmits the signals back to individual stations equipped with down-link receivers.

Cable/Telcos

Cable and telephone companies provides direct, wired video, telephone, and Internet connections to their subscribers. Cable stations originally merely carried broadcast channels but expanded to creating many of their own channels. Telephone companies originally served only to provide person-to-person telephone connections but expanded into the digital world by also offering Internet services and television channels. Both telephone and cable companies now compete head-to-head in all three of their areas of service—telephone, television, and Internet services—and they compete with satellite for programming services (Figure 1.5).

Disk/Disc

Magnetic media are referred to as “disks,” whereas optical media are “discs.” The disk/disc industry has offered varying degrees of different media services. For the foreseeable future, hard drives with multidisks will serve as valuable storage media. DVDs, and blue-laser discs (Blu-ray and holographic versatile discs), and CDs of all types provide relatively inexpensive and accessible media for recording and playing back video and audio signals. Music, motion pictures, television programs, and audio collections provide the majority of the programming for prerecorded and self-recorded discs.

Many of the purposes and uses of disc/disks have been replaced by solid-state items called flash drives among other titles. These small blocks of chips may be attached to computers or other digital equipment with a USB or other digital connector. The capacity is continually increasing, but 2 to 4 gigabytes of inexpensive miniature drives provide easily accessible and transportable means of storing and moving digital signals from one source to another. Larger desktop drives holding terabytes or more of storage provide backup drives and alternate storage locations for editing and other postproduction work.

The Internet

The Internet has become so pervasive, so all-encompassing, it is difficult to accurately analyze its individual value as a distribution system, or systems. The Internet now and in the future will hold a major position in distribution of all forms of media content, whether professionally created or from the cameras, microphones, computers, and minds of amateurs. How media will be placed on the Internet, who will control media on the Internet, and how Internet distribution systems will function may determine the future of media financing, production, and distribution.

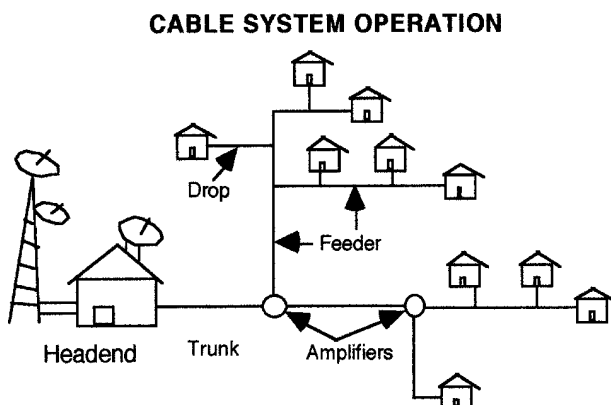


FIGURE 1.5 A cable system collects broadcast signals from off the air and downlinks programs fed by satellite at the headend. At the headend the signals are modulated onto a series of frequencies that are fed down a single cable. From the headend, the signal is fed to trunk lines that feed a fairly large area. Feeder lines take the signal from the trunk line to feed a smaller area, and then the drop is the final line that runs to the individual subscriber.

Games

The growth of the gaming industry reveals an interesting comment on the power of a media form that originated outside of the mainstream of society and gradually became important both for financial reasons and as a cultural symbol. As simple toys attached to a computer, videogames were primarily ignored, then derided as overly simple, too violent, and intentionally sexist. Whether the simplicity (which quickly disappeared with complex multilevel and multiplayer games), the sexism, or the violence made games as successful as they have become is less important. Games are here to stay. Because of their pervasive distribution, the amount of money spent to create them, the number of people employed in the industry, and the amount earned by the game companies, games must be considered a legitimate distribution system.

Motion Pictures

The distribution system with the longest history continues to maintain its position of importance in producing, distributing, and exhibiting motion pictures. The history of film has proven again the truth that new media seldom ever totally replace existing media. First radio, television, then high-definition media were touted to spell the doom and eventual demise of motion pictures. Producers keep creating motion pictures, and the manufacturers of film keep improving the quality and means of shooting motion pictures in ways that have yet to be matched by any other media format. In this discussion, “film” is the acetate-based, emulsion-coated flexible substance that filmmakers expose to light and then edit. The complete production that is distributed and shown in theaters, on television, and on the Internet is a “motion picture.” The medium is “film,” and the industry that distributes the final product is called the “motion picture” industry.

Video and digital visual productions often are labeled by the print media as “film” when such systems should be labeled “motion pictures”, not “film”.

Note: There is intentionally no mention of tape, either video or audio, as a means of distribution. By the time this book is published, most formats of tape will have been replaced by other recording, distribution, and archival systems. Disc(k)s may be part of that process, but it will not be many years before the use and need for discs as a recording, distribution, and archiving system also will cease. Motion pictures may follow down that same path, but it will be many years before we see the end of film as a reliable, safe, and permanent media production system.

SOLID-STATE STORAGE

The arrival of digital technologies in media production systems brought about a problem not considered or needed in analog systems, a means of storing the vast amount of data created and that by its very nature needed to be stored indefinitely. Digital magnetic tape systems borrowed from analog tape worked for some time, but they immediately became insufficient for storing large amounts of data if that data needed to be accessed immediately and nonlinearly. The physical size of tape also became a problem. Disk and disc drives were developed specifically for digital storage and duplication. Both work well; hard disks provide all of the criteria needed for large amounts of storage and are easily accessible, but the cost is higher per gigabyte than optical discs, which are easily duplicated but not easily modified. Flash memory systems arrived later, bringing a new method of storing digital data. Flash cards and

flash drives used in games, cameras, telephones, and portable media players as well as stand-alone storage devices have become popular and seemingly ubiquitous. In 2007, hard drives were used for 56% of total digital storage, optical drives 22%, magnetic tape 18%, and flash media approximately 2%. It is estimated that by 2010, hard drive use will decrease to 55%, optical drives will increase to 29%, tape will decrease to 13%, and flash memory will increase to approximately 3% of total storage. Over the years, tape will probably disappear as a storage media, supplemented by variations of discs and disks and a form of flash memory.

THE ECONOMICS OF DISTRIBUTION

In most media-related business operations, production is analogous to manufacturing, distribution to wholesaling, and exhibition to retailing. A distributor acts as a middleman or intermediary between the people who produce something and those who consume it. Exhibiting film, video, audio, Internet programming, and multimedia productions is similar to running a retail store from which individual consumers buy things. In media production, distribution and exhibition are aspects of postproduction, but producers must consider them during preproduction as well (Figure 1.6).

As digital technology advances, it becomes obvious that sending and receiving audio, video, motion pictures, and other digital signals via the Internet will take its place as a major means of distribution and exhibition. Streaming will become more practical as digital memory and compression techniques provide high-quality programming, and the capability of homes to receive that same quality programs at a reasonable rate increases. The ability of home viewers/listeners to receive a digital signal faster than a 59K modem allows is the key to the success of streaming. Fiber-optic lines to the home, increased use of the digital subscriber line (DSL) in the home, or wireless Internet systems will allow streaming to become universal. Streaming of video and audio information on the Internet or World Wide Web (WWW) usually takes the form of either Web broadcasting, also known as video or audio on demand, or live webcasting.

