PRINT MEDIA DISTRIBUTION
PRINTING INDUSTRY CENTER
SERIES
PRINT MEDIA DISTRIBUTION

A LOOK AT INFRASTRUCTURE, SYSTEMS, AND TRENDS

TWYLA CUMMINGS
WITH BERNICE LEMAIRE

RIT CARY GRAPHIC ARTS PRESS
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To my parents, Betty and John Dearing, who have always encouraged me to be my best and never allowed me to settle for less.
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### ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>ATA</td>
<td>American Trucking Association</td>
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<tr>
<td>BMC</td>
<td>Bulk Mail Center</td>
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<tr>
<td>CPI</td>
<td>Consumer Price Index</td>
</tr>
<tr>
<td>CSRs</td>
<td>customer service representatives</td>
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<tr>
<td>DMU</td>
<td>detached mailing unit</td>
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<tr>
<td>EMA</td>
<td>Envelope Manufacturers Association</td>
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<tr>
<td>FTL</td>
<td>full truckload</td>
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<tr>
<td>HR</td>
<td>human resources</td>
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<tr>
<td>IDW</td>
<td>Independent Drivers Worldwide</td>
</tr>
<tr>
<td>IT</td>
<td>information technology</td>
</tr>
<tr>
<td>JIT</td>
<td>just-in-time delivery</td>
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<tr>
<td>LTL</td>
<td>less than truckload</td>
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<tr>
<td>MFSA</td>
<td>Mailing &amp; Fulfillment Service Association</td>
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<tr>
<td>MSDS</td>
<td>Material Safety Data Sheets</td>
</tr>
<tr>
<td>NAICS</td>
<td>North American Industry Classification System</td>
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<tr>
<td>NAPL</td>
<td>National Association for Printing Leadership</td>
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<tr>
<td>OMB</td>
<td>Office of Management and Budget</td>
</tr>
<tr>
<td>PCCs</td>
<td>Postal Customer Councils</td>
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<tr>
<td>PDA</td>
<td>personal digital assistant</td>
</tr>
<tr>
<td>PDF</td>
<td>portable document format</td>
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<tr>
<td>PIA/GATF</td>
<td>Printing Industries of America/Graphic Arts Technical Foundation</td>
</tr>
<tr>
<td>PIC</td>
<td>RIT Printing Industry Center</td>
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<tr>
<td>PICRM</td>
<td>RIT Printing Industry Center Research Monograph</td>
</tr>
<tr>
<td>POD</td>
<td>print-on-demand or publish-on-demand</td>
</tr>
<tr>
<td>POP</td>
<td>point of purchase</td>
</tr>
<tr>
<td>PSYOP</td>
<td>U.S. Army Civil Affairs and Psychological Operations</td>
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<tr>
<td>RFID</td>
<td>radio frequency identification</td>
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<tr>
<td>RFQ</td>
<td>request for quote</td>
</tr>
<tr>
<td>RIT</td>
<td>Rochester Institute of Technology</td>
</tr>
<tr>
<td>SCF</td>
<td>Sectional Center Facility</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Full Form</td>
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<td>--------------</td>
<td>-----------</td>
</tr>
<tr>
<td>SIC</td>
<td>Standard Industrial Classification</td>
</tr>
<tr>
<td>SPBS</td>
<td>Small Parcel and Bundle Sorter</td>
</tr>
<tr>
<td>SWOT</td>
<td>Strength, Weaknesses, Opportunities, and Threats Analysis</td>
</tr>
<tr>
<td>UPS</td>
<td>United Parcel Service</td>
</tr>
<tr>
<td>USPS</td>
<td>U.S. Postal Service</td>
</tr>
<tr>
<td>WIP</td>
<td>work-in-process</td>
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ABOUT THE AUTHORS

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Bernice A. LeMaire is currently the marketing product manager for digital color at Standard Register. She is responsible for product and application development as well as the delivery of marketing materials that support the direct sales force’s selling activities. Since joining Standard Register in April 2006, Ms. LeMaire has successfully launched several innovative applications that have differentiated Standard Register’s digital color solutions.

Prior to joining Standard Register, Ms. LeMaire earned an MS degree in Print Media at the Rochester Institute of Technology where she was also an active participant in several Printing Industry Center (PIC) research projects and co-authored monographs that addressed industry-wide issues and trends. Her graduate thesis focused on media distribution in the printing industry, analyzing physical and electronic distribution workflows and e-commerce as a tool for print distribution.
There has never been a better time for a thorough analysis of the role of distribution and logistics in the printing industry. While much is written comparing print with its competitors, little discussion has been given to the topic of distribution.

Roughly 45% of all print is distributed by the U.S. Postal Service. Problems faced by this quasi-governmental agency become problems for the printing industry. Magazines are distributed by two primary methods—mail and newsstand; direct mail and catalogs are overwhelmingly postal dependent. Despite these obvious facts, distribution for many in the printing industry has been the burden of others—sometimes customers, sometimes mail services providers. As profit challenges have risen in the printing industry, savvy printers are looking at distribution and are “getting into mailing.”

Printers thinking about getting into mailing and distribution are discovering a world where the rules are complex and the risks are often not shared. A printer with the responsibility for mailing will not find a sympathetic customer if the mail is not entered correctly or is not delivered on time. The printer absorbs any additional costs; the Postal Service has no obligation to share the downside risks.

What does all this mean for the printer? More than ever, the printer and the printer’s customer must clearly understand the role of distribution. While it is perfectly appropriate for a print services provider to use an external mail service provider, the printer must understand exactly what that mail service provider is doing and what the costs are. Printers also more than ever need to realize that printed products frequently (always in the case of postal distribution) need to be designed with the knowledge of the distribution channel.
The reason why distribution and logistics are so critical is that the “competitors” of print—the Internet, radio, broadcast medium, and cell phones—have a different cost structure for their delivery. In these competitive avenues, content can be distributed to a large number of people at a relatively low cost per person, giving a seeming advantage over print.

However, print currently enjoys significant advantages over its competitors: it can send a specific message to just the right person at just the right time. And that message can be easily carried from one place to another and easily passed on.

As this foreword is being written, the postal service is embarking on a fundamental change in the way it views the mail stream. It is implementing “shape-based rates” and later this year will begin using intelligent barcodes. Printers who mail for their customers or customers who mail printed products will need to understand what these changes mean or they will risk losing business. Those who do understand have an opportunity to broaden their customer base by partnering a very traditional medium with electronic media to the advantage of both.

Of course, postal distribution is not the only critical distribution issue. Highways and airways are becoming increasingly more congested and the nation is struggling with rising gasoline prices, a shortage of truck drivers, potential airline strikes, environmental issues, and outsourcing. Printers who never had to worry about these complex issues may find their jobs sitting on a dock somewhere, totally beyond their control.

Distribution is often the single largest cost factor in a printed piece, so understanding this element of print is as important as understanding labor costs, equipment financing and Information Technology.

Twyla Cummings’ work could not come at a better time. It is my hope that her book will stimulate an industry-wide discussion about the need to train and educate the industry on distribution and logistics so it can assure customers and future customers that we can not only produce the job, but also get it to market.

Benjamin Y. Cooper
Executive Director, The Print Council
Principal, Williams & Jensen, PLLC
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Last but not least, thanks to my husband Thomas, for sharing his expertise on lean manufacturing and people management issues, for his unwavering support, and for his boundless patience throughout this process.
HAVE YOU EVER WONDERED how your newspaper or magazine actually arrives at your door, mailbox or on the store shelves? Of course the newspaper or mail carrier may deliver them to you, or you may purchase them at your local retail outlet, but have you ever thought about the logistics required to get printed product to the targeted end user? Those of us who work in the printing industry spend a great deal of time thinking about this very significant part of the print production workflow process. Print production is multifaceted in that it starts with a concept or idea for a printed product and ends with that product being correctly delivered to the intended customer. The print distributor’s customer is the person who will use the printed product or buy and sell the product to another entity.

Three years ago I began pursuing a research program on the profitability of value-added services. As part of that research, I wanted to understand what was going on in the areas of print finishing and distribution. I was able to find a good deal of information on finishing, but almost nothing on issues associated with print media distribution unless they were linked with the U.S. Postal Service. This was a surprise to me and I wanted to understand why there wasn’t more written on what I deemed to be a very important subject. What resulted was a focused research study on the structure and trends of distribution, and most importantly, the start of an on-going dialogue on this issue. I have had numerous discussions with people about print media distribution and I have discovered that all agree that the topic is an important one on varying levels. Many companies view it as a value-added service for their customers and actively market it as such.

The newspaper, magazine or catalog that we purchase or receive in the mail is created and delivered as a result of a well-defined print produc-
tion process, involving several steps as shown in Figure I, a graphical representation of a typical process. One of the first steps is the initial interaction with the current or prospective business customer which is accomplished via marketing, sales and customer service. Once the job is secured and its specifications defined, functions such as image capture, layout and design are completed. Another step that is critical before pre-press and printing is understanding the finishing and distribution requirements. Focusing on the final steps of the process at this point will alleviate potential problems later in the workflow, such as late delivery or incorrect print job volumes.

Figure I Graphical Representation of the Print Production Process

While distribution of the product is at the end of the print production process, it is one of the most critical steps in the print supply chain. If not done correctly or in a timely manner, it can have a severe impact on the customer’s (publisher or retailer, for example) and the distributor’s bottom line. Thus, distributors cannot risk thinking of it as an afterthought.

Distribution in general can be defined in several ways. According to Web-
ster's dictionary, it involves delivering or apportioning something in an appropriate, accurate manner such as marketing or merchandising of commodities.  

**THE IMPORTANCE OF PRINT DISTRIBUTION TO TODAY'S PRINTING INDUSTRY**

Although a critical part of the print production process, traditional print distribution is not generally recognized for its value and marketability. As the printing industry continues its structural shifts it is imperative for printers to realize that distribution is a major facet in the print production cycle and that the associated workflow can offer significant advantages to their business model. Thus, distribution needs to now be viewed in a different light due to:

- Alternative (non-print) means of communicating some types of information, previously communicated by traditional print methods.
- Continued cost increases associated with the physical transport of printed media.
- The need for more service diversification and profitability in order to compete in the marketplace.

All of these issues can lead to a reduction in the amount of print generated and distributed, in turn resulting in a negative impact to the printer’s bottom line. Thus, as printers consider their strategic direction, distribution needs to be evaluated and assessed for the financial benefits it can offer.

In the world of print media, distribution is the process and pathway of delivering the product in its finished phase to the customer or end user. The accurate and timely delivery of product is important on several levels:

- The distributor’s customer cannot be billed until the product is shipped and received.
- The distributor’s customer does not pay for services until the correct product is shipped and received on time, intact and at the appropriate location(s).
- Distribution adds cost to the production process so mistakes on the part of the distributor can and do make it more costly.
- Distribution encompasses many services and can be a competitive differentiator for a print manufacturer/supplier.

In considering these issues the question arises: “Who should be concerned about print media distribution?” Understanding the requirements and benefits of effective distribution of printed media should be of concern to a broad audience:

- Graphic communication educators. Some college-level graphic communication programs focus primarily on the actual processes of pre-
press, press and post-press operations, with little if any attention paid
to what happens to the product after it comes off of a press, printer,
mail folder or some other finishing device. If the curricula for graphic
communication or printing programs do not incorporate this content,
students entering the workforce will not understand the complexity of
the infrastructure and its impact on the print workflow.

- **Print services providers.** Distribution is a print service and it requires print
  services providers to understand the logistics associated with the inter-
  nal and external movement of the printed products that they generate.
- **Transportation providers.** With the many transportation regulations im-
  pacting the way in which product is transported on our nation’s high-
  ways, railways, water ways and airways, transportation providers need
  to be proactive and compliant in their shipping processes.
- **U.S. Postal Service (USPS).** As one of the leading transporters of print
  media, the USPS sets the rules for how mail should be processed for
  acceptance into its mail stream.
- **Print industry analysts.** As technology and regulations change and/or
  advance the print process, industry analysts must keep current and
  communicate trends.

**MAJOR CHALLENGES FOR THE DISTRIBUTOR**

Customers rely on distributors to deliver products; the distributor is ultimate-
ly responsible for the product until the customer receives it. Whether trans-
porting print media products or other products, all distributors are faced with
many of the same core challenges.

- Timely receipt of the product at its destination.
- Cost effectiveness for customer and distributor while meeting the cus-
  tomer’s budget restrictions.
- Protection of the product, ensuring that it is undamaged during han-
  dling, storage and transportation.
- Providing distribution as a value-added service and a competitive dif-
  ferentiator.

**FOCUS OF THE BOOK**

This book is about the movement of printed material into the right hands in
the right place and at the right time. With an emphasis on print media distri-
bution in the United States, the intent is twofold: first, to add to the literature
a printed record of the importance of the physical distribution of media as
part of the print production process; and second, to provide a text which can
enhance graphic communication curricula in universities worldwide. It is also hoped that this text will serve the industry as a reference and be a useful business tool for print services providers and print suppliers.

This book focuses on the physical distribution of printed materials and information in the U.S. The information provided is comprised of primary research studies, extensive secondary research, and in-depth interviews with print industry distribution experts. The following RIT Printing Industry Center research monographs are referenced frequently throughout the text:

- *Media Distribution in the Printing Industry* (PICRM-2005-03)
- *Utilization of E-Commerce by Commercial Printing Companies* (PICRM-2005-04)
- *Print Media Distribution: Process, Profitability, and Challenges* (PICRM-2006-01)
SECTION ONE

PRINT MEDIA DISTRIBUTION: THE BIG PICTURE
CHAPTER ONE

DISTRIBUTION IN THE UNITED STATES

Long before the formation of the U.S. Postal Service, products and materials were transported from one place to another with several stops along the way to their final destination. Prior to 1900, stage coaches, ships and trains were the most common means for the movement of products. With these modes of transportation, it was not uncommon for a person or business to wait weeks if not months for the arrival of a product ordered from a manufacturer or retail outlet. Given the minimal competition during this era, this was an accepted practice for businesses and consumers.

A CLOSER LOOK AT DISTRIBUTION

Distribution and shipping of products is a critical function that intersects and supports all industries. It is a process that has changed dramatically over the past 100 years. Prior to 1900 products and information were commonly distributed via:

- **Land.** Shipment and travel on land was done by horseback, mule or by stagecoaches and wagons. In 1860, the Pony Express was established to deliver messages and mail to remote parts of the country not accessible by telegraph or train. Although this service had a short lifespan its existence made a significant impact on the transportation industry.¹
- **Rail.** Developed in the early 1800s, rail technology emerged during the last half of the 19th century. Prior to this time economic development had been closely tied to enhancing waterway transportation systems. Most early rail lines were local and often served in a feeder capacity for water and highway carriage.²
- **Water.** A variety of water vessels including flatboats, barges and steamboats were used as a means to transport people and products.
These transportation modes were slow and expensive.

- **Telegraph.** Western Union was established in 1851 and provided coast to coast communications over telegraph lines. In 1871 Western Union launched its Money Transfer Service. After a long history as a communications provider, Western Union discontinued its telegram service in 2006. However, the company is still a major player in the global money transfer business.

Throughout the years, technological developments have led to major shifts in the market positions of the various forms of distribution. Newer technologies typically offer speed, flexibility, and cost advantages over earlier transportation and distribution systems; therefore, as these technologies evolve, the focus shifts to these newer modes. Because of advances in our technological landscape and the physical development of roadways and highways there are more options for the distribution of information, people and products. The developments in physical distribution are directly related to the increase in competitive approaches by product manufacturers. Expanding products into new markets, getting products to market faster, and reducing costs all require a continual cycle of development.

In addition to rail and water, today information and products are transported via various physical and electronic means. The most common methods include:

- **Roadways.** In 1956 the development of the contemporary highway network began and since that time it has yielded enormous benefits to our nation. Additionally, as the highway system expanded and improved in quality, the number of employment opportunities in this area steadily increased. Whether classified as short haul, long haul, less than truckload (LTL), or full truckload (FTL), motor freight and trucking represent a major part of distribution.