MEDIA PRODUCTION BUSINESS COMPARED
TO RETAIL BUSINESS

MOTION PICTURES TELEVISION GAMES	BUSINESS
PRODUCER	MANUFACTURER
DISTRIBUTOR/NETWORK	WHOLESALE
EXHIBITOR STATION STORES	RETAIL SALES

FIGURE 1.6 In media production businesses, the producer is the equivalent of the manufacturer in a retail business. The distributor is the equivalent of a wholesaler, and the owner of the theater, TV station, or store that sells DVDs where the films are screened or exhibited is the equivalent of a retailer.

Video/audio on demand streaming occurs whenever a computer operator/receiver decides to download prerecorded audio or video information, while live webcasting occurs at a specific time determined by the sender rather than the receiver.

Distribution and exhibition marketing strategies and technologies will also be affected by the phenomenon known as convergence. Convergence refers to the coming together of previously separate technologies, such as computers and television sets. For example, as more and more computer manufacturers, such as Apple, become involved in audio/video and multimedia technologies, and more and more audio/video product manufacturers, such as Sony, become involved in computer technologies, previously separate entities are coming together. Early examples of convergence include WEB-TV where Web searches can be conducted using a conventional TV set, and liquid crystal display (LCD) TV sets which can also function as computer screens. As convergence progresses, media producers will need to become increasingly cognizant of new and emerging means and methods of distributing and exhibiting audio, video, and multimedia productions.

The selection of a specific production format or technology and the preparation of a budget must mesh with the anticipated distribution and exhibition technology and outlets. The initial planning for a feature film or television series, for example, may have to consider a wide variety of distribution and exhibition channels and markets, from major theatrical distribution, to network broadcasting, cable, DVDs, the Internet, and nontheatrical or educational distribution to college campuses, including unwanted and illegal piracy of copyrighted material via miniature video cameras in movie theaters and subsequent Internet streaming. Even a corporate or institutional in-house production is designed with specific types of exhibition in mind. The final product may be sent out as DVD, Blu-ray, CD, or flash card copy, or it may be presented “live” via satellite or over the Internet on video monitors or large screens at various corporate locations.

In [Chapter 3](#), Producing and Production Management, we indicate that specific programs must be targeted for specific audiences. In this chapter, we will see how a television or film producer attempts to reach that target audience by selecting the best distribution and exhibition channel(s). Specific projects are tailored for specific forms of presentation in the media, such as cable television or theatrical film, as well as for specific target audiences. A consideration of the technology and economics of distribution and exhibition follows logically from the concern for the audience begun in our study of preproduction. Selecting the best channels requires an understanding of media technology and economics.

It is imperative that producers have a basic understanding of the potential markets for a film, television program, or multimedia production. Projects that are initiated without any consideration for, or knowledge of, the economics of distribution and exhibition will rarely if ever reach their target audience. There are many distribution and exhibition channels, including broadcasting, cable, satellite, theatrical and nontheatrical channels, home video, audio, multimedia, the Internet, and corporate and in-house channels. Each distribution/exhibition channel has different needs, requirements, and economic structures.

Broadcasting, Cable, and Satellite

Commercial broadcasting network television programming in the United States is produced for and by four primary networks—ABC, CBS, NBC, and Fox—and smaller

networks such as CW, a combined Warner Bros. television network; U/PN, or United Paramount network; and the Spanish-language network, Univision. The four primary networks themselves originate news, sports, and most daytime programming. Most prime-time evening entertainment programming is produced by a limited number of independent producers and production companies.

Network television programming executives rarely take chances on unproven talent. They depend to a great extent on prior success as a guarantee of future success. Executive producers, such as Aaron Spelling, Michael Crichton, and Steven Bochco, have had repeated commercial success and are in a much better negotiating position with the networks than neophyte producers. Although the networks sometime take a chance on unproven talent, there is usually some compensating factor, such as a pre-sold property that was popular in another media or a major star who is willing to play a lead role. To be seriously considered, a producer must put together an extremely attractive package that guarantees some measure of success in terms of attracting a sizable audience.

The economics of commercial broadcast, cable, and satellite television revolves around the selling of audiences to advertisers. Entertainment programming is an indirect product. It provides revenues to the network or the station only when it attracts a large audience with the right demographic characteristics. The broadcast network, local station, cable channel, local cable operator, or satellite channel sells commercial time to advertisers on the basis of the size of the audience it is able to attract. Some advertisers believe that the most desirable audience in terms of demographics is women from 18 to 34 years of age, since they do the bulk of the buying of commercial products at retail stores. But males from 18 to 35 years of age with disposable income became a target of the advertisers, as well as Hispanic and other minority demographic groups. The newest target demographic group consists of males and females over 50 years old, known as “boomers,” many retired with disposable income. This new targeted group may bring about a major shift in both programming and commercial production. Of course, all demographic groups are also sought for specific products and services, and programming is rarely aimed at just one demographic group.

A successful program is one that obtains a relatively high rating and audience share. The rating suggests the percentage of all 80 million-plus television households that are tuned to a specific program. Ratings translate into profit-and-loss figures, since advertisers are charged for commercial airtime on a cost-per-1,000 viewer basis. A *share* refers to the percentage of television households actually watching TV at a specific time, called households using television (HUT), that are tuned to a specific program. All the shares would add up to 100 percent (Figure 1.7).

Ratings and shares of television programs are determined by organizations such as A.C. Nielsen and Arbitron, which collect data about what viewers watch by means of diaries kept by viewers or meters attached to home sets. Generally a network program that garners around a 30 percent share is doing quite well. Good ratings can vary from above 10 percent in daytime to over 20 percent in prime time. Shows that consistently fail to achieve these ratings or shares are likely to be canceled in midseason or by the next season.

There are, of course, many factors that can affect a show's ratings. Scheduling is a crucial factor. Some time slots and days of the week are simply better than others in terms of ratings. Audience flow is another important factor. The popularity of the shows that

COMPARATIVE TV RATINGS FOR
SYNDICATED PROGRAMS BY GENRE

TALK		COURT	
Oprah	5.0	Judge Judy	4.3
Dr. Phil	3.2	Judge Joe Brown	2.4
Regis/Kelly	2.6	People's Court	2.3
Ellen DeGeneres	2.2	Judge Mathis	1.8
Rachel Raye	1.7	Judge Alex	1.6
Maury	1.5	Judge Karen	1.1
Tyra	1.1	Family Court	0.6
Springer	0.9		

MAGAZINE		GAME	
Entertainment Tonight	4.3	Wheel of Fortune	6.6
Inside Edition	2.9	Jeopardy	5.5
TMZ	2.1	Millionaire	2.6
Access Hollywood	2.0	Deal/No Deal	1.6
Insider	1.9	Family Feud	1.5

FIGURE 1.7 In any one week the number of people or homes watching any one syndicated program varies from less than 0.1% to 20%. Syndicated programs are produced by independent producers and purchased by individual stations for airing at various times during the day so there is little cumulative viewership of any single program, but ratings may be compared between programs, not time of day. (Courtesy of *TV Newsday*)

precede and follow a specific program directly affects its share and ratings, because audiences often stay tuned to the same channel for a long period of time.