- **Air.** Since the first manned aircraft flight in 1903, the development of commercial aviation has continued to expand. Today airlines account for a major portion of the transportation of mail and other cargo.

- **Facsimile.** Prior to e-mail the facsimile was a common method to quickly send documents to another person. Fax machines are still used today for documents not available in digital form or when the capability to scan and attach the document is not an option.

- **Telephone.** Since its invention in 1876 the telephone has been a key means of communicating information from one individual to another. With advancements in technology and the advent of the cellular tele-
phone this capability has expanded. Today telephones are commonly used for functions such as teleconferencing, which allows meetings to be held without the expense and sometimes inconvenience of meeting face-to-face.

- **Internet.** The World Wide Web is an enabler for sending all types of information quickly and to an international audience at any time of day or night. A major component of Internet distribution is e-mail communication. Gone are the days when the only option available for sending certain types of documents was to put them in an envelope or box for mailing or shipping. Documents or scanned images can be attached to email messages and sent over the Web, allowing recipients to either read them on the screen or print them on their own printers.

Effective distribution of products in the U.S. relies heavily on the transportation and communication industries. There has been tremendous growth in each of these industries that has changed the way in which products were formerly delivered to the end user and how information was shared.

The Office of Management and Budget (OMB) classifies all U.S. industries by the North American Industry Classification System (NAICS). Introduced in 1997, NAICS replaces the 1987 Standard Industrial Classification (SIC). In this classification the transportation industry is listed under code 481–484 which covers air, rail, water, and truck transportation. The communication industry is best categorized by code 515 where the focus is on broadcasting, and code 517 which focuses on telecommunications.

The U.S. benefits from the existence of a highly developed and extensive transportation network. As an integral part of national production and distribution systems, an adequate transportation network is necessary to provide a means of servicing domestic and international markets. As the economy increases and expands the demand for transportation and services also increases.

**DRIVERS OF SUCCESSFUL DISTRIBUTION SERVICES**

Integral to any effective distribution process is the management of an effective supply chain. The supply chain (Figure 1.1) is comprised of suppliers, manufacturing centers, warehouses, distribution centers, and retail outlets. It involves the use of raw materials, work-in-process (WIP) inventory, and finished products.
Supply chain management is a set of approaches used to efficiently integrate suppliers, manufacturers, warehouses, and stores so that merchandise is produced and distributed in the right quantities, to the right locations, and at the right time in order to minimize system-wide costs while satisfying service-level requirements.  

The management of the supply chain is critical because it
1. provides a mechanism for cost reduction and increasing profitability,
2. allows for the formation of strategic partnerships between suppliers and distributors, and
3. establishes a formal process with defined plans to accomplish logistical goals.

A study on trends and issues in distribution logistics and transportation analyzed the six drivers necessary for achieving logistics and supply chain management excellence. These drivers (collaboration, optimization, connectivity, execution, speed, and visibility), shown in Figure 1.2, are the key components of a successful supply chain. The research results noted that firms are facing some of the biggest challenges today in terms of transportation, logistics and supply chain. Their ability to make good decisions across all of these drivers will determine their success in the long term.
Across all industries several factors must be considered in order to have an effective and cost-efficient distribution operation. These factors include:

- Establishing long-term trucking contracts for protection against rate increases. This strategy can be accomplished by membership in trucking associations such as IDW (Independent Drivers Worldwide), or by working with 3rd-party vendors to transport product.
- Establishing and maintaining strong internal communications between the distribution department and other related organizational units (customer service, for example).
- Establishing and maintaining effective customer communications to ensure that the distributor understands each customer’s needs and requirements.
- Building solid relationships with carriers, such as the USPS, UPS (United Parcel Service), and FedEx.
- Maintaining the physical distribution environment:
  - addressing storage limitations and securing off-site storage where necessary, and
HIGHLIGHT 1.1
THE WAL-MART WAY:
A MODEL FOR EFFECTIVE DISTRIBUTION

Wal-Mart, which has more than 80 U.S. distribution centers, prides itself on its distribution operations. These distribution centers serve thousands of U.S. Wal-Mart stores. The majority of Wal-Mart’s merchandise goes through a distribution center before being shipped to a store. The typical center is approximately 1 million square feet in size and, as with many of its stores, operates 24 hours a day, 7 days a week.

Wal-Mart uses a procedure known as “cross-docking” to replenish inventory in its distribution centers: goods are continuously delivered to Wal-Mart’s distribution centers and from there are dispatched to stores without ever sitting in inventory. This system limits inventory costs and decreases lead and storage times.11

In April 2004, Wal-Mart began receiving supplier cases and pallets of product with Radio Frequency Identification (RFID) tags in an effort to prevent inventory shortages. This had an impact all the way back through the supply chain, requiring suppliers to get better visibility into their own pipelines, adopt leaner and perhaps just-in-time (JIT) methods, and coordinate procurement, manufacturing, and logistics.12

Founded less than 50 years ago, the Bentonville, Arkansas company is one of today’s largest profit-making enterprises in the world.13 Wal-Mart now has over 4,000 U.S. stores.14 Processes such as cross-docking and RFID are vital to the continued effectiveness and growth of its distribution center operations.

- incorporating and monitoring safety programs and procedures.
- Developing an understanding for how economic and environmental factors can impact product distribution to allow for proactive strategies such as the development of a disaster plan or one for long-term financial planning.

Distribution of printed materials in some cases is similar to the distribution of consumer and industrial products. In a simplified workflow, a printer manufactures the product and delivers it either directly to the customer, to a mail house, to a distribution center, or to the end-user of the product. In the consumer world, distribution centers ship to a large number of outlets. Wal-Mart
often comes to some people’s mind when they hear the term “distribution.” Wal-Mart has the most sophisticated logistics management system among all retailers in the world, and the core of its system is the distribution center.\textsuperscript{15, 16} Wal-Mart’s distribution model is further illustrated in Highlight 1.1.

**CHAPTER SUMMARY**

Distribution of products and information has a long history in the U.S. Technology has advanced the distribution industry providing faster, flexible and more cost-effective transportation options for manufacturers, distributors and consumers.

Effective distribution operations require the understanding and management of a logical supply chain function. Additionally, distributors must consider several factors to ensure that the most cost-effective processes will be incorporated.

A popular example of the ideal distribution system is the one used by Wal-Mart, which has incorporated cross-docking and RFID to effectively turn over and manage its inventory and shipments to the numerous retail stores in its network.
DISTRIBUTION AND THE PRINTING INDUSTRY

OVERVIEW OF THE PRINTING INDUSTRY

The printing industry is part of the 2002 North American Industry Classification System (NAICS)’s sector 511, which classifies printing and publishing. In many circles, the printing industry is referred to as the graphic communication industry and is frequently described by the following definition:

The industries and processes that create, develop, produce, and disseminate products utilizing or incorporating words, illustrations, or photographic images to convey information, ideas, and feelings; this includes the family of market segments which embrace existing and emerging technologies of printing, publishing, packaging, electronic imaging, and their allied industries. This industry encompasses all phases of the graphic communication processes from origination of the idea (design, layout, and typography) through reproduction, finishing and distribution of printed products or electronic transmissions.

In 1998 printing industry yearly sales exceeded $146 billion, placing printing and publishing among the top five U.S. industries in terms of the number of individual establishments and number of employees. It is anticipated that U.S. print production will total $176 billion in 2007. However, while printing shipments grow, the number of plants continues to decline. In spite of this scenario, printers will still be recruiting for jobs because more employees will be needed to replace retirees and those leaving for other reasons.

PRINTING COMPANIES

The printing industry is dominated by small- to medium-sized companies that employ 1 to 25 people. Very large companies employ many hundreds
or thousands of workers, but they account for only a small portion of all the companies involved with the print trade. Regardless of their size, companies employ people in a variety of challenging occupations, which demand expertise or understanding of art/design, color, computers, engineering, management/business, manufacturing, people/personnel, photography, sales/marketing, science, or other professional or technical areas. As a result of these processes, printing companies are able to create and produce the spectrum of printed products that we use daily.5

The number of individual printing firms has decreased over the last decade as mergers and acquisitions have increased, with a greater number of smaller firms under the umbrella of larger organizations. During the 5-year period of 2000–2005, the number of plants with 100 or more employees increased by about 1% (from 2,301 to 2,314). Conversely, the number of plants with fewer than 10 employees decreased from 28,811 to 23,650 (17.9%) during the same time period.7

PRINT MARKETS
The printing industry caters to an array of niche markets. While some printing companies specialize in offering a specific product, others offer a diversified range of products and services. Various experts and associations such as the NAICS have been working for years to upgrade their systems to incorporate the vast spectrum of products produced by this industry.8

From a print market perspective, a number of major markets could be listed to categorize the way in which printing companies target their expertise. According to a recent Printing Industries of America/Graphic Arts Technical Foundation (PIA/GATF) publication, the print markets that will show sales increases of 1–2 % in 2007 are direct marketing (mailing), labels/wrappers and packaging. These markets are projected to grow at above average rates over the next two years in spite of a slowdown in the overall print market due to the expected growth in the economy.9

PRINT PRODUCTS
Print markets are segmented in numerous ways, often by geographic region, industry, and product. Printers target and segment markets in a manner that best suits their overall business strategy. Numerous types of printed products are generated within each of these markets. While there are many categories and types of printed products some of the most common are:

- Direct mail – billings, promotional pieces, self mailers
- Publications – books, magazines, catalogs
• Signage – billboards, posters, bus wraps
• Newspapers – local, regional and national editions, inserts, flyers, coupons
• Packaging – labels, tickets, tags
• Specialty print – greeting cards, wrapping paper, tile

**CONTENT: THE CATALYST FOR PRINT**

Regardless of the type of printed product, print provides a vehicle for communication because of the content it contains. Thus content is the catalyst that drives print. Content may consist of text, graphics, barcodes, or logos, individually or in some combination.

**ALTERNATIVES TO PRINTED MEDIA**

With the advent of the Internet, more information is being distributed electronically. Small electronic devices with viewing capability such as PDAs, BlackBerrys and cell phones provide trendy, fast and affordable ways for people to receive the types of information that they want to receive, when they want to receive it. Other non-print communication media include:

- Radio
- Television
- Land Telephones
- Face-to-face communication

All are media that can be and are often chosen over printed information. For example, news is distributed and/or communicated in print, on the Internet, radio, telephone or by word-of-mouth.

Most print industry analysts project that even with the growth of these media alternatives, print will survive. While annual growth rates may be moderate, there will always be a print alternative for every product type. However, the choice for print over other media will be carefully considered by businesses, advertisers and individuals. Angela Saunders, marketing communications manager at Standard Register in Dayton, Ohio comments that “print must be purposeful.”

Further, it is imperative that the purpose that printed products serve be clearly understood. In his book *The New Medium of Print*, Frank Cost defines six value vectors of print that explain the key values of printed media:

1. Informative. The ability of the printed product to convey information from sender to receiver. Newspapers and magazines have informative value.
2. Instructive (directive). The ability of the printed product to convey instructions or directions from sender to receiver. A recipe book or instruction
manual has instructive value.
3. Persuasive. The ability of the printed product to persuade the receiver to take some course of thought or action. Sales brochures are used as persuasive tools.
4. Evocative. The ability of the printed product to induce an intended emotion in the receiver. A book of poetry or a greeting card can have high evocative value.
5. Decorative. The ability of the printed product to favorably alter the appearance of an environment. Products such as art, wallpaper and wrapping paper have high decorative value.
6. Operative. The ability of the printed product to enable actions or transactions to take place. A passport has high operative value in that it allows access into another country. Billing statements are transactional in nature.

Whatever purpose printed media is intended to serve, it must be received by the targeted user to have the appropriate impact. Print can be distributed to the end user via various transportation modes (truck, plane, car, and so on) and through various channels (postal, retail, newspaper and so on). Distribution channels are further discussed in Chapter 3.

TRENDS
In 2004 the National Association for Printing Leadership (NAPL) stated that the printing industry was finally showing signs of what may be a sustainable upturn, following more than two years of steep and broad sales declines.\textsuperscript{12} The industry partnership PIA/GATF reports that there are currently five key opportunities and three major threats to print that appear to be on the horizon for 2007 and 2008.\textsuperscript{13}

OPPORTUNITIES
1. Survival of the fittest opportunity – This will apply to those printers who have established a strong financial and market position over the past few years.
2. The digital opportunity – Although digital printing comprises only 10% of total printing shipments, the revenues from this process have been growing at a pace 50% greater than those from all forms of printing.
3. The ancillary opportunity – Ancillary services or print logistics have been growing at twice the rate of traditional print sales (that is, sales strictly confined to ink-on-paper products).
4. Market segment opportunities – The primary driver of print markets is
overall economic growth as this leads to the printing of such products as labels, packages, forms and general commercial print media.

5. Improved management performance opportunities – It is imperative that printers continually manage their overall performance, especially during challenging economic times.

**THREATS**

1. The slowing economy and higher likelihood of recession may adversely affect print market growth.

2. Escalating cost pressures in the following cost items (listed below) account for about two-thirds of a typical printer’s sales dollar, resulting in tremendous pressure to the bottom line of most printing firms.
   - Wages and salaries, as labor markets tighten
   - Paper prices, as paper markets tighten
   - Health benefits, due to escalating costs in health care
   - Rising energy prices, which increase printers’ costs for utilities and transportation

3. Continued intense competition and pricing pressure – The growing demand for print will not eliminate the intensity of the rivalry between the 40,000 firms represented in the industry.

Another important trend in communications is the distribution of information across multiple platforms. Also referred to as cross-media distribution, these platforms include print, Internet, cell phones, PDAs, TV and fax machines. Cross-media distribution is an essential process for advertisers and content providers as a mechanism to ensure that their message or information reaches all of the intended target markets and audiences. Thus, cross-media distribution is largely utilized in the advertising, promotion and publishing industries which have traditionally been key drivers of print.

Printers are being forced to prepare for growth in markets that are increasingly competitive in numerous ways. According to Andrew Paparozzi NAPL’s chief economist and vice president, the printing and graphic communication industry is in a new structural phase of the business cycle.¹⁴ As a result, printers need to be flexible, opportunistic, creative and smart in order to thrive in these changing times.

**PRINT MEDIA DISTRIBUTION**

Critical to any manufacturing process is a reliable distribution channel. In the consumer world, most manufacturers cannot bring value to customers by
themselves. Instead, they must work closely with other firms in a value-delivery network. A similar situation can be found in the printing industry. Most print buyers do not distribute their own printed materials to the end-user; instead, they assign the task of distribution to the printer or outsource it to a third party. Effective distribution yields tremendous cost savings to the print buyer as well as the end-user.

In RIT’s 2004 research study entitled *Industry Trends in Fulfillment, Finishing, and Distribution*, the researchers pursued how printing professionals viewed the progress in distribution operations within their companies over a 10-year span (1994–2004). Research participants were asked how distribution processes and procedures had evolved in their respective companies during this time period. Specifically, they were asked whether automation, productivity and decreased delivery times had assisted in the evolution and enhancement of distribution during this timeframe. Respondents clearly recognized an improvement in distribution processes and procedures over the previous ten years in each of these areas.

Although the subject of print distribution is not one of the most highly published topics in printing industry literature, it is not without its issues and challenges. Discussions with printers on the subject of print distribution routinely bring up the following challenges of managing distribution operations:

- Storage and warehousing of finished goods and consumables
- Profitability and costs
- Customer information flow
- Rising shipping costs
- Postal issues
- Automation
- Employment

Every printer faces these issues and must address them on a daily basis, and every printing company must deal with them to maintain healthy and viable business and customer relationships.

**PRINT MEDIA DISTRIBUTION DEFINED**

How should print media distribution be defined? As part of an RIT Printing Industry Center (PIC) research study on the subject of distribution, a major focus was placed on understanding how printers perceive distribution as a production operation. Participants of the study were queried on how distribution was defined within their companies. Establishing a definition was critical to ensure that
the interview questions were clearly understood. The following definition was initially given to the respondents by the researchers:

Distribution of printed materials involves the movement of product from the production site to an internal (e.g. warehouse) or external (e.g. customer) location.\footnote{21}

All participants indicated that more was involved with distribution than what was given in the researchers’ definition. As a result, the participants provided additional comments which led to the development of a composite definition from the common themes that were given:\footnote{22}

Distribution is a customer service offering that starts when the print job is scheduled. It is the movement of finished printed materials from a printing plant to 1) an internal storage location, 2) the customer, 3) a distribution center, or 4) the end user. Further, efficient distribution involves the use of market expertise to negotiate freight rates and lo-
logistics services, routing, and overall compilation or management and organization of products and distribution. Other aspects of distribution include warehousing, shipping, inventory control, and fulfillment.

The term fulfillment is often used by printers to describe their distribution operations (see *Printers Speak on Distribution Terminology*). Fulfillment can be defined as the storing and distribution of print products directly to end-users, after the initial job has been printed. Cynthia Valentino (formerly of NAPL), elaborating on this definition, wrote that fulfillment is comprised of the storage, management, and timely distribution of a client’s materials (literature or products, for instance) to that client’s distribution outlets or end users. Valentino further suggested that fulfillment is more client-driven than any other diversification area. The topic of fulfillment is covered in more detail in chapter 9.

**PRINT DISTRIBUTION STRUCTURE**

Print media distribution operations involve a myriad of functions. Those managing these operations have to be concerned with internal and external movement of product, as well as tracking product from shipping of finished goods to customer delivery and several stages in between. The following list shows some key distribution functions:

- Packaging
- Material handling
- Staging
- Warehousing
- Mailing
- Fulfillment
- Shipping
- Tracking
- Follow-up

Figure 2.1 illustrates a basic workflow for physical print distribution. In most distribution departments finished goods are taken through several processes en route to the final destination. (Examples of more complex distribution workflow processes are covered in Chapter 4.)
CHAPTER SUMMARY

The print industry encompasses all phases of graphic communication, from origination of the idea (design, layout, and typography) through reproduction, finishing and distribution of printed products or electronic transmissions. Although there are several large printing companies that employ many hundreds or thousands of workers, the industry is dominated by small- to medium-sized companies that employ 1 to 25 people.

The industry appears to be in an economic upturn where key markets include printing for direct marketing, labels/wrappers, and packaging. There are a number of opportunities and threats to the industry which are predicted to impact printing businesses over the next few years.

Generally, print media distribution can be defined as the movement of product from the production site to an internal (e.g. warehouse) or external (e.g. customer) location. Most print buyers rely on printers or other third-party entities to ensure that their print products arrive to the right destination at the right time.

A reliable distribution workflow is critical to any manufacturing process and involves a myriad of functions, such as staging (a place serving as the point of assembly or preparation), packaging, mailing and fulfillment.
CHAPTER THREE

PRINT DISTRIBUTION CHANNELS: WHERE DOES PRINT GO? AND...HOW DOES IT GET THERE?

Physical distribution channels provide a mechanism that allows for the exchange of goods between manufacturers and customers. Products from all industries are transported via one or more appropriate channels of distribution.

A major competency of large multi-national printing companies is the capability to get the final product from the manufacturing plant to the end user through the major channels of distribution in the most timely and cost-effective way possible. Some printed products leave the plant in their final form and take a direct route through the postal system to the consumer’s mailbox. Others are routed to manufacturing facilities where they are combined with other product components. (e.g. kitting), and shipped through a private distribution system. In most cases, critical timing and coordination issues arise from the communication function of printed products.¹

The distribution of printed products must often be coordinated with the timing of broadcast events; for example, the successful launch of a new product into the marketplace requires a precisely choreographed set of actions and events that work together to maximize the volume of sales. The more time-sensitive the messaging carried by the print, the more critical the timing of deliveries must be.²

PRINT MEDIA DISTRIBUTION CHANNELS

Distribution channels that are used for print media will vary based on the product, the target market and the customer requirements. Some products are distributed across multiple channels in order to reach all intended users. The key channels of distribution for printed media include the postal channel, retail sales channel, newspaper channel, in-plant channel and alternate delivery channel.³
The U.S. Postal Service (USPS) delivers more than 200 billion pieces of mail to more than 144 million households, businesses and P.O. boxes each year. Mail that goes into the postal system may originate from the printer, mailer, or customer. The number of processing steps and levels of discounts for print in this channel depends on the size of the mail piece and how it is prepared for mailing.

There are primarily three types of mail distributed through the postal channel: letters, flats and parcels. Each category is defined by minimum and maximum dimensional requirements.

**Letters**

Contrary to popular belief, all “letter mail” does not come in an envelope. Letter mail consists of a printed piece that has the minimum dimensions of 3.5 inches high, 5 inches long and 0.007-inch thick (pieces exceeding 4.25 inches high and 6 inches long must be at least 0.009-inch thick) and maximum dimensions of 6.125 inches high, 11.5 inches long, and a thickness of 0.25 inches.

**Flats**

Flat mail consists of pieces such as envelopes larger than the letter mail dimensions and products such as magazines, catalogs and directories. A flat mail piece exceeds the maximum letter-size dimensions and is not larger than 12 inches high, 15 inches long and 0.75 inches thick.

Traditionally, pieces such as CD jewel cases and VHS tapes were also designated as flat mail, but in May 2007, along with an increase in postal rates, the USPS implemented a change in the way it designated certain mail pieces. Its new rates no longer allow automatic discounts for pieces that do not meet the flat size and weight requirements.

**Parcels**

A parcel is defined as a mail piece that is not a letter or a flat. Parcels are further categorized into one of three types:

1. **Machinable Parcel** – A parcel is considered to be machinable if it can be processed on the USPS Small Parcel and Bundle Sorter (SPBS) and the Bulk Mail Center (BMC) Sorter. The minimum size is 3 inches high, 6 inches long, and 0.25 inches thick, and the minimum weight is 6 ounces. The maximum machinable size is 17 inches high, 34 inches long, and 17 inches thick, weighing no more than 35 pounds.

2. **Irregular Parcel** – Irregular parcels generally do not have uniform shapes,
such as boxes or padded envelopes, which may be processed on parcel and bundle sorters. Items such as tubes and rolls cannot be processed on this equipment. Size specifications for other irregular parcels are: less than 3 inches high, 6 inches long, 0.25 inches thick and 6 ounces in weight. Rolls and tubes can be up to 26 inches in length.

3. Outside Parcel – These parcels include such articles as tubes longer than 26 inches, paint cans, or wooden boxes, all too large or otherwise unacceptable for parcel and bundle sorting machines.

**RETAIL SALES CHANNEL**

Print distributed through the retail sales channel includes packaged products, publishing products and other consumer products. Publishing products such as magazines, books and newspapers, and consumer products such as packages, labels, tickets and greeting cards are commonly sold in retail channels. Several transportation modes are utilized to deliver these products to retail outlets; most commonly department, convenience, and drug stores.

**NEWSPAPER CHANNEL**

While newspapers are the major print product delivered through this channel, sales flyers, coupons and sample products are often incorporated with the daily or weekend paper. Newspapers are delivered to newsstands, subscribers (via home delivery and USPS), and businesses. These businesses include retail outlets and others such as hotels and corporations, where the paper is distributed (usually on a complimentary basis) to guests or employees. In an expansion to this channel, many newspaper publishers are now crossing over into the commercial printing arena and are producing other types of printed products. These products may be printed internally or may be outsourced to other commercial printers. Distribution of these products may also be outsourced or handled by the newspaper’s shipping and mailing department.

**IN-PLANT CHANNEL**

An in-plant distribution channel involves the internal distribution of printed products to intended users. An example of this distribution channel is a university or hospital where printed products are generated on and off-site with the target group being employees, students or patients. Another example is a cruise ship, such as the Queen Elizabeth II (QE2), which has a print shop on board. Each day passengers receive up-to-date information in newsletters, daily activity rosters, and dinner menus.
Other types of printed products distributed through this channel include internal memos, business cards, letterheads, employee handbooks, student catalogs and newsletters.

**ALTERNATE DELIVERY CHANNEL**

Other printed products such as telephone directories and certain advertisements are distributed primarily by alternate delivery channels. In the alternate delivery channel, products are distributed by private independent contractors (often part-time retirees) who are paid based on the number of pieces distributed. Advertisements including “door-hangers” are often handled through agencies that contract with the same individuals, or, depending on the product, organizations such as the Boy Scouts sometimes facilitate this type of delivery.\(^9\)

As previously mentioned distribution channels will vary based on the product, target market and the customer. Regardless of the delivery channel each will require various transportation modes in order for the print to reach the ultimate destination or delivery point.

**DISTRIBUTION MODES**

Finished goods leave a printing facility by various distribution modes (Table 3.1) and for varying destinations (Table 3.3). Typically, products are shipped from a print facility by trucks belonging to the printer, the customer, or some type of contract carrier. From this point the products may be routed to other modes of transportation, based on when they need to arrive at the final destination point. Several stops may occur en route.

**Table 3.1 Print Distribution Modes**

<table>
<thead>
<tr>
<th>MODE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>USPS</td>
<td>The U.S. Postal Service moves mail using several distribution modes including planes, trucks, cars, and boats.(^{10})</td>
</tr>
<tr>
<td>COMPANY TRUCK/VEHICLE</td>
<td>Many distributors own trucks or other vehicles designated for pick up and/or delivery of all or some printed products.</td>
</tr>
<tr>
<td>CONTRACT CARRIER</td>
<td>Contract carriers including FedEx, DHL, and UPS pick-up and deliver products.</td>
</tr>
<tr>
<td>CUSTOMER’S TRUCK/VEHICLE</td>
<td>In some cases the distributor’s customer might supply the truck or vehicle for pick up and/or delivery of the product.</td>
</tr>
<tr>
<td>COURIER SERVICE</td>
<td>Courier services are often used when a small shipment needs to be quickly transported locally or to another location for further transport. The transportation mode is usually a car, small truck, or van.</td>
</tr>
</tbody>
</table>
Most often, printing firms use a combination of these various modes. For example, Table 3.2 shows the distribution modes used by the four companies that participated in a 2006 research study by Cummings, Cummings and LeMaire. Company 1 utilizes its customers’ trucks 65% of the time; company 2 uses its company truck 50% of the time; company 3 utilizes contract carrier(s) 50% of the time; and company 4 uses contract carrier(s) 65% of the time. On the whole these companies rarely use courier services for shipment of finished goods. Though the sample size for this research study was small, the data does indicate that print services providers generally rely on several distribution modes for delivery of print product.

Table 3.2 Print Media Distribution: Process, Profitability, and Challenges—Percentages Distribution Modes Utilized 11

<table>
<thead>
<tr>
<th></th>
<th>USPS</th>
<th>COMPANY TRUCK</th>
<th>CONTRACT CARRIER</th>
<th>CUSTOMER’S TRUCK</th>
<th>COURIER</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMPANY 1</td>
<td>0</td>
<td>1</td>
<td>34</td>
<td>65</td>
<td>0</td>
</tr>
<tr>
<td>COMPANY 2</td>
<td>35</td>
<td>50</td>
<td>12</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>COMPANY 3</td>
<td>10</td>
<td>20</td>
<td>50</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>COMPANY 4</td>
<td>20</td>
<td>10</td>
<td>65</td>
<td>2.5</td>
<td>2.5</td>
</tr>
</tbody>
</table>

DESTINATION POINTS

The channels available for shipping and delivering printed materials include sending print directly from the print provider to the customer, a warehouse, a distribution center, or the end-user. While some printed materials are delivered directly to a final destination, many other materials require an intermediate delivery point as summarized in Table 3.3. The need for finished products to go to an intermediate delivery point may be due to the customer’s request (storage, for example) or because additional finishing or conversion is needed.

When questioned about the destination of print products, the research participants again responded with a diversified mix of destination points (Table 3.4). Research participants were queried about the percentages of printed product that left their facilities to go to specified destination points. Customer storage was utilized frequently by all four participants, while on-site storage and customer conversion had only limited usage. Additionally, company 2 used the USPS most frequently (35% of the time) as its end destination.13
### Table 3.3 Print Destination Points

<table>
<thead>
<tr>
<th>DESTINATION POINT</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAIL STREAM</td>
<td>Products leave the printing facility for an entry point into the USPS mail stream. In some cases the USPS will collect the mail from the printer's facility.</td>
</tr>
<tr>
<td>INTERNAL STORAGE</td>
<td>Products are stored in the printer/distributor’s on-site storage location.</td>
</tr>
<tr>
<td>OFF-SITE STORAGE</td>
<td>Products are stored in the printer/distributor’s off-site storage location.</td>
</tr>
<tr>
<td>CUSTOMER STORAGE</td>
<td>Products are distributed to the customer’s storage location(s).</td>
</tr>
<tr>
<td>CUSTOMER FULFILLMENT</td>
<td>Products are distributed to the customer’s fulfillment location(s) where they are kitted immediately or stored for future fulfillment orders.</td>
</tr>
<tr>
<td>SUBCONTRACTOR</td>
<td>Subcontractors provide services that the printer typically does not provide such as mail processing, finishing, and fulfillment.</td>
</tr>
<tr>
<td>CUSTOMER CONVERSION</td>
<td>A customer conversion facility is usually a group that purchases necessary materials and transforms them into a final product. For example a die cutting/folding/gluing operation might make a pocket portfolio from a flat-supplied lithograph print.</td>
</tr>
</tbody>
</table>

### Table 3.4 Print Media Distribution: Process, Profitability, and Challenges—Percentage of Print Product Shipped to Various Destination Points

<table>
<thead>
<tr>
<th>DESTINATION POINT</th>
<th>COMPANY 1</th>
<th>COMPANY 2</th>
<th>COMPANY 3</th>
<th>COMPANY 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAIL STREAM</td>
<td>0</td>
<td>35</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>ON-SITE STORAGE</td>
<td>0</td>
<td>4</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>OFF-SITE STORAGE</td>
<td>20</td>
<td>0</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>CUSTOMER STORAGE</td>
<td>40</td>
<td>40</td>
<td>20</td>
<td>65</td>
</tr>
<tr>
<td>CUSTOMER FULFILLMENT</td>
<td>20</td>
<td>20</td>
<td>10</td>
<td>6</td>
</tr>
<tr>
<td>SUBCONTRACTOR</td>
<td>20</td>
<td>0</td>
<td>25</td>
<td>0</td>
</tr>
<tr>
<td>CUSTOMER CONVERSION</td>
<td>0</td>
<td>1</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>OTHER</td>
<td>0</td>
<td>0</td>
<td>15</td>
<td>0</td>
</tr>
</tbody>
</table>

**MULTI-CHANNEL PRINT DISTRIBUTION**

Varying delivery time requirements and the need for a widespread reach make it necessary for print products to be distributed through several channels. In this multi-channel environment, products such as newspapers, magazines, books, and catalogs may be distributed to end-users or audiences via:
Print Distribution Channels

- News stands – on the street and inside businesses (restaurants and airports, for example)
- Retail outlets – see retail sales channel section in this chapter
- USPS – see postal channel section in this chapter
- Bulk shipping for internal distribution – hotels, corporations, and so on
- Internet – for publications, advertising and promotional content, forms and other documents. Although the Internet is a non-print channel, it is a key part of the multi-channel distribution process because it allows the end-user to utilize the “distribute and print” option if desired.

Use of multi-channel distribution allows publishers and advertisers access to a widespread audience or to a targeted group. It also provides consumers with choices as to how they would like to receive their printed products.