From the independent producer's standpoint, the survival of a show for at least five seasons is crucial to financial success. The amount of money that independent producers are given by the network to produce pilots and series episodes rarely covers the complete cost of production. This strategy is known as *deficit financing*. The producer usually signs a contract at the proposal or initial pilot script stage, granting a network exclusive rights to the series for at least five years. The contract specifies the year-by-year increase in network payments for each of the years that a series survives. After five years a sufficient number of episodes have usually been produced for the series to go into syndication.

Syndicated programming, often called *stripping*, is marketed to local stations for morning, early-afternoon, or early-evening broadcast, five days of the week. Independent producers make money from syndication, but they rarely make any revenues from network showings of series. Networks no longer are forbidden by law to directly syndicate their old shows, which now allows the networks a share of syndication revenues. Producers take substantial risks in terms of program development, which only pays off if the program goes into syndication. The probability of a show lasting long

enough to go into syndication is actually quite low, but the success of a single show can pay for many disasters. Now that networks may purchase their own programs, independent producers must compete with their potential client's own programming.

Syndicated programming generally bypasses the major commercial networks. Syndicated programs are broadcast by network-affiliated local television stations during times of the day when there is no network programming, such as late afternoon and early evening. Independent local television stations show syndicated programming during any time slot, including prime time: 8 p.m. to 11 p.m. eastern standard time. Affiliates may also broadcast syndicated programming during prime time. In the past, networks paid their affiliated stations a fee for broadcasting network programming, although affiliates in sparsely populated areas may actually receive no fee other than the free use of the programs as a means to attract or draw viewers for the local commercials that are run during local station breaks between shows. Today networks expect affiliates to pay for programming provided by the networks. An affiliate can, of course, reject the network programming and substitute syndicated or its own local programming. Some major network affiliates have switched networks or combined affiliation with one growing network such as CW, and one major network such as NBC. Of course, an affiliated local station that continually rejects its network's programming or also affiliates with a growing network risks losing its primary network affiliate status. However, because of limited television channel space, local affiliates are usually in a strong bargaining position with the networks.

Affiliates and independents have sometimes banded together to partially finance their own entertainment programming. Although entertainment programming usually comes to a local station through a network or through an independent syndicator, local news, sports, and public service and information programming is usually produced by the station itself. Local news is one of the most competitive and profitable areas of local TV programming. It is important in terms of both the audience it draws to the local news program itself and the audience drawn to the syndicated programming that surrounds the news. During these non-network time slots, local stations sell commercial time to advertisers, who pay relatively high cost-per-thousand prices for commercial time, especially in the top 50 local television markets.

Obviously, the economic conditions of commercial broadcast television make it difficult for a small, unproven independent film or television producer to sell a single entertainment or informational program to commercial television stations. Television stations are interested in buying or showing a continuous supply of programming, such as a series or even a miniseries, rather than isolated or individual programs. Local stations will often show independently produced documentaries of local or regional interest during slow or weak time slots, such as Sunday morning or Saturday afternoon, but they will rarely pay much, if anything, for this type of programming. An independent producer would do better to find a corporate or individual sponsor for a single program and then guarantee that sponsor a credit line and a certain amount of exposure during slow or off-hours of commercial broadcasting than to try marketing a speculative program to television stations after it has been produced.

Similar kinds of marketing problems plague an independent producer who hopes to market a single program to cable television. Cable operators are often more interested in filling time slots on a regular basis than in buying isolated programs. Nonetheless, there is greater marketing potential for small, independently produced programming through cable television than through commercial broadcasting. The larger number of

cable television channels ensures wider access and a greater ability to *narrowcast*, or to target a small, relatively specialized audience. The economic structure of cable television is quite different from that of commercial broadcasting. The cable operator sells specific channels or packages of channels to individual consumers or subscribers, and the program producer or supplier often receives a percentage of the subscription fee or commercial advertising revenues. Some channels are allocated to locally produced programs and provide community access. They are usually available free of charge to anyone who wants to show something of community interest.

Producers can advertise their own programs by publicizing a specific program topic and show time and date in print media. Unlike commercial broadcasters, a cable operator will often accept smaller-format, lower-quality video recordings, such as material on mini-DV digital videotape or other formats not of broadcast quality. Network broadcasters usually demand digital formats or 16mm or 35mm films of high quality that meet or exceed National Association of Broadcasters (NAB) standards. Some cable television programs—such as those produced by Turner Broadcasting (superstation WTBS Atlanta and Cable News Network, CNN, a cable program service), as well as the sports channel ESPN—depend to a significant extent on commercial advertising for their revenues and must meet broadcast standards. Other program channels, such as various movie channels, distribute and sometimes produce expensive entertainment programs and are almost totally dependent on percentages of subscription charges for their revenue.

It is possible to initiate the production and marketing of some cable programs for far less money than is required for commercial broadcasting. Many cable producers are nonunion and thus can save substantial production costs by paying lower salaries to their personnel. Cable distributors and suppliers have to sell their programming to local cable operators, invest in satellite transmission services, and assume the cost of program advertising. In return, they demand a portion of subscription receipts. It is possible to produce isolated programs on an independent basis for specific cable channels, such as WTBS, or to produce cable programming speculatively for Arts and Entertainment (A&E) or other cable distributors with a greater hope of finding a potential buyer than is the case with commercial broadcasting.

Public television is a noncommercial broadcasting distribution and exhibition channel. In the United States, it is partially supported by the Corporation for Public Broadcasting (CPB), which was set up by an act of Congress in 1967 that also authorized funds for its operation. The CPB created the current network of public broadcasting stations. There are basically four types of public broadcasting stations: those owned and operated by colleges and universities, such as stations at the universities of Houston, Wisconsin, and North Carolina; those owned and operated by school systems, such as that in Cincinnati (only 7 percent); those owned and operated by municipal (state) authorities, such as those in Georgia, New Jersey, and Iowa; and those developed and operated by nonprofit corporations, such as stations in Boston, New York, and Chicago.

Public broadcasting is often threatened by inadequate financial support. Federal budget allocations to the CPB are in constant jeopardy. The pursuit of large audiences through popular programming often attracts major corporate sponsors; however, such sponsorship is sometimes criticized on the basis that it gives these corporations power over noncommercial as well as commercial broadcasting. Some critics charge that on-the-air credits are tantamount to advertising and should not be permitted

in noncommercial broadcasting. Public television stations frequently raise money through funding drives. The money they collect is used to fund local productions, to purchase national Public Broadcasting Service (PBS) programming (which they have a hand in selecting), and to defray operating costs. PBS is responsive to member stations that are involved in determining which programs will be nationally distributed. This relationship is quite different from that between commercial networks and affiliates, although the extent to which public stations should be controlled by the national network as opposed to local management is an often hotly debated issue.

Public television programming comes from a variety of sources. Some of the programming is at least partially funded by the Corporation for Public Broadcasting and corporate sponsors at the national level and is then distributed through PBS to its member stations. PBS member stations produce much of the programming that is distributed through PBS to other stations. The largest producers of this type of national PBS programming are PBS member stations in Boston, Pittsburgh, Columbia, South Carolina, New York, Washington, Chicago, and Los Angeles. However, member stations usually produce a series of programs on a specific topic rather than single, isolated programs.