**ISSUES TO CONSIDER WHEN SHIPPING PRINT MEDIA**

Regardless of the distribution channel and mode, the printer is responsible for three critical aspects of delivery.

- Protecting (internally and externally) and shipping the product, ensuring that the design and engineering of the package is in line with customer needs.
- Selecting a delivery mode that guarantees the product will arrive on time. Since some carriers will not assume responsibility for on-time delivery, in some cases the distributor has to assume this responsibility. If a print product is time-sensitive (such as in newspapers, coupons and promotional material) the distributor may want to use carriers that can provide ground, air and other custom options and also provide follow-up and confirmations. If the product is less time-sensitive, common carriers such as Yellow Freight can be utilized.\(^\text{15}\)
- Ensuring that the correct product arrives at the correct location(s). The distributor must make sure that the customer is receiving the correct product. Printers need to first understand the life cycle of the product and then be creative in making sure the customer gets the product on time. One way to help avoid costly mistakes is to institute QA inspections and to use checklists. It is also important to try to eliminate human error and to ensure that accurate information such as correct shipping addresses are communicated.\(^\text{16}\)

Coordinating print distribution is a critical step in the distribution workflow process. If a product is damaged in transit or does not arrive on time, the printer has to answer to the customer.
Having answers to the following questions when the order is received should help alleviate problems in the distribution workflow:

- Are all of the customer’s job requirements understood and documented?
- What equipment and personnel will be required to complete this customer’s needs?
- What regulations (local, state, federal) have to be considered?
- What protection (physical, environmental, security and so on) does the product need?
- Are there any special shipping requirements? This would include any environmental or shipping package/preparation requirements.

All the issues discussed in this section are important for every printer, in order to effectively maintain business and customer relationships.

There are many challenges to the physical movement of print. Some can be controlled by a company’s processes and strategic management practices, but others, such as economic or environmental shifts, are out of the control of the printer and the distributor.

**ECONOMIC AND ENVIRONMENTAL CHALLENGES TO PRINT DISTRIBUTION**

Economic and environmental factors are challenges that cannot be controlled by the print distributor and yet both can threaten effective distribution. Changes in the economy, environment or environmental regulations have and will always impact our society. Every industry can be affected by such challenges.

**Economic Challenges**

A 2006 NAPL industry report showed print industry sales growing at a pace of 5.9% which was up from a 3.0% level at the close of 2005. In early 2007 NAPL reported that the economy was beginning to slow and is once again an issue for printers. The print industry relies on the overall economy, and when the economy is in a weakened state it in turn limits the potential annual growth of the printing industry. This trend, anticipated to continue over the next few years, may cause a significant drop from the levels realized in 2006.

A number of economic factors impact the distribution of printed products in the U.S. Obvious factors are increased fuel prices and postage (see Chapter 7), but other issues including the increased cost of print consumables (paper, toner, and ink) and transportation strikes, can also affect distribution.
The cost of print consumables continues to increase, and as a result the overall cost of print production is increasing. Print services providers have to find ways to offset and/or recoup these costs and the most likely way is to pass it on to the customer. In this scenario print buyers have to decide whether to purchase reduced quantities of print or look for more cost-effective methods to achieve their communication goals. In either case, print services providers will be negatively affected as this will reduce their production.

**TRANSPORTATION STRIKES**

When transportation providers are not satisfied with their compensation they often strike and suspend service as a way to get management to agree to their requests. Organizations such as the Teamsters represent trucking industry employees in this process; airline pilots, flight attendants, railroad and shipping dock employees are represented by similar organizations.

Any type of transportation strike can result in a major setback to product distribution. A transportation stoppage can result in significant shortages in the food and fuel supply within 1–3 days, and the same impact is true for printed products. Strikes can force printers to use private companies or air freight with the negative result of higher distribution costs that may have to be absorbed by the print distributor. Additionally, with the trend of offshoring of print, a strike by dockworkers could also halt the import or export of printed products, which, in turn, would impact distribution.

*Environmental Challenges*

Environmental factors can also impact the physical distribution of products in the U.S. Whether natural or man-made, these environmental disasters can obstruct or even halt the physical distribution of print.

**NATURAL DISASTERS/HAZARDS**

A natural disaster is a sudden major upheaval of nature, causing extensive destruction, death and suffering among the stricken community, and which is not due to man’s action. However, some natural disasters can be of (a) slow origin, e.g. draught, and (b) a seemingly natural disaster can be caused or aggravated by man’s action, e.g. desertification through excessive land use and deforestation.

Natural hazards are potential threats to humans and their welfare caused by rapid and slow onset events having atmospheric, geologic, and hydrologic origins on solar, global, regional, national, and local scales (e.g.,
Natural disasters such as hurricanes, tornados, floods, wild fires and earthquakes occur in various regions of the U.S. They can strike with little or no warning, and even when there is adequate warning the results can still be devastating. On August 28, 2005, Hurricane Katrina tore through the Gulf of Mexico directly toward New Orleans and continued its wrath along the Gulf Coast and through Mississippi. The result of this storm was horrific, with a death toll of more than 1,000 people and more than 1.3 million homes and businesses damaged or destroyed. The severe flooding and widespread power outages crippled basic systems like transportation and the USPS, so that they could not function at full capacity in the region for an extended period of time.

Of the businesses that were severely damaged or destroyed as a result of Katrina, several were printing operations. More than 18 months later, fewer than half of the region’s former printing businesses were fully or partially operational. Highlight 3.1 illustrates the story of one such company, Shaughnessy Printing, which, in spite of the adversity it suffered at the hands of the storm, was able to revitalize its print operation.

Nature can also dish out weather patterns that result in massive snow and ice storms, making roadways impassable and visibility impossible. When this type of weather occurs, land and air transportation systems may be closed down. In most cases these closures are for no more than a few hours or a few days, but even in these short time periods, critical revenues can be lost. Other transportation systems such as trains and ships can also be impacted by inclement weather.

**MAN-MADE DISASTERS**

A man-made disaster is one that is caused not by natural phenomena, but by man’s or society’s action, involuntary or voluntary, sudden or slow, directly or indirectly, with grave consequences to the population and the environment. Examples: technological disaster, toxicological disaster, desertification, environmental pollution, conflict, epidemics, fires.

**TERRORISM**

Recent history has shown the consequences that result from a terrorist attack. The tragic events of September 11, 2001 had significant impact on U.S. transportation systems, with air travel suspended for five days. Shortly after the attacks,
HIGHLIGHT 3.1
SHAUGHNESSY PRINTING SHOWS RESILIENCE AFTER KATRINA

Before Hurricane Katrina hit in August 2005, Shaughnessy Printing in Biloxi, MS had 10 full-time employees and several part-timers. Three months prior to the storm the company moved into a new facility. The new plant contained a four-color press, a digital color press, two one-color presses, several one- and two-color duplicators, two letterpress machines, direct-mail computers and printers, color and black-and-white copiers, and bindery equipment.

The total damage according to the Small Business Administration (SBA) was $900,000. President Clark Dennis Shaughnessy said “My building and equipment insurance policy clearly stated that water damage, wind-driven or not, is not covered because Biloxi is not in a flood plain.”

Since the time of the hurricane one employee who was forced to evacuate has returned and two new people have been hired. As a result the company currently has four employees. Production in the immediate aftermath of the storm consisted of Shaughnessy running the damaged copiers. “Of course there was not much demand for printing for some time after the storm because most other businesses were damaged, too,” he said.

Ray Prince, NAPL vice president and senior consultant/operations management, says that two items are of utmost importance in the case of an emergency: 1) a recovery plan and 2) a photographic inventory of equipment, file and paper files. Prince recommends sharing this plan with customers and insuring them that their digital files are protected.

For Shaughnessy, the memories of Katrina remain after the Category 3 storm caused catastrophic damage along the Gulf Coast. “I feel like I am starting over again, but in reality I’m producing the same product as before the storm,” he commented. “I’m not going to shut down the printing business that my father started and which has been part of the Biloxi business community since 1950.”

Excerpts printed by permission from the NAPL.

incidences of bio-terrorism were discovered when various packages and letters containing the deadly bacteria anthrax were found in the U.S. postal mail stream, resulting in a slow-down to the mailing system in certain areas, and, much worse, the death of several people, some of whom were postal employees.
Product contamination and recalls can cause a ripple effect through the supply chain. When consumer products are recalled, their production is usually halted to determine the nature of the contamination. Because these products require printed labels and packaging, the production and distribution of these printed
products may also be interrupted since the printer may have to delay production, holding onto product already printed until the situation is resolved.

OTHER DISRUPTIONS

Other situations that can impact the capability to transport print and other products include conditions caused by human error or intervention, or by such natural occurrences as train derailments, power outages and fires (Highlight 3.2).

In times of economic downturns companies need to insulate themselves from the vagaries of the economy. Printers and distributors need to have disaster recovery plans in place that safeguard data from man-made and natural disasters. “The companies that plan and prepare for these economic and environmental impacts will emerge even stronger.”

CHAPTER SUMMARY

Physical distribution channels provide a mechanism that allow for the exchange of goods between manufacturer and customer. Products from all industries are transported via one or more appropriate channels of distribution. Distribution channels that are used for print media will vary based on the product, target market and customer requirements. Some products are distributed across multiple channels in order to reach all intended users. The key channels of distribution for printed media include the postal channel, retail sales channel, newspaper channel, in-plant channel and alternate delivery channel.

Finished goods leave a printing facility for varying destinations and by various transportation modes. Typically, products are shipped from a print facility by trucks belonging to the printer, the customer or some type of contract carrier. From this point the product may be routed to other modes based on when the product needs to arrive at its final destination.

Economic and environmental challenges that cannot be controlled by the printer or the distributor can threaten effective distribution. These factors can be natural or man-made disasters or regulatory or governmental factors. Thus, it is critical for printers and distributors to have a plan in place to recover from the effects of these situations.
Almost every activity that one engages in involves some type of process or specific steps to achieve the ultimate goal or response. This process or these steps are essentially the flow of work necessary to get to a specific end point. Whether painting a house, enrolling in college or shipping printed product, all processes have some type of workflow. In *The Handbook of Print Media*, Helmutt Kipphan defines the print production workflow in the following manner:

Description, organization, and monitoring of operations; process steps for the production of goods. The working area/process stages (sections) of premedia, prepress, press and postpress, roughly speaking describes the stages of production from the idea right through to the finished print product.1

One key element missing from this definition is the distribution or shipping of the product to either a storage area or to the print buyer. Depending on the type of process and the size of a company, workflows can range from very straightforward and simple representations to very complex multi-faceted processes.

In another look at RIT’s study on *Media Distribution in the Printing Industry*, it can be seen that the most common challenge reported by the research participants was a lack of time. As the printing industry continues to evolve, customers are demanding faster service and shorter run lengths. Another major challenge was getting the right distribution information from customers. Many participants reported that they received either bad lists or missing information from customers. Working with customers who are not technically savvy and who don’t understand the printer’s workflow is another difficult challenge. Computer automation and the ability to electronically transfer
shipping data, perform inventory control and reduce the manual nature of distribution are also reported as major challenges. Some of the other concerns that participants voiced were:\textsuperscript{2}

- “Eliminating duplicates, eliminating mistakes and getting each print right the first time.”
- “Dealing with international payment structure and custom regulations.”
- “Dealing with third parties and vendors such as truckers.”
- “Rising postal rates.”
- “Changing company mentality from bulk shipment to individual shipment.”
- “Meeting customers’ budget restrictions.”
- “Printing large quantities, but distributing the order in smaller portions.”
- “Regular distribution problems such as delays and damaged goods.”

**AUTOMATING THE WORKFLOW**

In “State of the Industry Begs for Process Automation,” a short piece in the American Printer magazine in 2004, Andrew Paparozzi notes,

Process automation was once a luxury. The ability to electronically track a job from RFQ [request for quote] to delivery—while sharing critical production data across processes and management systems—was a nice idea, but not a priority. It’s a priority now.\textsuperscript{3}

Reasons why automation is now a priority include the hypercompetitive market, the increasing complexity of production, and the modernization of the printing industry—no longer a craft industry. In terms of distribution, companies are faced with an environment that is difficult to automate at a time when the automation of information is critical to success.\textsuperscript{4}

**PRINT DISTRIBUTION WORKFLOWS**

The traditional print workflow (Figure 4.1) encompassed processes from creative to prep and film output, from which a plate or a cylinder was made.\textsuperscript{5} As prepress has gone digital, film has been replaced by direct-to-plate and direct-to-computer output. A print master or file, therefore, is created for use on a press to produce as many copies as required.

![Figure 4.1 Traditional Print Media Distribution Workflow: Print and Distribute](image-url)
Participants in RIT’s 2005 Printing Industry Center study *Media Distribution in the Printing Industry* shared their thoughts on what was needed to integrate some level of automation into a physical distribution workflow. The following comments were compiled:

- “Standardization for file formation, automated invoicing, order management, etc.”
- “Software which will allow for integration and tracking of shipments, and email confirmation to customers”
- “Lower costs”
- “Automate where possible”
- “Invest in more efficient equipment”
- “Incorporate data asset management systems”

Participants in the media distribution study were asked to describe their company’s distribution workflow. Each company provided this information in a graphical format that most closely related to the processes utilized in their distribution department. It was apparent that larger companies had a much more structured and in-depth workflow, while smaller ones used a simpler process.8

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**Figure 4.2** *Simple Distribution Workflow*9

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*Print Media Distribution Workflow* 41
Most printers’ operations fit into one of two workflows. The simple workflow in Figure 4.2 is a fairly standard set of processes used by smaller size companies. The complex workflow outlined in Figure 4.3 is used by larger sophisticated companies.

**Figure 4.3 Complex Distribution Workflow**

**PRINTING COMPANY DISTRIBUTION WORKFLOW DIAGRAMS**

The graphical distribution workflow models for several different printing companies were developed from discussions with the participants from RIT’s 2006 Printing Industry Center study *Print Media Distribution: Process, Profitability, and Challenges*. All the models are derivations of the companies’ workflows and are
believed to be an accurate representation of printing operations in the industry. Through analysis the researchers learned a great deal about core similarities and common structures among printers, as well as their many differences.

Several of the following workflow diagrams were developed in conjunction with participants from these companies. The distribution workflows are categorized by company type and size. Company type includes:

- Commercial printers
- Publication printers
- Digital printers
- Packaging printers

Company size is defined in the following manner:

- Large - more than 500 employees
- Mid-size - 50 to 499 employees
- Small - less than 50 employees

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**Figure 4.4** Distribution Workflow for a Mid-Size Commercial Printer

*Commercial Print*

Figure 4.4 illustrates the distribution workflow for a mid-size commercial printing company. For most products, the job ticket contains instructions for final distribution. Jobs that are distributed using the USPS are sent to the邮寄 & 完成品

**Figure 4.4 Distribution Workflow for a Mid-Size Commercial Printer**

*Print Media Distribution Workflow*
mailing department, where a separate mailing ticket determines whether the piece is inserted into other materials or self-addressed and sent to the post office. The shipping department arranges finished products, involving such processes as palletizing, labeling, stretch wrapping and perhaps incorporating waterproof barriers for protection of the shipment. The company then delivers products using their own trucks or a carrier.

Figure 4.5 illustrates the print distribution for a mid-size commercial printer that has a fulfillment operation. The printed and finished materials are distributed to the customer’s warehouse, fulfillment center, or directly to the end-user. Printed and finished materials are delivered to clients using the company’s trucks or are shipped through USPS, UPS or FedEx.

If the fulfillment is taken, the final product may be delivered to one or more locations including an event or directly to the end user.