Some programming comes from foreign producers, most notably the British Broadcasting Corporation (BBC). Individual stations themselves often produce a certain amount of local or regional public-interest programming, much of which never receives national distribution. At the local or state level, it is sometimes possible for an independent producer to air an individual program on a PBS station or state system. Such programs are often independently funded by other sources, although partial funding can come from a PBS station in return for broadcast rights, usually specifying a specific number of airings over a two- or three-year period. The quality standards of PBS are similar to those of commercial broadcast television.

The subject matter and format of PBS programming can be quite different from that of commercial broadcast programming, although PBS stations have become increasingly concerned about attracting large audiences which help to generate public financial support. The length of a half-hour PBS program is currently about 26 minutes, compared to about 22 minutes for most programs intended for commercial television stations and cable channels.

Commercial spots are short (often 15- or 30-second) television messages that attempt to sell commercial products and services to consumers. The production of network television commercials and national spot sales is largely controlled by major advertising agencies, such as J. Walter Thompson, Leo Burnett, N. W. Ayer, and McCann-Erickson, who contract with production specialists on a bidding basis. The advertising agency usually develops the basic story line for a commercial in consultation with the client whose product, name, or services are being promoted. The advertising agency also develops a storyboard of hand-drawn images to visualize the spot. The director's job is to capture this idea on 35 mm film, HDTV, or other digital formats. Some creative innovation and play with the basic script idea is allowed with a talented director, but the work of production companies is primarily that of technical and aesthetic execution, rather than of developing creative, original ideas.

The production budget for a network commercial is often extremely high, given the relatively short duration of the final product. It is not unusual for a company to spend from half a million to 1 million dollars for a single 30-second network-level spot.

The production company must be technically perfect in its execution of the commercial. Sometimes as much as 90,000 feet of 35 mm film is shot to produce just 45 feet of the final product for a beverage commercial, for example. Major advertisers often contract with a separate individual or company for different aspects of production and postproduction on a commercial, rather than allowing any single production company to have complete control. Many of the most talented creative producers of network-level commercials work on a freelance basis or have their own production companies.

A local television station or a small production company often produces local commercials. Television stations often sell local commercial time to businesses in their area and then offer to produce the commercial themselves. Small independent production companies sometimes produce the entire commercial for a client, from script to screen. The budgets for locally produced television commercials are low compared with network-level commercials. Some are produced on mini-DV or 16 mm film for a few thousand dollars. Only rarely is 35 mm film used for the production of local commercials. In the largest local television markets, the production of commercials is handled by major advertising agencies. National spot sales place network-quality spots that are not part of the network schedule on smaller market TV stations. The costs of commercial production represent but a small fraction of the total advertising budget for the promotion of a product, name, or service. Television time costs are usually much higher than production costs, and many other media besides television, such as magazines, newspapers, and radio, may be involved in a particular advertising campaign.

Public service announcements, or PSAs, are the least expensive type of commercial. They are usually shown free of charge in the public interest to help promote public service agencies and nonprofit organizations. While PSAs must meet broadcast standards in terms of technical quality, they are often produced in the most economical format possible, such as 16 mm film, mini-DV or other low-cost digital format. PSAs offer an excellent opportunity for neophyte producers to become involved in a serious production, allowing them an opportunity to perfect their technical competence and to experiment with new techniques.

Theatrical and Nontheatrical

Power in the feature film industry is concentrated primarily in distribution. Major distributors, such as Disney, Paramount, Warner Bros., MGM, United Artists, Columbia, Universal, and Twentieth Century-Fox, receive the bulk of the distribution receipts from feature films. They negotiate with exhibition chains, such as National General, and independent theaters for a split of exhibition receipts. One of the most common splits for a major film is a 90/10 split, which gives 90 percent of the admission receipts to the distributor and 10 percent to the exhibitor, above and beyond the latter's fixed operating costs for a specified period of time, such as several weeks. The distributor's percentage decreases gradually over time as the exhibitor's percentage increases. Exhibitors compete with each other for specific films by bidding a specific split and exhibition duration. About 50 percent of the major U.S. distributors' total theatrical receipts come from foreign distribution. Distributors also negotiate with television networks, cable television movie channels, and consumer videotape retailers (Figure 1.8). Income from the sale of DVDs and ancillary items now exceeds that of ticket sales in theaters for most feature films and has done so since the mid-1990s.

**RANKING U.S. MOTION PICTURES
BY DOMESTIC BOX OFFICE INCOME**

RANK	TITLE	RELEASE	RECEIPTS
1	<i>Titantic</i>	1997	\$600,779,824
2	<i>Dark Knight</i>	2008	522,341,786
3	<i>Star Wars</i>	1997	460,935,665
4	<i>Shrek 2</i>	2004	436,471,036
5	<i>ET. The Extraterrestrial</i>	1982	434,949,459
6	<i>Star Wars I: The Phantom Menace</i>	1999	431,065,444
7	<i>Pirates of the Caribbean: Dead Man's Chest</i>	2006	423,032,628
8	<i>Spiderman</i>	2002	403,706,375
9	<i>Star Wars III: Revenge of the Sith</i>	2005	380,262,555
10	<i>The Lord of The Rings: The Return of the King</i>	2003	377,019,252
11	<i>Spider-Man 2</i>	2004	373,377,893
12	<i>The Passion of Christ</i>	2004	370,270,943
13	<i>Jurassic Park</i>	1993	356,784,000
14	<i>Lord of the Rings: The Two Towers</i>	2002	340,478,898
15	<i>Finding Nemo</i>	2003	339,714,978
16	<i>Spider-Man 3</i>	2007	336,530,303
17	<i>Forrest Gump</i>	1994	329,694,499
18	<i>The Lion King</i>	1994	328,423,001
19	<i>Shrek the Third</i>	2007	320,706,665
20	<i>Transformers</i>	2007	318,759,914

ACTUAL DOMESTIC BOX OFFICE DOLLARS

(not adjusted to 2008 dollars)

FIGURE 1.8 The calculation of actual dollars earned by motion pictures is a complex and often mistrusted process. One of the most telling figures is actual box office receipts, but that may not be a fair judgment of a film's popularity because some films are shown in many theaters, others in relatively few. Also the calculation should be adjusted to today's dollars, which would make many films of many years ago appear to have earned much more than their actual income at the time when they were exhibited. (Courtesy of *Imdb.com*.)

An average Hollywood-produced feature film today costs more than \$80 million to produce. The distributor spends about 30 percent more than these production costs for advertising, release prints, and other distribution costs. It is virtually impossible to acquire financial backing for even an average budgeted feature film without a major distributor's endorsement. That endorsement usually requires the involvement of previously proven talent, such as well-known stars and directors, in a dramatic production. The distributor then either puts up the money for a production or provides some sort of guarantee to banks, which then finance the cost of production with a loan. Only rarely do major distributors later pick up independently produced feature films that do not have an initial major distributor endorsement. But major motion pictures are being produced in right-to-work states, especially in the South, to lower production costs by avoiding unions and obtaining considerable state and local cooperation.

Low-budget feature films are largely distributed by independent distributors, who do not have as much bargaining power with the largest theater chains and independent theaters as do the majors. Of course, a producer can always distribute his or her own film either by negotiating directly with theaters for a split, which is rarely done, or by renting a theater, doing some local advertising, and then receiving any and all gate receipts, a technique known as *four-wall*ing.

Producers negotiate with distributors for a percentage of the distribution receipts. A producer can demand a certain percentage of either the gross receipts or the net receipts (after the distributor has subtracted certain fixed costs) or sell the film outright to the distributor. Obviously a producer who is able to negotiate a percentage of the gross receipts is in a strong bargaining position. The producer must consider a number of factors before deciding on a specific plan, such as the true earning potential of the film, the length of time before real receipts will be received, during which interest on loans must be paid, the reliability of distributor accounting, and the hidden costs of production and distribution (Figure 1.9).

An increasingly important area of negotiations is *ancillary rights* and *commercial tie-ins*, such as toys and T-shirts. Receipts from markets in addition to commercial theaters, such as network and cable television, must be considered. Musical records, books, posters, dolls, toys, clothing, and games that are offshoots of a

**RANKING WORLDWIDE MOTION PICTURES
BY BOX OFFICE INCOME IN U.S. DOLLARS**

RANK	TITLE	RELEASE	RECEIPTS
1	<i>Titanic</i>	1997	\$1,835,300,000
2	<i>Lord of the Rings: Return of the King</i>	2003	1,129,252,000
3	<i>Pirates of the Caribbean: Dead Man's Chest</i>	2006	1,060,332,628
4	<i>Dark Knight</i>	2008	971,446,786
5	<i>Harry Potter and the Sorcerer's Stone</i>	2001	969,600,000
6	<i>Pirates of the Caribbean: At World's End</i>	2007	958,404,152
7	<i>Harry Potter: The Order of the Phoenix</i>	2007	937,000,866
8	<i>Star Wars I: The Phantom Menace</i>	1999	922,379,000
9	<i>Lord of the Rings: The Two Towers</i>	2002	921,600,000
10	<i>Jurassic Park</i>	1993	919,700,000
11	<i>Harry Potter: The Goblet of Fire</i>	2005	892,194,397
12	<i>Spider-Man 3</i>	2007	885,430,303
13	<i>Shrek 2</i>	2004	880,871,036
14	<i>Harry Potter: Chamber of Secrets</i>	2000	866,300,000
15	<i>Finding Nemo</i>	2003	865,007,000
16	<i>Lord of the Rings: Fellowship of the Ring</i>	2001	860,700,000
17	<i>Star Wars III: Revenge of the Sith</i>	2005	848,462,555
18	<i>Independence Day</i>	1996	811,200,000
19	<i>Spiderman</i>	2002	806,700,000
20	<i>Star Wars</i>	1997	797,900,000
21	<i>Shrek the Third</i>	2007	791,900,000
22	<i>Harry Potter: The Prisoner of Azkabar</i>	2004	789,458,727
23	<i>Spider-Man 2</i>	2004	783,577,893
24	<i>The Lion King</i>	1994	783,400,000
25	<i>Indiana Jones and the Kingdom of the Crystal Skull</i>	2008	760,969,461

WORLDWIDE BOX OFFICE DOLLARS
(not adjusted to 2008 dollars)

FIGURE 1.9 Much of the income from feature films comes from both the sales of tapes and discs and from international distribution. The total income worldwide may be triple the receipts earned within the United States. The calculation of actual value is made even more difficult with the constantly shifting value of the American dollar against international currency. (Courtesy of *Imdb.com*.)

successful film can make huge profits. Sometimes an especially popular movie star will demand either a large initial payment of several million dollars or a percentage of the gross distribution receipts. The involvement of major stars directly affects not only the production budget but also the producer's negotiations with the distributor and the banks.

The producer and financial backers of a feature film understand that film production is an extremely risky business. Few feature films earn a substantial profit, and most of those that do either are produced on an extremely tight budget for somewhat smaller domestic and foreign markets or are extremely high-budget films heavily promoted by major distributors. In both of these cases, the successful commercial producer understands the target audience and designs a film and budget that are realistic in terms of audience expectations, preferences, and size.

The term *nontheatrical* refers to films and videos that are shown in places other than commercial film theaters. Nontheatrical films, DVDs, and videos are shown by colleges and universities, other educational institutions, civic groups, and other organizations. They are not always exhibited for profit but often as a cultural or informational service. Although nontheatrical exhibition is usually a nonprofit undertaking, nontheatrical distribution is largely a commercial business. Feature films, for example, are rented to various groups, institutions, and individuals in 16mm film and various video formats for public showing. Renting these works for public showing is often far more expensive than purchasing a home videotape or disc copy, but videotapes and discs, which can be rented or purchased in retail stores, are strictly intended for individual, home use. Higher royalties are demanded for public showings of these films and videos when they are rented from commercial, nontheatrical distributors.

Nontheatrical distribution is not limited to feature films. Individual film and video artists, documentary producers, and producers of other short informational and educational materials often have their work distributed by a nontheatrical distributor. Nontheatrical distributors who make a profit pass on a certain percentage of their gross receipts to producers. Some independent producers and artists cooperatively organize their own distribution systems. The New York Filmmaker's Cooperative, for example, passes on a greater share of distribution receipts to individual artists and keeps only a small percentage of the receipts from rentals or sales for its own operating costs.

Many commercial nontheatrical distributors, such as Pyramid Films, distribute successful short films. Many of the short subjects they distribute have previously won major awards, such as Academy Awards or major festival awards. One of the best means for beginning producers and directors to find good distributors for short works is to win awards at major festivals and contests. A nontheatrical distributor will often offer winners of major awards the opportunity to use the distributor's promotional and advertising services for a major percentage of the distribution receipts or offer an outright payment for exclusive distribution rights. These short films are then distributed individually to nonprofit institutions; as packages of shorts to cable television services, such as HBO (Home Box Office); and to colleges and universities. Nontheatrical distributors actively seek projects that have specialized audiences or limited markets, since they do not always have to distribute these works through mass media channels such as commercial broadcasting or commercial film theaters.

Home Video, Audio, and Multimedia

An expanding market for film and video productions includes home videotapes and DVDs, Blu-ray discs (BDs), audio CDs, and various forms of multimedia, including CD-ROMs. There are other digital discs besides Blu-ray including HD-DVD and V-DVD, but in this text, Blu-ray will refer to all consumer blue laser discs. These products are rented and sold to individual consumers. Feature films, popular music with accompanying video images, and informational and educational materials can be marketed in this manner. The individual consumer buys a DVD or Blu-ray disc and plays it on his or her own deck or computer and monitor. Most entertainment films and videos currently being sold as commercial products were initially produced for distribution to commercial theaters, network television, or cable television. As more consumers possess their own players, more programming will be designed for initial sale to consumers, just like records, books, and computer games in retail stores. The rental/sale of home DVDs has been a rapidly expanding market for entertainment programming for some time. In fact, 1985 was the first year that videotape plus DVD sales of Hollywood products equaled domestic feature film distribution receipts from theaters. DVD sales and rentals have replaced tape sales and rentals as of the end of 2007.