![Distribution Workflow for a Mid-Size Commercial Printer with Fulfillment Center](image)

**Figure 4.5 Distribution Workflow for a Mid-Size Commercial Printer with Fulfillment Center**

**Publication Print**

The print distribution for a regional newspaper publisher/printer is shown in Figure 4.6. The finished newspaper consists of the paper itself and a number of inserts. The inserts are pre-bundled and sent to an off-site warehouse or
satellite location along with the finished papers. At this location the carriers hand insert the bundles into the paper and organize them for their route. Papers not designated for home delivery are prepared at the production facility for either bulk delivery to retail outlets, pay (honor) boxes, and so on, or for drop off at the USPS.

Some smaller newspapers may be distributed exclusively by one of the selected channels illustrated in Figure 4.6. One example is *Die Botschaft*, a weekly Amish newspaper with a nationwide circulation of 11,000 that uses only the postal system for delivery. *Die Botschaft*, not a time-sensitive publication, is printed and mailed each Monday. Due to the nature of its distribution process, news may be 1–2 weeks old when it reaches its subscribers.

The distribution workflow outlined in Figure 4.7 shows a complex and sophisticated process. This large commercial publication printer has two main ways of physically distributing finished materials. Small packages and mailings (less than 500 copies) are sent to the “hand center,” while larger packages or
mailings are delivered through shipping operations. International shipments and occasional boxing are also done in the “hand center.” When shipping operations are used, packages and pallets are wrapped and sent to the on-site USPS, also known as the detached mailing unit (DMU). Then, from this facility, they are sent to their various destinations. The other option is to “destination ship” directly to a USPS location or to a freight forwarder (such as FedEx) for distribution according to the customers’ specifications. Other times, the finished materials are sent to a fulfillment center or sent to LTL carriers (Less Than Truck Load), FTL carriers (Full Truck Load), or a courier service.

**Figure 4.7 Distribution Workflow for a Large Commercial Publication Printer**

Digital Print

Figure 4.8 shows the workflow diagram for a small digital printing book publisher. With this print-on-demand (POD) printer, the distribution workflow
consists of the finished product (books) moving directly into the shipping department and then being distributed (shipped) to the end user by way of USPS, UPS or FedEx.

**Figure 4.8 Distribution Workflow for a Small Digital Printing Book Publisher**

The distribution workflow outlined in Figure 4.9 is that of a small digital printer. The company providing information for this workflow indicated that a key component of this workflow is that it starts with establishing the requirements for distribution before the print process begins.

**Figure 4.9 Distribution Workflow for a Small Digital Printer**
Upon completion of the print process, products are sent directly to their customers, or the end-user (i.e., their customers’ clients). The company uses UPS and USPS to mail products to a single location or multiple locations based on customer request.

Packaging Print

The workflow shown in Figure 4.10 illustrates an example of a packaging print facility’s distribution workflow. The printed package may be finished and converted (folded and glued to form final package) on-site by the print distributor or may be shipped to a finisher and/or converter specified by the customer. Some finished packaging is stored by the print distributor or may go directly to a fulfillment center for kitting in preparation of final shipment to a retail outlet, distribution center, or the end-user.

Figure 4.10 Distribution Workflow for a Packaging Printer
COMMON CHARACTERISTICS OF PRINT DISTRIBUTION WORKFLOWS

There is an obvious correlation between the size of the printer and the services offered and the complexity of the distribution system, as shown in Figures 4.4 and 4.7, but a common characteristic of all distribution workflows is the prominent use of the USPS and other shipping carriers to transport product to clients and end users. Larger printers offer additional options such as destination shipping and/or utilize their own trucks for delivery.

Customized Distribution Workflow

The trend in the printing industry is to allow customers to choose where and how their product is shipped. For example, as shown in Figure 4.5, customers have the option of having their product shipped to one location, multiple locations, or to an end user. In Figure 4.4, customers have the option of having their product inserted into other pieces, pre-addressed for USPS pickup, or dropped at the Post Office. Clients also have options regarding palletizing and labeling, delivery, and choice of carriers.

Fulfillment

Another area of customization incorporated into some distribution workflows is the fulfillment function (Figures 4.5 and 4.7). The fulfillment area is another possible path where finished product may be routed before being shipped to the end user.

THE IMPORTANCE OF THE PRINT DISTRIBUTION WORKFLOW

Although distribution is reported to be a very important process, most printing companies do not have a documented and/or standardized distribution workflow. Many do not see the need for a documented workflow, since it may not be a focus area in the organization.19

It seems that most printers who may not document the process also do not want to admit it publicly. Other companies outside of the research study were approached and questioned about their workflows, but again were reluctant to share information even for research purposes.

Understanding each customer’s distribution requirements must be the first step in defining a distribution workflow. Starting the production process with a clear understanding of distribution requirements benefits both the printer and the customer by increasing efficiencies while reducing such problems as delayed production and late shipments.
Generally, discussions of the distribution of print focus on the movement of direct mail and publications such as magazines and newspapers or packages. However, some printed materials are distributed to the intended end-user by more non-traditional means. Entities such as the Church of Jesus Christ of Latter Day Saints, the U.S. Army, and envelope buyers, for example, incorporate distribution processes that are outside the more traditional workflows.

**The Church of Jesus Christ of Latter-day Saints (The Mormon Church)**

The LDS Printing Division located in Salt Lake City, Utah, utilizes a physical distribution workflow similar to the in-plant distribution channel discussed in Chapter 3. The Printing Division produces various types of printed literature for its membership and for outreach purposes. Typical products include scriptures, hymnbooks, educational materials, magazines and newsletters. The customer base consists of members of the church and non-members interested in learning about the church’s mission.

Orders for printed literature can be processed via mail, Internet or telephone. Regardless of the order process used, all product is shipped from...
the Distribution Services Division in Salt Lake City. Printed media is generally distributed to U.S. Mormon Church retail outlets, LDS church wards, or the international retail outlet. Subscription products such as magazines are distributed directly to the customer. A graphical representation of the LDS distribution workflow can be found in Figure 4.11.

**U.S. Army Psychological Operations**

The branch of the U.S. military responsible for creating all media products that are used overseas during military operations is the U.S. Army Civil Affairs and Psychological Operations (PSYOP) Command (Figure 4.12).

![Image](U.S. Army Psychological Operations Promotional Piece)

Figure 4.12 U.S. Army Psychological Operations Promotional Piece

This unit maintains both fixed and mobile production facilities. The fixed operation, which is located at Fort Bragg, NC, uses traditional distribution methods, but mobile print facilities (Figure 4.13) are used in the field. The print communications that are generated by these production facilities include informational and promotional leaflets, pamphlets and flyers. The print communications from the mobile units are generally distributed to the intended target groups by dropping clusters of product from helicopters or planes. The printed media are scattered on the ground on impact which tends to be the safest and most effective way to ensure that the messages reach the intended groups.
Distribution of Envelopes

Envelopes are a print segment within the packaging industry. Printed envelopes are used for purposes such as CD and DVD packaging, promotional mail and high-end specialty applications (for example, invitations). The Envelope Manufacturers Association (EMA) is a major industry group representing companies that produce envelopes both domestically and internationally. In total, 37 nations are represented in this association. “Everyone needs to understand print distribution channels,” states Maynard Benjamin, president and CEO of the EMA. According to Benjamin, there are three primary distribution channels for printed envelopes: trade, direct-to-end users, and integrated producers. In the trade channel the envelope manufacturer sells to printers, brokers, and office supply stores. In the direct-to-end user channel, which is the largest, the envelope manufacturer produces and packages product and sells directly to the customer (banks, retail, financial, government and so on). Integrated producers handle the complete package in that they offer printing and fulfillment services. Figure 4.14 shows a distribution workflow that would be used for this type of printed product.

Figure 4.15 illustrates the process of movie rental ordering, shipping and returning for Netflix members. Netflix has become the world’s largest online movie rental service since launching its subscription-based model in 1999. They offer more than 7 million members access to over 95,000 DVD titles. Netflix has a patented distribution process whereby members select DVDs to rent online. The selections are then processed, fulfilled and sent to the members. The member returns the DVD in the provided prepaid return envelope.
Depending on the type of process and the size of the company, the models of distribution workflows can range from very straightforward and simple representations to very complex, multi-faceted diagrams.

Most print distribution operations have either a simple or complex workflow. The simple workflow is a fairly standard set of processes used by smaller sized companies while the complex workflow is used by much larger and more sophisticated companies.

Print distribution workflows can be outlined based on the size of a company, its type (printer, publisher, and so on), or by product type (newspapers, envelopes, and so on). There are several traditional and unique models for the physical distribution of print media.

Although distribution is an important process, most printing companies do not have a documented and/or standardized distribution workflow. Starting the production process with a clear understanding of the distribution require-
ments will benefit both the printer and the customer, by increasing efficiencies and eliminating problems such as delayed production and late shipments.
A common characteristic of all distribution workflows is the prominent use of the USPS. The USPS is the single largest distributor for print in the U.S. Ben Cooper, principal for William and Jensen, PLLC, states, “If the printing industry is going to prosper and survive for the next 25 years it will have to be on the back of a sound distribution system.”1 Thus, an efficient postal system is fundamental to print. Printers who don’t understand that will have a difficult time selling their print services.

Previous research by Printing Impressions suggests that printers are passionate about moving into mailing and/or fulfillment services. With about 45% of all printed materials being distributed by mail, getting the right products into the hands of customers has often been the responsibility of the printer.2

In his 2005 book The Status of Printing in the United States, Frank Romano divides the distribution of print into four categories (Figure 5.1). The largest channel is postal mail, used for distributing periodicals, catalogs, direct mail, and transaction materials. Another 26% of all print includes periodicals, books, packaging, and greeting cards, distributed through retail locations. Six percent of all print (primarily newspapers, periodicals, and some books) is distributed through non-store newsstands. The remaining 22% is distributed by other methods such as home delivery and direct-to-business private services.3

OVERVIEW OF THE U.S. POSTAL SERVICE

The postal system began in 1775 as an informal network designed to keep settlers and colonists in touch with each other and with their homelands. Since that time America's postal system has changed to meet the needs of the nation it serves, and, for more than 230 years, it has delivered various types of mail to millions of people in numerous locations. In 1971 the Post Office Department
became the U.S. Postal Service. Its ability to provide affordable, universal mail service for everyone in America depends on a continual transformation.\(^5\)

The following list profiles the U.S. Postal Service.\(^6\)

- Serves over 300 million customers daily at 148 million addresses
- Has 37,000 U.S. post office locations
- Delivers to 1.8 million new addresses per year by:
  - planes
  - trains
  - trucks
  - cars
  - boats
  - helicopters
  - bicycles
  - mules
- Delivers 212 billion pieces of mail per year
- Has nearly 700,000 employees
- Owns a transport and delivery fleet of over 200,000 vehicles
- Has cost increases of $8 million when fuel costs rise by 1 cent

**CURRENT POSTAL ISSUES**

The U.S. Postal Service is a significant component of print distribution, handling approximately 44% of the world’s card and letter volume.\(^7\) All commercial printers, those who offer mailing services as well as those who do not, are affected by the USPS, as it is the most common method of sending direct mail, catalog materials, business mail, and so on. According to PIA/GATF,
the printing industry is divided into at least two groups: those who depend on the USPS and those who are forced to use it. The increasing problems (e.g. increased postage rates, size specifications, etc.) in the Postal Service, coupled with declines in print, have caused printers to increase their attention to postal issues.\(^8\)

Today’s commercial printers are selling full-color print for much lower prices than they charged 20 years ago. Automated presses, computer-to-plate, and advanced digital workflows are contributing factors. Yet, over that same time period, postal costs have increased (Figure 5.2).

![Figure 5.2 Print Cost vs. Postal Cost\(^9\)](image)

While postage increases continue to be an issue, they do not have the same impact on all printers, depending on the type of printer as well as the product mix. In the 2006 Printing Industry Center’s “Print Media Distribution” study, each printer interviewed addressed postal challenges by communicating and working closely with the USPS. Additionally, research participants offered the following advice:\(^{10}\)

- Stay abreast of USPS regulations and build stronger relations with them to maximize discounts.
- Be an active participant in postal reform activities.
- Educate customers on product redesigns (to ensure USPS machinability, readability and mail-ability), substrate choices (e.g. lighter weight), and co-mailing and other discount opportunities.
According to Jim Andersen, president and CEO of IWCO Direct,

Printers in the financial, publication, direct mail and commercial segments are directly impacted by postal rate increases. More than nine million jobs and $900 billion in commerce depend on the continued viability of the USPS. Every postal rate increase is met with declines in mailing volume. Smaller volumes mean fewer jobs.\textsuperscript{11}

The largest volumes of the largest printers are heavily dependent on the postal service. If there were no USPS, what alternatives would the print industry and businesses have for distributing products such as magazines, catalogs and direct mail?

Increased postal costs force printers’ customers to rethink print quantities, which, in turn, impacts the amount of print that is shipped. The cost of postage frequently exceeds all print-related manufacturing costs combined, and it appears that this trend will continue.\textsuperscript{12} Thus the lack of meaningful postal reform could have dreadful consequences on printers, their suppliers, and customers.\textsuperscript{13}

**POSTAL REFORM**

The modern postal service began in 1971 with the passage of a Postal Reform Bill. At this time, the USPS went from a federal agency to an independent entity responsible for generating revenues to allow for self-sufficiency. It also shifted its reporting structure from the postmaster general to a board of governors, and allowed postal employees to collectively bargain for wages and benefits.\textsuperscript{14}

The first rewrite of the postal reform bill came 35 years later in 2006, with the Postal Accountability and Enhancement Act of 2006 (Bill S 662). This act reflected economic changes in the country, and was designed to modernize the rate-setting process by tying rate increases to the Consumer Price Index (CPI). Additionally, it streamlined the mail system itself.\textsuperscript{15}

**IMPACT OF POSTAL REFORM ON MAILERS**

This new reform forces the postal service to forecast when determining rate increases and creates an environment where rates are more predictable. On February 9, 2006, PIA/GATF praised the passage of S 662 in the U.S. Senate. The Senate passage of postal reform is a big victory for the printing industry’s long quest for a change in the country’s postal laws. Michael Makin, president and CEO of PIA/GATF, stated that “large corporations and small, family firms, along with printing employees, customers and stakeholders, will all benefit
from this desperately needed modernization of the U.S. Postal Service.” The bill S 662 ensures that future postal rate hikes will be affordable and predictable. “This will allow the printing industry to continue to service customers efficiently and successfully,” Makin said.16

Given the significance of the USPS to printers, it is a fact that the U.S. printing industry would have faced significant financial problems if the postal service had continued to operate under its current structure and schedule of rate increases.17 Without postal reform, future USPS increases could have become an annual event, prompting major advertisers (the printer’s customers) to find cheaper alternatives for delivering their message. As mentioned previously, under reform conditions, the USPS has to tie rate increases to the Consumer Price Index. Also under reform conditions, participating industry leaders are asking for an expanded use of work sharing, where printers would handle some degree of sorting and distribution for the USPS in exchange for reduced rates.18

The latest postage rate increase (Table 5.1) went into effect in May 2008. Based on PIA/GATF’s analysis of the cross-elasticity between postage rates and postage-related printing, it is estimated that the an increase in postage could directly result in a significant decline in the volume of printed materials in the mail stream.19

<table>
<thead>
<tr>
<th>WEIGHT (OZ.)</th>
<th>LETTERS</th>
<th>FLATS</th>
<th>PARCELS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.42</td>
<td>0.83</td>
<td>1.13</td>
</tr>
<tr>
<td>2</td>
<td>0.59</td>
<td>1.00</td>
<td>1.34</td>
</tr>
<tr>
<td>3</td>
<td>0.76</td>
<td>1.17</td>
<td>1.51</td>
</tr>
<tr>
<td>Postcard</td>
<td>0.27</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A spike in the number of printed pieces mailed prior to a postal rate increase may be experienced which could slightly lessen the predicted percentage decline in the volume of printed mailings. Other forms of marketing communication and promotion are also experiencing some cost increases, so printed communications may remain a viable choice despite postal rate increases.21

Much more important and less predictable to the health of print are the economy and overall advertising and promotion spending. A robust economy and healthy advertising and promotion markets could override the negative impact of postage rate increases. But if the economy slows down and advertising and promotion spending declines, the negative effects of increased postal rates will be reinforced.22
Although the new postal reform bill has been praised by the graphic arts industry, many printing companies will feel the impact of the 2008 rate increase. To offset the increase in postage costs, print buyers are resorting to smaller, targeted mailing lists and shorter print runs, which in turn negatively impact the printer’s bottom line.