Emerging new audio recording and duplication technologies have had an impact on audio production and distribution. Recordable CD-ROM technology, CD-R, can be used for temporary or permanent information storage and retrieval, including “burning” or making copies of audio CDs. Storage of audio recordings on computer hard drives has been facilitated by the MP3 digital compression format, which provides nearly CD-quality sound reproduction with significantly reduced storage size. MP3 files may then be downloaded to portable audio players like the iPod. This format has also led to legal complications for some Internet companies, such as Napster, which facilitated the sharing of audio recordings on individual computers across the World Wide Web, angering some musical artists and recording companies by potentially reducing the size of their markets and royalties on copyrighted materials. Illegal operations such as Napster have been shut down and now have been replaced by share programs that charge a minimum for each shared musical recording. Apple, Microsoft, and AOL as well as other Internet companies have joined this expanding field.

The rental and sale of DVD and Blu-ray discs is an area that can be easily exploited by smaller producers because many DVD/Blu-ray rentals and sales outlets are operated as small businesses (although many regional and local markets are dominated by major chains, such as Blockbuster) and distribution is not as tightly controlled as is the theatrical outlet for feature films. Advertising expenses can be substantial, however, and these must be born by the producer who wants to sell DVD/Blu-ray to rental outlets and individual consumers. Most Hollywood films have already had a great deal of publicity and have generated much public interest before their availability as DVD and Blu-ray discs.

Programming designed specifically for the home DVD/Blu-ray market differs in many important respects from programming designed primarily for theatrical distribution. The production of programming for small-screen exhibition raises a number of aesthetic problems. Composition within the frame in a small-screen format must keep key information in the essential area of a TV receiver. Important details cannot be presented on the fringes of the screen, as in a wide-screen feature film production designed primarily for theatrical release. Close-ups are used much more frequently for small-screen productions, and wide vistas and panoramic shots are kept

to a minimum. The pacing of entertainment programming intended for television and disc distribution is often faster and more action-packed to hold the audience's attention. Framing and aspect ratio problems become more acute when portable video players and cell telephones with square or odd format shapes defy traditional composition planning.

At present, using DVDs for mastering is still fairly expensive initially, although the cost of mass duplication is relatively low. Initial recordings and editing are not done on DVD but directly on the CPU of a computer before transferring to a DVD duplication facility. Film recordings are produced, edited, and then duplicated on DVD, creating a master pressing or copy from which individual DVD copies are made. Because the cost of this master runs high, it is only economical to use this technology when a large number of copies are needed. But the ease, low cost, and simplicity of burning a DVD-R on a typical home computer has made creating DVDs as attractive as burning individual CDs (Figure 1-10). The high information capacity, relative permanence, and durability of DVDs make them an ideal information storage and retrieval medium. The low cost of producing numerous copies once the master disc is made makes the disc an excellent means of distributing promotional materials to salespeople or consumers in retail stores throughout the country. When a large number of DVDs are made from the same master, the actual duplicating cost can be as low as \$1 to \$2 per disc.

In terms of direct sales to consumers, the main advantage offered by the sale of a product (rather than the sale of a seat in a theater or time on commercial television) and the relatively low cost of making multiple video copies is that DVD or Blu-ray discs can be made for and marketed to specialized demographic groups. Distribution channels are not constrained by limited channels of access, as they are in the case of network television and commercial film theaters, where a product must be marketed to a mass, heterogeneous audience. Individual copies can be manufactured and sold to smaller groups of consumers, just as popular rock, country, soul, and classical music can be marketed by the recording industry to smaller groups of people. Individual discs can sell for anywhere from about \$5 to \$50, depending on the size of the market and the cost of production. As the consumer market



FIGURE 1-10 The ability to create quality media productions in a home setting has developed an entirely new distribution network. Now, an individual may record, process, and distribute his or her own work from a relatively inexpensive set of media equipment without relying on any outside organizations.

expands, independent producers will undoubtedly proliferate, and disc production may become as decentralized as production in the audio recording industry or music business has become.

Consumer marketing of multimedia products is made somewhat complex by virtue of the diversity of standards in terms of hardware, such as Mac versus PC platforms (a problem that plagued the consumer videocassette rental business early on, when both Beta and VHS were fairly common), and the diversity of distribution channels, such as computer retail store sales versus catalog sales (more Mac-based software and DVDs are marketed via the latter than the former channel, for example). Many CDs and DVDs, of course, can be used on both platforms. Publishers finance and market multimedia products, while distributors manage the flow of the product of the publisher to the customer.

Publishers coordinate printing, duplication, and packaging, as well as marketing. Marketing usually involves promotion and advertising, as well as sales. Focus groups may provide responses concerning what potential consumers want and what prices they are willing to pay. Products may then be test-marketed in specific locations before they are mass-marketed across the country. Different pathways to the consumer constitute the distribution channels, such as retail chain stores and catalog sales. Although the distribution of multimedia products is not as concentrated in the hands of a few major companies as is the case with feature films and network television broadcasting, nonetheless major multimedia publishers are emerging who have distinct advantages in terms of access to capital and distribution channels as well as other means necessary to successfully mass-market DVD and Blu-ray discs and other multimedia technologies to consumers.

Hollywood's involvement in multimedia, for example, has been stimulated by the fact that the videogame business currently generates about the same revenues as the box-office portion of the film industry at more than \$5 billion per year, and the videogame business is expected to more than double in the next few years. A number of DVD/Blu-ray discs and interactive videogames have been produced that carry the same titles as Hollywood motion pictures, giving viewers an opportunity to further their involvement with their favorite plots and characters using multimedia. Interactive multimedia divisions of major studios attempt to establish connections between computer games and movies, although important differences still exist between these media. For example, successful interactive multimedia products usually focus on the user, rather than a Hollywood actor, as the star.

The probability of succeeding in either medium with a particular product remains relatively low, since only about 6 DVD titles out of every 200 are financially successful. Success and name recognition in one medium can carry over to another. Mass market DVD production costs average about \$500,000 compared with about \$80 million for a Hollywood feature film, and Hollywood distributors spend as much as 30 percent of their total budgets on advertising and distribution, which can translate into significant name recognition for a multimedia product. However, some hit videogames have appeared that are based on Hollywood films. Some multimedia firms have joined forces with television and music companies to produce arty, experimental stories that draw name recognition from rock groups and successful television programs. A number of other multimedia publishers have focused on developing DVD and Blu-ray discs or videogames as an independent art form, relying on imaginative graphics, animation, and sounds to stimulate the user's involvement and interaction with unique multimedia worlds and characters.

Corporate and In-House

The overwhelming majority of production in the United States is done by corporations and institutions in-house. This is one of the largest and fastest growing areas of possible employment in production. According to Department of Labor statistics, roughly 193,000 people in this country make their living in broadcast television, while 235,000 people make their living in nonbroadcast television, most of which consists of corporate and institutional production done in-house. At the turn of the century, for example, the largest growth in sales of video equipment came from the industrial/business/institutional market, not the broadcast market.

In-house production by corporations, government agencies, and educational institutions constitutes a special type of distribution and exhibition channel. Much corporate video production is designed to train and motivate employees, to communicate with employees scattered all over the country or around the world, or to communicate with customers and clients. Different kinds of information can be represented in a more entertaining fashion than might be the case with a brochure or other publication. Sales representatives can be trained in the latest techniques and strategies for selling products. Corporate productions often demonstrate these techniques through dramatizations. Some corporations use digital facilities to record executive speeches and sales meetings, so that corporate information can be widely disseminated.

Specific products are often advertised and demonstrated in automobile showrooms or department stores using DVDs produced in-house. Hospitals and educational institutions often produce programs that are helpful to patients and students. Health care information is often disseminated via closed-circuit television or by a mobile DVD unit that can be moved from room to room. Special diets, medications, and surgical procedures that a patient is about to undergo can be clarified and explained better and more efficiently on videotape than in person.

One of the fastest growing areas of in-house production is the production of instructional DVDs and computer interactive programs and videodiscs for corporate or institutional training. Discs can help students learn an incredible range of tasks at their own individual rate, using a student-controlled player; an interactive video unit, which consists of a computer and a videodisc player controlled by the computer; or an interactive computer with a CD-ROM. The viewer's response can be recorded on a touch pad that controls the operation of the computer and the rate at which new information or questions are presented.

An in-house production unit has varying degrees and types of accountability. The production unit may be directly accountable to management in a corporation in terms of its production budgets and production management. Government agencies and educational units are usually accountable to government or academic administrators. Since the programming that is produced is usually aimed at an internal audience or a specialized audience outside the institution, the means of assessing program success is sometimes quite informal, although major corporations often do sophisticated research into program effectiveness. Policy is sometimes controlled by a few individuals. There is usually a specific message to tell, and communication usually takes place in a one-way direction down the hierarchy, although programming ideas sometimes originate from employee, patient, or student suggestions.

Most in-house production units produce DVDs that can be played at a time and place that is convenient for the recipient of the information. The in-house producer often has

all of the facilities needed to produce a completed product and to internally distribute and exhibit it. Medical schools, telephone companies, and public utilities, as well as government agencies, may have completely outfitted video production units with state-of-the-art equipment, such as digital formats, recording and editing equipment, as well as high-quality video cameras, lighting, and sound equipment. Small companies and agencies may only have a single mini-DV camcorder, a digital tape deck with a monitor, and no sophisticated production or editing facilities.

Individual project production costs are often kept low by having producers, directors, and technical support people on staff who can serve a variety of functions. Personnel who work in corporate or institutional production often have to be more flexible and have a broader range of skills than those who work in a particular broadcast television position. The staff for an in-house production unit is generally small. New personnel may be expected to work with slides, audiotape, and film on occasion, as well as digital formats. Production costs are usually kept to a minimum as well by using the most economical medium to communicate a specific message. If motion is not essential, a slide and tape show may be a more economical and effective means of presenting the material. Technical information and statistics might be communicated more effectively and inexpensively by writing and illustrating a brochure or a pamphlet. Regardless of the specific medium that is eventually selected, basic writing and production skills are essential qualifications for anyone pursuing a career in the rapidly expanding area of corporate and institutional in-house production.

INTERNET DISTRIBUTION

Of all new media, the Internet as it emerged has had a greater effect on all previous media than any of the other media on their predecessors; radio on music and motion pictures, television on radio and motion pictures, and cable on television. The Internet has moved into communication and distribution areas that it was never designed for nor intended to be used. As a simple widespread research communication tool, the Internet has entered or begun to compete in virtually every type of information distribution system.

Radio DJs use web sites for contests, chatting, and blogging with listeners while on the air. The radio stations stream their live broadcast programming and add features and repeated programs for which they do not have available airtime. Web radio services allow listeners to personalize their listening preferences by connecting them to genre-preferred sites of their own choosing. Internet-based radio stations operate out of basements, garages, and bedrooms, without Federal Communications Commission (FCC) licenses. But faced with new music-licensing fees high enough to keep the small operations from earning their operating costs, much less earn a profit, Internet radio stations will need to reconsider their business models to continue to exist.

Internet radio offers the listener an alternate source for their listening pleasure, whether it is for music, opinion, news, or genre and specific opinions not available from commercial or public radio.

Internet Protocol Television (IPTV), the logical coalition between TV and the Internet, originally faced consumer resistance as the advantages of viewing television programs on a computer were outweighed by the inconvenience of watching television

on the small computer screen under minimal broadband reproduction of signals using limited, inconsistent scanning systems. IPTV is a system used to send packets of segments of a video signal through the Internet. The normal video signal through the Internet appears as a small picture in-frame, probably not at 60 frames per second, so the picture jumps and lags as the digital signal arrives slowly. IPTV solves the problem by breaking the signal into digital packets and sending them at various times (in nanoseconds) through various Internet connections so that the signal arrives and is assembled in a complete form at the receiver. The system requires special sending and receiving equipment, usually a set-up box on the television monitor for home use. The advantages of IPTV are more for the telephone companies or cable companies pressing for the technology. Once in place, whichever company has made the connection to a home then has the means of providing all three communication services to that home on one wire, at one price: telephone, television, and a high-speed computer connection. Home media centers that include computer CPUs connected to a large, high-definition screen served by a high-speed broadband network and server will open consumers to adapt their television viewing to IPTV. The low bandwidth and slow delivery systems continue to be solved and improved with upgraded compression systems and fiber-optic connections to the home (FTTH). Cable and telephone companies race to meet the demand first.

Internet news has contributed to the decline in newspaper readers, broadcast news-cast viewers, and even cable news channel viewers. Internet news consists of five basic types of newscasts; newspaper web sites; broadcast news web sites; cable news channel web sites; and newscasts from a variety of specialized news Web organizations, blogs, and commercial news aggregators; and news services like AP, Reuters, and Al Jazeera. Online news readership exceeded the readership of all print media by the end of 2007. TV news web sites attract fewer viewers than print web sites, but the numbers continue to grow to make up for the late start in entering the Web news business. Aggregators on the Internet with a particular bias show the strongest increase in traffic as fans find their preferred voice. Although bloggers receive major publicity and attention, they attract fewer visits than a typical mid-sized city newspaper site.

A political-economic question yet to be resolved surrounding the Internet is the concept known as “Net Neutrality.” At the present time, broadband Internet service providers (ISP) follow a tradition (but not codified as of 2008) that prohibits favoring or impeding the use of their communication lines. The content companies, telecommunication companies, and most individual users would like to see the prohibition policy made final with legislation on a national basis. The ISPs would like to avoid any legislation that impedes their greater freedom to decide who they serve and what they charge for their services. The question puts two large, rich, and powerful groups of communication corporations against each other with the small individual users watching from the sidelines.