**PRINTER AND USPS PARTNERSHIP**

More customers want printers to handle all of their distribution requirements; therefore, more printers are partnering with the USPS to establish on-site post offices or delivery centers.

For printers to be successful in this new venture, they must consider mailing as an integral part of their production process, even though selling print and selling mailing have traditionally been two different processes. Sales experience in selling mail is crucial and the lack of this knowledge can result in printers having to pay costly postage fees.

It is the responsibility of the printer to initiate a printer/USPS partnership, and for an effective partnership to be established, printers need to both understand postal regulations and know what questions to ask. While there are many steps involved in establishing a meaningful, long-lasting relationship between printers and the USPS, the following list provides those that are most key.24, 25

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PRINTERS SPEAK ON POSTAL REFORM23

“As the printing and mailing industry maneuvers its way through another postal rate increase, we’re looking forward to what can and should be a new Postal Service. With postal reform legislation having been signed into law on December 20, 2006, the Postal Service and mailers are presented with opportunities to conduct business in a way that past law would not allow. It’s up to all of us to break out of our old way of thinking and creatively reinvent a United States Postal Service that is customer-focused, looking for ways to control and reduce costs while providing more value to the mail and mailers alike.”

Joseph E. Schick
Director, Postal Affairs
Quad Graphics
• Join local Postal Customer Councils (PCCs) – Mary Ann Bennett, president and CEO of The Bennett Group, Inc., suggests not just involving upper management, but including the people who will be handling the mail, (mailroom employees or customer service representatives) to ensure that the correct information will be obtained by those needing it most.
• Identify who your company’s USPS account representative is.
• Join organizations like the MFSA (Mailing & Fulfillment Service Association). It is difficult to get mailing knowledge from a print organization. Other industry trade organizations with a mailing focus include IDEAlliance and NAPL (National Association for Printing Leadership).
• Develop a good relationship with local mailing houses or letter shops in case the mailing function needs to be outsourced.
• Hire a mail specialist or train someone in the company to serve in this capacity.
• Proactively reach out to the USPS for marketing, mail piece design and standards assistance.
• Attend trade shows such as the National Postal Forum and Mailcom. The USPS is very active in each of these trade exhibitions.
• Start a dialog with the USPS by reaching out to the local Postmaster and requesting assistance with tasks such as obtaining mailing permits.

PRINTERS BECOME MAILERS: THE PROCESS

Getting into the mailing business provides a chance for printers to get more of the customer’s business, but it is not to be taken lightly and printers need to understand the associated risks. If a printer misprints or damages a customer’s print job there is usually an opportunity to reprint. However, if a printer misaddresses items for the mail stream and as a result some of the customer’s intended recipients do not receive the product, the consequences will be severe—the printer may lose that customer’s trust and future business.

What does it take to get into mailing? Emile Vaughan, president of Davis Direct in Montgomery, AL, advises that the first thing a printer needs to do is assign or hire a mailing specialist who is willing to learn the postal regulations. The second task is purchasing the right equipment. Mailing has a low entry cost and offers a great opportunity to reduce time and expenses. According to industry consultant Clint Bolte, start-up costs for an entry-level mailing operation can be as low as $40,000.26

According to Mary Ann Bennett, printers are expanding into mailing and fulfillment in an effort to increase market share and revenue. She proposes the following ten steps for printers who are looking to enter this market:27
1. Develop a strategic plan for mailing. Use the SWOT (strengths, weaknesses, opportunities and threats) analysis system as an essential element in developing a strategic business plan for the company.

2. Purchase mailing software. Mailing software helps with formatting and preparing mail. Properly formatted mail reduces the costs of the USPS, saves money on postage, improves delivery efficiency, and provides a competitive advantage in today's mailing industry.

3. Use ZIP+4 encoding software to generate revenue. ZIP+4 encoding can increase response rates to direct mail campaigns by improving mailing deliverability.

4. Devise a mail piece design and planning process, which will enable mailers to guide clients in selecting appropriate sizes for additional automation discounts. A design process can be a great asset to both the mailer and his or her clients.

5. Acquire mailroom equipment. Invest in equipment for addressing, inserting, bundling, strapping, metering, etc. A company may be able to use some of the existing equipment on its production floor.

6. Educate your staff. The company's employees, including salespeople and customer service representatives (CSRs), must understand the processes as well as the risks associated with the responsibility of moving printed pieces into the USPS mail stream.

7. Modify billing and proposal procedures. Decide whether the costs of mail preparation will be passed directly to the customer or if the company will absorb the mailing costs. (This does not include the cost for postage, which the customer pays.)

8. Modify job estimates to include the USPS and transportation costs. Entering the mailing business can increase a company's internal production and transportation costs significantly. Do not underestimate the costs associated with mailing and include the cost of mailing services in estimates.

9. Develop a quality assurance program. Establish standards and procedures for employees to follow in performing mail preparation services. Once implemented, these standards and procedures should be measured to evaluate success levels.

10. Get informed and get involved. Diversifying into the mailing industry is an attractive proposition for most printers. However, to be successful, the printer needs to be informed.
Companies surveyed for NAPL’s *State of the Industry Report 2006* indicated that they expected that mailing would be the second fastest growing service over the following two years.\(^\text{28}\)

Offering mailing, warehousing and distribution has become advantageous for printers. Today mailing capabilities may seem like a value-added bonus service, but in the near future, those companies that have not committed to this discipline will find themselves in the minority. Due to the many and wide-ranging advances in printing technology such as digital printing and variable data printing, it has become much easier to get a printed and addressed piece to a customer or consumer.\(^\text{29}\)

Some printers who offer distribution services have been able to save their clients money on postage. The president of CRW Graphics, Mark Weiss, emphasized that printers have a big advantage over mail shops. “At a mail shop, whatever a printer produces they have to mail.” Conversely, if printers handle their own mailing, they have more control and can accommodate changes after detecting errors that would have a huge impact on cost.\(^\text{30}\)

Incorporating mailing services into print operations can yield benefits for printers who mail their own products, for the postal service and also for printers’ customers.\(^\text{31, 32}\)

**Benefits to Printers**
- They will have access to all USPS products
- Access to a knowledgeable service for monitoring trends and potential solutions
- Improved request for print (RFP) responses
- They can pass postage rate savings onto their customers

**Benefits to the Postal Service**
- Receipt of quality mail – automation compatible mail
- Ability to share knowledge with entities who have a vested interest in direct mail
- Cost savings because internal costs are significantly reduced

**Benefits to the Customer**
- The ability to link to knowledge base for best possible mailing solutions
- “One-stop shop”
- A variety of budgets can be accommodated
- Lower postage rates for bar-coded mail that is good quality, machinable and deliverable
Several printing companies have successfully entered into the mailing business. Two such companies, Cohber Press in Rochester, New York and Arandell Corporation in Menomonee Falls, Wisconsin, are featured in Highlights 5.1 and 5.2. Both of these companies report their mailing capabilities on their Web sites.

**HIGHLIGHT 5.1**  
**COHBER PRESS: LETTERSHOP/MAILING SERVICES**

“At Cohber, we have the knowledge and experience to help you develop a direct mail solution which will reach your target market and realize your sales, marketing and fund raising goals. We can assist you in the production of your mail piece from concept through in-home delivery. We have the technology and capability to produce traditional direct mail packages, hand assembled kits and closed face mailers containing personalized text and images.”

“Each database is analyzed to ensure postage discounts are realized through effective postal presort. Mail files with a qualifying ZIP concentration can be directly entered at the BMC (Bulk Mail Center) or SCF (Sectional Center Facility) level for maximum postage savings and for timed in-home delivery. We can ensure your project is cost efficient, meets your delivery expectations and is within budget.”

“We offer list maintenance and database management services including: list hygiene, merge/purge, data conversions, selects, reporting and optimum postal presort. We ensure that all mailings meet current postal regulations to receive all qualifying postage discounts.”

**HIGHLIGHT 5.2**  
**ARANDELL CORPORATION: MAILING AND LOGISTICS**

“As a leader among web offset printers in North America, Arandell backs you with world-class logistics and support. We mastered the logistics of mailing and distribution catalogs long before other mailers even understood the complexity of catalog distribution.”

“We will assist you in the maze of postal service rules and offer solutions to fit your marketing goals and budget. Our team will help you take advantage of postal discounts and services.”
CHAPTER SUMMARY

PIA/GATF estimates that about 45% of print volume ends up in the mail. This amounts to about $72 billion in annual printing shipments delivered through the USPS. The major categories for mail include periodicals, catalogs, direct mail, and transaction materials.

On February 9, 2006, PIA/GATF praised the passage of postal reform bill S 662 in the U.S. Senate, a big victory in the printing industry’s long quest for a change in the country’s postal laws.

Printers who want to expand their service offerings may want to investigate the pros and cons of entering the mailing business. However, such an approach is not to be taken lightly as there are substantial financial risks involved in this type of endeavor.

A key step for adding mailing to a print operation is for printers to take proactive approaches such as finding the contact persons in their local or regional USPS. Additionally, they need to get further education and information through local Postal Customer Councils (PCCs) and industry mailing associations such as the Mailing & Fulfillment Service Association (MFSA).

Many printers have established successful mailing operations, such as Cohber Press in Rochester, New York, and Arandell Corporation in Menomonee Falls, Wisconsin, which are highlighted in this chapter.
SECTION TWO

DISTRIBUTION AND THE COMMERCIAL PRINTER
The production and distribution of printed materials is a complex and expensive process where costs and profitability are impacted by downturns in the economy and price increases of raw materials and other resources. Often the profitability of these services is not readily apparent due to a print company’s invoicing schedules and practices. For example, a company’s cash flow and profitability can be stifled if payment for a print job is not required until the product is shipped and/or received by the customer. Further, payment due dates can be anywhere in a 30 to 120-day window. To minimize this impact, printers often give incentives for receipt of early payment.

**DISTRIBUTION COSTS**

What are the costs associated with print distribution and how profitable is it as a service offering? In a 2006 Printing Industry Center study entitled *Print Media Distribution: Process, Profitability, and Challenges*, in-depth interviews were held with four U.S. printing firms. As part of this research, participants were asked the following questions:

- Does your company charge the customer for distribution services? If so, is distribution a separate line item on the invoice?
- What percentage of a printing job quote is allocated to distribution costs?
- Is distribution a profitable service in your organization?

Table 6.1 outlines the participants’ responses. Companies 1 and 2 do not market print distribution services. However, Company 1 assists customers with distribution issues and Company 2 does not market distribution. Both company 3 and 4 indicated that they were realizing a profit from their distribution service offerings.
Distribution of printed products adds significant cost to a print production job. These costs, which impact both printers and print buyers, are primarily associated with the following functions:

- Storage of materials, work in process and finished goods at on-site and off-site storage locations.
- Shipping, depending on issues such as delivery mode, destination, freight, fuel and required arrival time.
- Mailing, which requires knowledge of facts for all classes of mail as established by the U.S. Postal Service.
- Packaging, in which the cost depends on the complexity and type of packaging structure/configuration that is required.
- Labor costs, for salaries, hiring, training and overhead of employees in a distribution department.

These distribution costs can have major financial impacts on the printing and mailing industries. Table 6.2 shows an example where the postage for a specific print job is more expensive than the actual printing. In this order, the cost to print 4,000 deluxe size postcards was substantially lower than the distribution cost, which included mailing and list purchasing.
### Table 6.2 Examples of Print and Distribution Costs from a Postcard Manufacturer

<table>
<thead>
<tr>
<th>PRODUCTS</th>
<th>FLAT POSTCARDS</th>
<th>4.25”x6”</th>
<th>6”x8.5”</th>
<th>6”x11”</th>
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</thead>
<tbody>
<tr>
<td>QUANTITY: 4,000</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>COLOR FRONT, B/W BACK</td>
<td>$395</td>
<td>$659</td>
<td>$875</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MAILING SERVICES</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>MAILING QUANTITY: 4,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POSTAGE: FIRST CLASS</td>
<td>$840</td>
<td>$1,360</td>
<td>$1,360</td>
<td></td>
</tr>
<tr>
<td>SERVICE &amp; SETUP FEE:</td>
<td>$250</td>
<td>$250</td>
<td>$250</td>
<td></td>
</tr>
<tr>
<td>MAILING SUBTOTAL:</td>
<td>$1,090</td>
<td>$1,610</td>
<td>$1,610</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LIST PURCHASING</th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LIST QUANTITY: 4,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LIST TYPE:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BUSINESS TO CONSUMER</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LIST USAGE: ONCE ONLY</td>
<td>$200</td>
<td>$200</td>
<td>$200</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TOTAL</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ESTIMATED TOTAL:</td>
<td>$1,685</td>
<td>$2,469</td>
<td>$2,685</td>
<td></td>
</tr>
<tr>
<td>UNIT COST:</td>
<td>$0.422</td>
<td>$0.62</td>
<td>$0.67</td>
<td></td>
</tr>
</tbody>
</table>

As a result of this cost trend, many print buyers have turned to other carriers to distribute print products. If the cost of distribution continues to increase at a rate that cannot be sustained, more print buyers will seek alternative means to communicate with end-users.³

**THE PRINTERS’ PERSPECTIVE ON DISTRIBUTION COSTS**

How do printers assess distribution costs? According to Stephen Whittaker, vice president of quality assurance for the Rochester, NY-based Monroe Litho, the cost of distribution varies depending on the complexity of the product being produced. For example, fulfillment work is more complex and costly than straight print shipments. Another factor that impacts cost is the method (ground, air, and so on) by which the customer wants the product distributed. Whittaker estimates that costs could range from 5–20% of a print job. He further points out that the industry could establish standard guidelines and templates for hourly rates for cost-center expenses.⁴

The distribution expense is especially important for magazine and catalog publishers. RR Donnelley, the largest printing company in the U.S., continually looks for ways to improve its distribution operations in order to save customers money. The company implements such strategies as co-palletiza-
tion and drop-shipping. Co-palletization is a process that combines materials from different publishers on the same pallet, allowing smaller customers to realize the same postal rate savings as larger customers. With drop-shipping, the printer transports publications closer to their destinations before inserting them into the postal stream to reduce mailing costs and delivery times.\(^5\)

In addition to the costs associated with the logistics and shipping of print, other situations result in additional costs for the distributor. Three specific costs that should be considered are the costs of returns, of unused materials, and of poor quality.

**Cost of Returns**

One of the major reasons for returned print product relates to list maintenance issues. It is not uncommon for mailing lists to have outdated and incorrect addresses. As a result, printers should plan on having at least 2–5% of a mailing returned as undeliverable. In anticipation of this printers need to consider the return factor before shipping and establish a work-instruction process to manage returns. At Monroe Litho, customer bins are established at an appropriate charge to each customer. Customers can then determine how they want returns to be handled.\(^6\)

Another cause for returns is damaged goods. Printers are responsible for replacing damaged print jobs, often handled by a standard percentage of print overruns. Printers that have no overruns may have to reprint, which may require additional materials. Customers do not generally get involved in these issues unless they cause a delay in the arrival of the product; however, the printer is tasked with receiving any reimbursements due from the shipper on behalf of the customer.

**Cost of Unused Materials**

Many times, printers find themselves the holders of print overruns or unused material from their customer. They may formally or informally warehouse these products, charging the customer in the former instance and not charging in the latter. Warehousing unused goods becomes costly to the printer if the customer ends up not using the material, or if the printer does not have adequate storage space. In either case, printers may be giving up space that could be used more efficiently for other business needs.