Distribution of network television programs available on the Internet is a rapidly growing market, which also contributed to labor actions, specifically among screenwriters in late 2007 and 2008. Many young viewers watch broadcast television with less frequency than they access the World Wide Web. They often view episodes or sections of episodes of television series via the Internet. Networks originally made these programs freely available ostensibly to attract young viewers and develop new markets. Writers and other craft groups, on the other hand, have demanded participation in the revenue streams generated by these new markets they feel erode traditional

sources of income such as residuals from syndication and other markets. Advertising and other revenue streams are growing slowly on the Internet, which offers potential for producers in terms of new media markets as well as employment opportunities for media students.

Internet distribution, like all new media before it, will change all preceding media—especially news gathering and reporting. Whether the unrestricted, unedited, or unauthorized nature of the Internet will bring about a more accurate and reliable source of information or destroy the centuries-old tradition of professional, responsible journalism may or may not become apparent until sometime in the future.

THE FUTURE OF DISTRIBUTION AND EXHIBITION

The digital evolution transformed a linear pattern of distribution of media programs from production-distribution-exhibition to a multiarmed pattern that has yet to completely stabilize. The high cost of advertising is beginning to bring about the simultaneous multiple release of motion pictures and other media products in different formats. The traditional sequential revenue stream and markets were theatrical film, broadcast and cable television, foreign markets, DVD and Blu-ray discs, and the Internet. Producers from now on must consider more than a single linear path for their work; from their first concept they must consider multiple paths to move the project from the camera, microphone, or computer to the targeted audience. It will not matter if the original production medium format is audio, video, film, graphics, the Internet, or any new digital format, the delivery will be via disc, satellite or terrestrial signals, film, solid-state memory, or the Web. The actual signal may be distributed by cable, fiber optics, radio frequencies, or magnetic pulses.

The audience may view or hear the program in a video monitor, a film or digital image projected on a screen, a computer desktop or laptop monitor, a cell telephone, an automobile dashboard, a handheld PDA, a miniature computer, or any number of mobile devices. All aspects of distribution and exhibition of the digital evolution have yet to be fully explored. The race between improved and expanded production technology and systems to maximize the potential of exhibited digital technology is an ongoing process. Video systems moved from 2 K to 4 K to 4-4-4 and full digital signals to match ultrahigh definition TV (UHD-TV). Film projection systems and film emulsions continue to surpass the resolution and contrast range of even those video systems and will continue to improve.

Increased bandwidth, memory, and transmission systems open new levels of quality, storage, and speed of handling signals for delivery on new high-speed networks. The technical figures published in this text will be surpassed by the time you read this chapter. The rapid changes in media technology, production techniques, distribution networks, and exhibition methods will not slow down—for better or for worse, the hectic uncontrolled changes will provide whatever is necessary for the field to continue to mature and evolve.

Summary

The digital changes in media production have opened new avenues for the use of production in the home, business, and in entertainment areas not used before. The media producers or workers must have a clear understanding of where their intended

production will be distributed before they actually begin production to take advantage of the many options open to them. That understanding must include knowledge of the intended audience and the methods of analyzing who the audience is and why that audience may watch a particular production.

The wide variety of means of distributing media productions include all of the traditional means but add many new means of showing works including the Internet, games, and mobile outlets that did not exist 10 years ago. Broadcasting refers to the transmission of television and radio signals through the airwaves. Cable television distributes video transmissions, often received via satellite dish, to individual homes by way of coaxial cables. HDTV offers the prospect of providing high-quality television images, which can be used by large-screen electronic projection systems in commercial theaters and in private homes. Theatrical film/electronic exhibition requires some form of large-screen projection. Nontheatrical screenings usually involve smaller groups of viewers and significantly less, if any, admission fees than theatrical screenings, reducing the need and demand for high-quality, large-screen projection. A number of media products are designed or marketed for the home, such as DVD/Blu-ray discs, CD-ROMs, photo CDs, and audio CDs. Corporate and in-house media technologies are diverse. A closed-circuit television system interconnects various recording, transmitting, and receiving devices within a single building or building complex. Teleconferencing refers to “live” or instantaneous group interaction that takes place via simultaneous transmission of video, voice, or data from several locations.

Producers also need to be familiar with the economics of broadcasting, cable, satellite, theatrical, nontheatrical, home videocassette, videodisc, and multimedia, and corporate and in-house distribution and exhibition. Commercial broadcasters sell audiences to advertisers. Syndicated programming consists of reruns of old network series, movies, and other non-network programming. Public television is partially supported by the Corporation for Public Broadcasting and contributions from corporations, foundations, endowments, and individuals. PBS programming is produced largely by member stations, although some programming is purchased from foreign producers, such as the BBC. Member stations produce their own regional programming as well as programming of national interest that is distributed through PBS. Cable television offers a somewhat better potential market for independent, small-scale productions. However, most cable operators are interested in filling time with continuing series, rather than with isolated individual programs. Commercials are brief messages used on commercial television to sell products, names, and services to consumers. At the national and major local market levels, they are usually produced on 35mm film by production specialists for advertising agencies. At the local level, they are produced by local stations themselves and by small independent producers. Public service announcements (PSAs) are noncommercial messages broadcast free of charge.

Economic power in the theatrical feature film industry resides in the major distributors, such as Paramount, Warner Bros., MGM, United Artists, Columbia, Sony, Universal, and Twentieth Century-Fox. An average feature film distributed by the majors costs more than \$80 million. Videocassettes, DVDs, videodiscs, and multimedia products are often marketed to individual customers via video sales/rental stores for home use. They are also used for corporate communications. Consumer marketing of multimedia products is made somewhat complex by virtue of the diversity of standards in terms of hardware. Interactive multimedia divisions of major studios attempt to

establish connections between computer games and movies, although important differences still exist between these media. In-house production refers to the production of programming by an organization for itself. In-house production units exist in industry, government, and education, and collectively they represent the largest producer of video programming in the United States. A production unit usually maintains a sufficient staff and supply of equipment to produce a videotape or film completely in-house, using the most economical and efficient medium to communicate with employees, patients, students, and other groups.

EXERCISES

1. Make a list of all the potential distribution and exhibition outlets for a specific production project. Then prioritize this list by arranging the potential distribution/exhibition outlets in a hierarchy from most to least important in terms of the funding sources or your own expectations and potential returns on production investments. Determine the ideal production, editing, and distribution medium (film, video, multimedia, etc.) and format(s) (16 mm, DVD, CD, etc.) for the most important outlet(s).
2. Calculate the cost of producing a film, video, or multimedia product using this (or these) format(s). Determine if the potential financial investments and returns from the outlets justify these expenses. If not, determine which media and format(s) will work most effectively within the desired distribution/exhibition channels without exceeding potential investments and returns.
3. Ask a program director of a television station to let you see an outdated ratings book from your market. Read it carefully and determine where you would place your commercials for maximum effect. Do the same for a local radio station. If this is not possible, find old issues of trade magazines like *Broadcasting* or *Entertainment Weekly* and use the summaries of ratings published in those periodicals.
4. Check to see if one of the larger corporations in your market maintains an in-house production unit. Ask for a tour and find out what the corporation produces, where it is exhibited, and how the corporation budgets its operation.
5. Plan on producing a short, one- to two-minute documentary. Write a distribution plan for at least five different means of distribution. Compare costs, audiences, and methods of distribution.

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