This issue can be best summarized by Chris Pape, President of Monroe Litho: “A product that is not going to be used should not be kept on a shelf for indefinite periods of time taking up space. This is both wasteful and costly and does not make good business sense.”\(^7\)
Cost of Poor Quality

According to Monroe Litho’s Stephen Whittaker, when considering the cost of distribution printers and distributors should not overlook costs associated with poor quality issues that could add an additional 20% or more to a print job. Poor quality issues in distribution may occur during storage, handling, inspection or shipping, and may result in spoilage and require rework or reprinting.

Preventive measures such as the development of a quality checklist should be implemented to minimize or eliminate poor quality issues. Checklists should contain correct delivery instructions and should list the shipping price. In addition, corrective action training and internal quality audits could be instituted.

DISTRIBUTION AS A PROFIT CENTER

In the study previously cited, *Print Media Distribution: Process, Profitability, and Challenges*, participants were asked about the cost and profitability associated with the distribution of printed materials in their organizations. Of the four companies in the study, two indicated that distribution was a profitable service (Table 6.1). Both of these market their services and the associated costs are 5–10% of the total order. Company 1 did not view distribution as a profitable service, and Company 2 only charged for this service if the product was distributed via USPS or shipped via carriers such as UPS or FedEx.

While the study reported a marginal profit from select distribution services, the researchers concluded that distribution as a profit center is still a gray area. If the companies interviewed in the study are representative of printing companies in general, then distribution charges are dependent on the service and whether or not the customer sees value in them. For instance, services such as fulfillment are viewed as specialized distribution. The customer understands the value of these services, and payment is a non-issue. Conversely, straight distribution services are not viewed as specialized. If printers have not traditionally charged for distribution, customers may resist and/or resent having to pay for what had been a free service.

How can printing companies establish profitability in their distribution operations? In *101 Ways to Increase Profitability*, Dick Gorelick states: “Many companies are, or have been, reluctant to add post-bindery distribution services because of a lack of guidelines for pricing.” Selling distribution services in the printing industry involves gathering information in order to offer tailored, customer-specific products and services. According to Gorelick, “Selling distribution, unlike the sale of print, requires front-end work. It is arduous, detailed, and painstaking in the short term; however, the return on investment in the sales process is in the long-term relationship.”

*Print Media Distribution Costs and Profitability*
HIGHLIGHT 6.1
PROFITABILITY IN PRINT DISTRIBUTION?

Dick Gorelick offers numerous tools and recommendations that can allow printers to analyze the profitability of their current distribution operation and/or to establish a profitable distribution service. The following ten tips are highlighted below.¹²

1. Develop & publish trade customs for distribution.
   • Trade customs are not law, but are intended to represent customary industry business practices and may be used by a print seller.
   • As printers increasingly handle post-bindery services, they and the customer must agree on such issues as payment of postage, confidentiality of lists, and shrinkage of vendor-managed inventory.

2. Understand your costs.
   • Most graphic arts companies can quantify only estimated manufacturing costs of a job and payment record of a customer. Though difficult or impossible to quantify other costs, they should be considered.
   • Other related issues should also be considered:
     • “Hit rate” of print job estimates; estimates are not free.
     • Condition of electronic files previously submitted by the customer.
     • Regularity of business — this affects cash flow.
     • Customer service history and your company’s market share within that account.

3. Educate employees about the basics of finance.
   • A common management mistake is the assumption that all staff members understand the economics beyond the directive to “buy low, sell high.”
   • Sales representatives need to understand the differences between profit and cash flow, the cost of floor space to customers, the cost of excess inventory and the financial benefits that may accrue to customers if the print company is to manage post-press functions.

4. Activity doesn’t always equal profitability.
   • Companies that are increasing their billings for distribution services
(storage, kit assembly, mailing, bulk fulfillment, vendor-managed inventory, and so on) frequently have difficulty forecasting month-end results.

- Profitability is often distorted by distribution services that tend to be characterized by high-value-added sales. Companies may wish to consider monthly and year-to-date operating statements that separate print and distribution sales.

5. Use the estimator as an educator.
- Management may wish to consider adding additional functions to the position.
  - Producing a job-specific budget in order to meet customer needs at the lowest production cost.
  - Offering alternatives, when requested, in terms of materials and workflows.
  - Producing a layout so that others in the organization may understand the logic upon which the estimate is based.
- An experienced estimator is in a unique position to educate sales representatives, explain the value of accurate, unambiguous job specifications, and explain the consequences of alternative work methods and materials.

6. Individualize pricing.
- Pricing should not be a one-size-fits-all exercise. There should be considerations, on an account- and job-specific basis, of your company’s perceived value to the customer.
- Also consider the competition and the customer’s long-term value to your organization.

7. Sell distribution services.
- Selling print involves finding buying organizations with products that are compatible with the finite dimensions of a company’s production equipment.
- Selling distribution services involves gathering information in order to be able to offer tailored, customer-specific products and services. To that end, here are some tips:
  - The adjective “customized” should always be used when referring to your company’s “mix” of post-finishing products and services.
• Be prepared for a selling process that may consume a year or more.

8. Price distribution services based on value.
• Sale of distribution services involves a customized program. Additionally, it is critical that a printing company understand the value to the customer as well as the supplier’s own costs.
• Distribution services, except perhaps for mailing, cannot be estimated in the manner in which print is done. Instead it must be priced — and done so with an appreciation of the perceived value to both parties.

9. Speed the invoicing process.
• Speed of invoicing has become an important point of differentiation in the printing industry. It is a particularly sensitive issue with designers, brokers, advertising agencies and other intermediaries that need an invoice from a print supplier in order to bill their clients. The speed with which they can retrieve their cash is directly related to the speed with which a supplier delivers an invoice.
• Many print companies now produce a preliminary invoice that is faxed to the customer within 24 hours of job shipment. This allows any questions or discrepancies between printer and buyer to be quickly identified and resolved.

10. Track customer’s financial health.
• Most companies demand a completed credit application from a first-time customer. Many firms demand that half of the value of the first invoice be remitted upon delivery.
• Once credit is established, there is a tendency to handle credit and collections in a routine manner.
• Regular tracking of the financial status of the top tier of customers may be a prudent step.

Another consideration relative to increasing profitability is reducing costs. An established program for on-going cost and waste reduction is essential to overall profitability. Companies involved in distribution should include several elements in a comprehensive effective program:
• Establish formal waste/cost reduction plans in the strategic planning process.
• Work with clients to restructure their image designs and sizes if possible.
• Implement remote or soft proofing (proofing done on a computer monitor) that can save both time and money instead of hard (printed) proofs that usually require physical delivery.
• Look for opportunities for co-mailing and co-palletization to reduce postal and shipping costs.

**CHAPTER SUMMARY**

Distribution of print is a process that is impacted by both downturns in the economy and price increases of raw materials and other resources. Profitability and the cost of print distribution services vary depending on the product, and several factors make accurately assessing the level of profitability difficult.

Many print producers offer distribution services at no charge. If distribution provides value for a company and its customers, then an appropriate charge should be assessed. Further, distribution services should be included as a line item on the customer's order, even if there is no charge, to show the steps that are required to effectively process and ship printed product.

Industry guru Dick Gorelick offers several strategies for printers who want to offer distribution services as well as for those that currently distribute and mail print for their customers. These strategies are critical to success and profitability, and are focused on understanding costs and selling distribution services.
CHAPTER SEVEN

INFRASTRUCTURE AND CHALLENGES FOR DISTRIBUTION OPERATIONS

Distribution departments perform several operations and can require a complex infrastructure. In a 2006 presentation at RIT, Andrew Paparozzi said, “You can’t just throw up some racks and call the UPS (United Parcel Service) guy and think you have a distribution operation.” This chapter provides an overview of the challenge of creating systems that allow for satisfactory and accurate distribution.

Infrastructure is the underlying foundation or basic framework in a system or organization. Most generally it is a set of interconnected structural elements that provide the framework supporting an entire structure or system. The term has diverse meanings in different fields, but is perhaps most widely understood to refer to roads, sewers, or the infrastructure of a city or region. In other applications, infrastructure may refer to information, informal and formal channels of communication, software development tools, political and social networks, or shared beliefs held by members of particular groups. Still underlying these more general uses is the concept that infrastructure provides organizing structure and support for the system or organization it serves.

The extent of the infrastructure required to run an efficient print distribution operation will depend on the size of the company and the types of service offerings. Also key to establishing an efficient distribution operation is recognizing that there is a learning process involved. Some key infrastructure requirements will include space, inventory management, defined shipping and delivery processes, material handling equipment and procedures, and people.

SPACE

In the printing industry, materials that are not shipped or delivered after production and finishing are warehoused for just-in-time (JIT) delivery. Ware-
housing includes the secure storage of raw materials and finished goods. Certain inventory items with low usage may be stored at an off-site warehouse location. A warehouse management system is a critical component of an effective supply chain management solution. Warehouse management (on-site or off-site) is an essential operation in order to remain competitive. Although some may say warehousing operations are “old school” and in decline, warehousing still is and will remain an important part of distribution for many years to come.

Space is a major concern for work in process, storage of raw materials, finished goods and overruns. Those printers who don’t have adequate space have problems with safety, inventory management, and damaged products. Many printers cannot take on the burden of off-site storage costs, but nevertheless need efficient storage and tracking methods to manage work in process and finished goods. One Printing Industry Center study participant commented, “Staging finished goods is a problem because there is not enough internal space for finished goods storage.” Another stated, “Internal distribution puts a company at risk for damaged product and increased material handling.”

When Troy Reynolds, editor of Distribution Digest, asked warehouse and distribution center managers to describe the biggest challenges they face everyday, one of the most common responses was “not enough space.” To address this challenge, Reynolds offered several suggestions including the following actions: evaluate pallet configurations, eliminate unwanted materials, find hidden storage space, and get rid of excess inventory.

Most printers work with a JIT model to avoid having to hold materials for customers. Printers who find themselves having to store products or materials either do so off-site or in a designated storage area within the production operation.

Responding to questions about storage and warehousing, participants in RIT’s 2006 print media distribution research study explained that they focus on creating solutions to address space limitations and physical constraints through building expansions and/or the reorganization of their current warehousing facilities. Some participants stated that recently they have been warehousing less in an effort to reduce overhead costs.

**INVENTORY MANAGEMENT**

If a product’s end-user knew what was needed, exactly when it was needed, and exactly when it would be delivered from the supplier, and if that end-user could get it delivered on time at no cost, there would be no need for inventory. Since this situation is not realistic, inventories have to be managed to meet cus-
tomer demands for flexibility. Inventory appears in the supply chain in several forms: raw materials, work-in-process (WIP) and finished products. Inventory control provides accountability for all movement of inventory items, including receiving, storage, production and assembly, fulfillment, and disposal.

A key aspect of effective inventory management is an information technology (IT) management function to address internal and external systems and for accurate invoice generation. IT is a key enabler of effective distribution operations because it provides a seamless link between print production and delivery.

**SHIPPING AND DELIVERY**

Shipping operations regulate the flow of material through a network of transportation links. The field of transportation can be divided into infrastructure, vehicles, and operations. Infrastructure includes the transport networks (such as roads, railways, and airways) that are used, as well as the nodes or terminals (such as airports, railway stations, and bus stations). Critical to ensuring efficiency in shipping and delivery are optimal procedures for routing, scheduling, and ensuring customer satisfaction. Rising shipping costs and providing for good communication flow through the supply chain are key considerations in the shipping and delivery workflow.

**Rising Shipping Costs**

“The key issue for an industry as highly competitive as ours is how printing companies will deal with rising costs,” noted Andrew Paparozzi. “How much will they be able to pass on to customers as increased price, and how much can they absorb through increased efficiencies and productivity?” Rising shipping costs can partially be attributed to two major factors: truck driver shortages and the increase in fuel prices.

**TRUCK DRIVER SHORTAGES**

Approximately 70% of U.S. products are shipped by truck. However, the long-haul trucking industry is facing a critical shortage of 20,000 drivers, according to the American Trucking Association (ATA). ATA further states that this trend is expected to continue and by 2014, the shortage could increase to over 100,000 drivers. Factors contributing to the shortage include the retirement of older drivers and the younger replacements’ preference to spend time at home with their families rather than being on the road for extended time periods.

The need for drivers extends beyond long haulers to drivers for shorter hauls and local deliveries. Thus, to remain competitive and to augment external
recruiting, some fleet owners such as A. Duie Pyle, a leading regional LTL (less than truck load) trucking company, have established their own truck driving schools, recruiting people from their warehouses and terminal operations.\(^{17}\)

As we have seen, sometimes the cost of distribution is more expensive than the cost of print itself, and therefore printers are striving to reduce distribution costs, even if that means something as basic as using a van rather than a truck.\(^{18}\) Some companies are also bundling local and national deliveries and taking advantage of negotiated contract pricing with trucking companies.

**INCREASED FUEL PRICES**

Spiking oil prices (Figure 7.1), are elevating shipping costs for printing companies. Coping with higher costs of operations including fuel is a challenge for every industry and every company in America.\(^ {19}\) Rising fuel prices have had a great impact on many industries, including the printing industry which depends on it. As a result, some shipping and trucking companies have been
forced to increase their prices. “In the trucking industry, fuel represents one of the largest operating expenses, roughly 10% to 20% of the cost of doing business,” said Tavio Headley, staff economist for the American Trucking Association.  

The United Parcel Service (UPS) says its fuel costs leaped 45.3% between the second quarter of 2004 and the same period one year later. Both FedEx and UPS have imposed special fuel surcharges in addition to normal delivery fees. UPS store owner Ed Pittman said, “Customers can expect to pay

<table>
<thead>
<tr>
<th>COMPANY</th>
<th>IMPACTED BY RISING FUEL PRICES?</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>YES</td>
<td>“Company has to absorb cost if surcharge is not estimated correctly.”</td>
</tr>
<tr>
<td>2</td>
<td>YES</td>
<td>“Puts pressure on clients to reduce quantity or print on lighter stocks.”</td>
</tr>
<tr>
<td>3</td>
<td>NO</td>
<td>“Increase in cost is passed on to the customer.”</td>
</tr>
<tr>
<td>4</td>
<td>YES</td>
<td>“Company absorbs some of the cost (approx. 10-15%).”</td>
</tr>
<tr>
<td>5</td>
<td>NO</td>
<td>“An increase in freight cost; however, [this] cost is passed on to customer.”</td>
</tr>
<tr>
<td>6</td>
<td>NO</td>
<td>“Has increased shipping cost; however, cost is passed on to customer.”</td>
</tr>
<tr>
<td>7</td>
<td>NO</td>
<td>“Increase in cost is passed on to the customer.”</td>
</tr>
<tr>
<td>8</td>
<td>YES</td>
<td>“Though cost is passed on to customers, customers come back and ask for better ways to ship.”</td>
</tr>
<tr>
<td>9</td>
<td>YES</td>
<td>“Resulted in an increase in distribution cost; however, cost is passed on to customers.”</td>
</tr>
<tr>
<td>10</td>
<td>YES</td>
<td>“Company absorbs the cost of distribution because clients are already paying a premium.”</td>
</tr>
<tr>
<td>11</td>
<td>YES</td>
<td>“Surcharges come back to the company because customers are charged a fixed rate.”</td>
</tr>
<tr>
<td>12</td>
<td>NO</td>
<td>“Customers pay for shipping.”</td>
</tr>
<tr>
<td>13</td>
<td>NO</td>
<td>“Company bills at a percentage higher than the cost of distribution.”</td>
</tr>
<tr>
<td>14</td>
<td>YES</td>
<td>“In-house truck expenses have increased.”</td>
</tr>
<tr>
<td>15</td>
<td>NO</td>
<td>No comment</td>
</tr>
<tr>
<td>16</td>
<td>NO</td>
<td>“Company does very little delivery.”</td>
</tr>
</tbody>
</table>
higher shipping prices as fuel prices keep escalating.” 22 Even large companies have experienced the impact of this issue. For example Wal-Mart, the world’s largest retailer, blamed higher oil costs when announcing that its 2005 third-quarter results would be weaker than projected. 23

Half of the participants in another Printing Industry Center research study reported that the increase in fuel prices negatively impacted their physical distribution operation (Table 7.1). These participants had to absorb transportation surcharges because they either offered their customers fixed rates for distribution or charged a premium price for production and didn’t charge for distribution. The other half did not see a direct impact on their physical distribution operations, mainly because they passed on the cost of shipping/distribution to the customer. Most participants in both groups noticed an increase in either in-house truck expenses or trucking companies’ expenses. Some participants also mentioned that the increase in fuel prices puts pressure on customers to reduce the quantity of print they buy, or to ask for lighter paper stock. 24

Fuel prices have remained high, and printers have implemented solutions ranging from reducing the number of carriers, negotiating rates with the USPS and third-party logistics firms, and passing on increases to clients. Some printers have also implemented other strategies to reduce their and their customers’ costs such as:

- Establishing long-term (3–5 years) trucking contracts for protection from frequent rate increases.
- Bundling print shipments to completely fill trucks in order to reduce freight costs.
- Establishing partnerships with remote printers to use a “distribute and print” model. This is a cost-effective process that enables product to be manufactured near the point of use.
- Incorporating more remote or soft proofing instead of delivering hard copy proofs for customer approval.

**Communication Flow**

Frequently, customers do not provide complete shipping requirements when the print order is placed, forcing the printer to hold onto printed and finished goods. This oversight in the ordering phase can lead to delays in receipt of other customer information, changes in customer requirements, tied up warehouse space and communication challenges. Comments from printers such as, “There are too many open work orders because we are waiting for instructions to come from the customer,” are all too common.
TIMING AND SCHEDULING

Incomplete customer information will impact an organization’s timing and scheduling. Scheduling difficulties occur when customers make special requests for immediate turn-around, partial shipments and/or changes to an original shipment request. One way to address these issues is to involve the shipping department in the initial ordering process. This type of early involvement will lead to reduced errors, increased product quality, improved customer relations and reduced waste.

Customers continually want printers to take on more responsibility, often asking to be notified when shipments are en route. Thus, printers must act as consultants for customers in order to manage expectations and to keep up with customer demand. Printers should encourage customers to accept immediate shipments where possible, provide e-mail confirmations, and utilize tracking software and other appropriate technology enhancements.

Other approaches that may help eliminate problems resulting from ineffective customer information flow are:

- Reorganize distribution and warehouse floor space for maximum efficiency.
- Acclimate and educate internal (employees) and external customers on best practices for distribution workflow.
- Where possible, delay the start of a print job until all distribution requirements are understood and documented.
- Assess the profitability of developing workflow for short runs and print-on-demand (POD) services.

MATERIAL HANDLING EQUIPMENT AND PROCEDURES

One of the basic components of any manufacturing system is its material handling (MH) system. According to one definition,

Material handling refers to activities, equipment, and procedures related to the moving, storing, protecting and controlling of materials in a system. In a typical factory, MH accounts for 24% of all employees, 55% of the space, and 87% of the production time. It accounts for between 15% to 70% of the cost of a product.25

Material Handling Infrastructure

As mentioned earlier, the complexity of a distribution operation depends on the size of the company and the level of services offered. The same is true of material handling workflows, since they too have their own specific infra-
structure. At a minimum, a site should have the following items for a material handling operation:

- Industrial equipment for moving and storage of finished goods and raw materials, including forklifts and lift trucks, conveyor systems, and racking systems.
- Packaging processes and materials for such functions as banding, stretch and shrink wrapping, palletizing, bundling, and strapping; materials including boxes, pallets, shrink-wrap, and labels.
- Waste disposal and recycling processes for handling paper and other waste materials.

_Safety and Environmental Considerations for Material Handling_

Because distribution areas are industrial with heavy equipment and supplies, their physical layout and environment should be configured to ensure safe practices.

- Incorporate ergonomic strategies for protection to avoid and reduce work-related injuries from routine activities such as lifting, reaching and stretching.
- Implement appropriate and on-going safety training for all employees. Employees can be engaged in this process through the establishment of safety committees.
- Provide Material Safety Data Sheets (MSDS) and store them in an accessible, visible location.
- Set up an ink and chemical storage area; minimize employee exposure.
- Provide safe, functioning equipment.
- Ensure adequate staffing for all operations.
- Provide eye and ear protection for employees and other people entering the distribution area.
- Ensure that distribution areas are clean and uncluttered to avoid potential safety hazards.
- Install efficient air-handling systems for worker safety and to meet regulatory requirements.
- Provide adequate lighting for safety and to help alleviate mistakes resulting from poor visibility.
- Identify zones that are specified for walking, storage, product staging and equipment.

**PEOPLE**

Experienced employees with the right skill sets and the ability to multi-task are essential to the continued growth and success of printing companies. The
majority of the more than one million employees in the printing industry work in the post-production areas of print companies. These employees are critical to the infrastructure of distribution operations. Regardless of how sophisticated a distribution operation might be, without the human resources to do all of the associated tasks, a printer’s goals cannot be achieved.

Profile of Employees in Print Distribution

Many of the employees in the distribution area enter their positions with no previous print or distribution experience. Most possess a high school education or less and many are non-English speaking or bi-lingual. Further, several companies use seasonal or temporary workers for a large portion of the staffing in these areas. Typical salary ranges are between minimum wage ($5.85/hour) and $10.00/hour, depending on the job, level of experience and seniority.

The titles of personnel in the distribution and shipping department vary. Most functions are categorized as operator, specialist, administrator, coordinator or handler. Companies with larger distribution departments generally have managers or supervisory personnel. Smaller companies utilize a set of people to do multiple distribution tasks. A basic organizational structure is shown in Figure 7.2.

![Organizational Chart of a Basic Distribution Department](image)

Print company human resource (HR) managers are finding it increasingly more difficult to find qualified employees for full- and part-time assignments in print production and distribution areas. There are challenges associated both with finding personnel and with training and retaining qualified employees.

Acquisition

Print distributors need computer-literate employees who can multi-task and who understand the inventory control process. Employees must also be able to handle the manual requirements involved with the distribution of printed product.

HR professionals need go beyond traditional hiring practices and use more creative recruitment techniques. For example, instead of work-
ing through a temp or employment agency, HR should try tapping into local churches or cultural centers where people are known and someone can vouch for character and work ethic. Existing employees are another good reference source and can sometimes recommend family members or friends who may be a good fit within the organization. Offering a finder’s fee, payable after the new employee has successfully finished a probationary period, could be an excellent incentive for this type of recruitment process.

**Training**

Many companies invest in very little or no training for any of their employees, let alone for departments such as distribution. When faced with budgetary cutbacks, companies frequently target training as one of the first line items to be dropped.

Employee development processes like cross-training and job enrichment are essential. Not only does training help the employee—it can also provide a competitive advantage for the company and impact the bottom line through increased sales, better logistics and increased efficiencies. Additionally, training helps with retention and protects the investment that has gone into the hiring of an individual. “When employees are given training opportunities they recognize that the company is investing in them and their future,” says Thomas Cummings, director of Kodak Operating Systems and Divisional VP Global Worldwide Operations for Eastman Kodak Company in Rochester, New York.

**Retention**

Once hired, the challenge becomes how to retain the employee. Some companies employ a large number of temporary and student employees who typically have a high turnover rate. Other retention problems relate to the competitive employment market, since printers are competing with the local labor market for these people, not just with other printers. Employees in roles that are considered “non-skilled” have options for employment in other industries with similar or higher pay and benefits, and with better working conditions and more flexible hours.

While training can be essential in retaining/maintaining qualified staff, other strategies could include implementing the programs like those summarized in Table 7.2.
<table>
<thead>
<tr>
<th>MOTIVATIONAL INCENTIVES</th>
<th>EMPOWERMENT PROGRAMS</th>
<th>CAREER DEVELOPMENT PROGRAMS</th>
<th>COMMUNICATION PROGRAMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Flexible work hours</td>
<td>• Increased</td>
<td>• Career planning</td>
<td>• Allow all employees</td>
</tr>
<tr>
<td>• Job rotation and</td>
<td>responsibilities</td>
<td>• Education and training</td>
<td>to have a voice in the</td>
</tr>
<tr>
<td>cross training</td>
<td>• Decision-making</td>
<td>opportunities</td>
<td>organization</td>
</tr>
<tr>
<td>• Performance-based</td>
<td>• Team leader</td>
<td>• Team leader</td>
<td>• Develop</td>
</tr>
<tr>
<td>pay increases</td>
<td>assignments</td>
<td>assignments</td>
<td>and display</td>
</tr>
<tr>
<td>• Quicker</td>
<td>• Input into</td>
<td>• Input into hiring</td>
<td>mission and vision</td>
</tr>
<tr>
<td>conversion to</td>
<td>hiring decisions</td>
<td>decisions</td>
<td>statements</td>
</tr>
<tr>
<td>full-time from</td>
<td></td>
<td></td>
<td>reflecting</td>
</tr>
<tr>
<td>part-time and/or</td>
<td></td>
<td></td>
<td>company’s values</td>
</tr>
<tr>
<td>temporary status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Increased benefits</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In addition to establishing retention programs and other employee development strategies, it is imperative that organizations have an effective communication flow. The message must come from the top down that all employees are valuable. In addition, employees should be made aware of how they contribute to the organization’s success.

Building and maintaining a qualified, reliable and long-term workforce is a challenge for most employers. Training is a key element for ensuring that employees are adequately prepared to do a satisfactory job. Therefore, sufficient training expenses must be built into the cost of doing business. “You have to pay for a reliable, flexible workforce. Companies want this versus a group of day laborers,” said Andrew Paparozzi.29 One key is to pay competitively and above the poverty level. Companies need to consider the socio-economic challenges of many of those who work in distribution and fulfillment operations. Creating an environment that is conducive to building a dedicated workforce is one way to ensure that people will feel valued.

Employees in any company or organization want and need most if not all of the following rewards from their work environment:

• Satisfaction and fulfillment
• Confidence and security
• Fair/acceptable salary and benefits
• Recognition
• To be considered part of a team
• To feel valued
• To be empowered

People stay in organizations for several reasons. One key reason is because they feel a sense of loyalty from their employer. The question that should be answered first and foremost by all print distributors is, “What did you do to build loyalty?”

CHAPTER SUMMARY

Distribution departments are comprised of several operations that can require a complex infrastructure. Infrastructure can be defined as a set of interconnected structural elements that provide the framework supporting an entire structure or system. Distribution infrastructure includes transport networks (roads, railways, airways) as well as nodes or terminals (for example airports, railway stations, and bus stations).

The major components of infrastructure for print distribution include space, inventory management, shipping and delivery processes, material handling equipment and procedures, and people.
Goldberg and Romano cite that the evolution toward “print e-commerce” began with customers emailing or electronically transferring files to print services providers.\(^1\) Today, depending on the printer’s goals and investment capabilities, a company’s print e-commerce may be as complex as a complete integration with a range of electronic procurement systems adopted by customers, or as simple as conducting transactional print procurement through the Internet. Printers who are looking to implement e-commerce strategies may want to start by adopting simpler transaction-oriented e-business strategies and then advancing their capabilities as they become more adept at business in the Internet Age.

The Internet is a key enabler and support tool for the distribution of all types of information. Further, it is the communication backbone for several processes and transactions, improving the way printers and their customers work with each other. The Internet gives businesses a unique opportunity to add value and productivity, both for themselves and for their customers. Most print buyers are integrating e-commerce strategies, either on a basic or more complex level compared to their overall business strategies. However, it should be noted that a pure Internet business model without a profitable business strategy is not likely to succeed. In the end, any business strategy has to deliver value to the customer to be successful.\(^2\)

**Electronic Distribution**

With the advent of the Internet, a new printing workflow was born, reversing the traditional steps of the printing process (print-and-distribute). This workflow has been described as “print’s great paradigm shift” or “distribute-and-print.” Infotrends (formerly CAP Ventures) defines distribute and print.
as electronically distributing a file and then physically printing a job near the point of final delivery.³

Electronic distribution (Figure 8.1) of information enables printing to take place at single or multiple sites that are remotely located from the file preparation facility. The concept is presumed to have originated with the newspaper industry as part of its satellite printing plant development in the 1960s and 1970s.⁴ With this model, customers can electronically distribute files through the Internet to various remote locations to be printed either by the user or by a print services provider, saving delivery time as well as traditional shipping and handling costs.

The primary problem with electronic distribution in its early days was the business model. Management challenges included consistent pricing, scheduling, job tracking, billing and bill collection. The keys to an effective distribute-and-print model are device connectivity and the compatibility of file formats.⁵ Over the past ten years this model has afforded value to some users, and hardware and software are continuously being designed to support its functionality.

In the book *Digital Basics by Mohawk*, Frank Romano emphasizes that the two main advantages of electronic distribution are the time saved and the reduction of expenses required to ship printed materials around the country or the world. The digital printing process allows publications to be electronically distributed to a number of different digital printers.⁶ Figure 8.1 shows how files are prepared, printed and distributed locally.

![Figure 8.1 Electronic Distribution](image)

The workflow illustrated in Figure 8.2 represents the distribute-and-print process for a networked printer, or one with multiple print locations where files can be distributed for printing near the point of delivery. In this workflow,
printed and finished materials can be picked up from a local office and print center, delivered through local carrier services to the client’s home or business center, or shipped by carriers such as FedEx. In preparation for shipment, the job is packed, a quality check is performed, and then the job is shipped to the customer. The customer also has the option of tracking the job via the Internet, where a confirmation ticket is issued once the job is successfully shipped and delivered.

With the acquisition of Kinko’s, FedEx has now become a classic example of a networked printing company. This business model allows for various printing options by Kinko’s and virtual and physical distribution options from FedEx.

Figure 8.2 Distribute-and-Print Workflow for a Networked Printing Company

E-COMMERCE

E-commerce is defined as an online system that allows customers to perform various transactions over the Internet. Print e-commerce transactions (Figure 8.3) include creating and customizing templates, reviewing and soft proofing files, ordering prints, paying for prints, confirming orders, and monitoring delivery, all via the Internet. The system interacts with customers, suppliers and employees.

In 2002, e-commerce was listed by Tech Trends as one of ten trends predicted to transform the printing industry, and was considered to be a new way of communication. While the print e-commerce market is still undergoing significant change, it is certain that successful printers must provide an
effective and automated web-based customer interface and workflow system.\textsuperscript{10} The combination (Figure 8.4) of traditional brick and mortar and electronic interface (online ordering, service and support) has become popular in many print e-commerce workflows.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure8.3.png}
\caption{Print E-Commerce Transactions\textsuperscript{11}}
\end{figure}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure8.4.png}
\caption{Combination of Bricks and Clicks E-Commerce\textsuperscript{12}}
\end{figure}

E-commerce service providers such as those shown in Figure 8.5 have capabilities that allow for the automation of the entire procurement cycle, from initial concept to product delivery. Additionally, they provide a means for customers to create, store, update, manage, and print documents on demand.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure8.5.png}
\caption{Types of Print E-Commerce Systems\textsuperscript{13}}
\end{figure}
**FACTORs THAT DRIVE PRINT E-COMMERCE**

The move towards more print e-commerce as documented by industry experts is a growing reality. Goldberg and Romano describe the following factors as driving forces for print e-commerce:14

*Increase in geographic diversity*

As companies expand their operations across the nation and around the globe, the Internet enables printers to handle ordering and fulfillment anywhere in the world.

*Distribute-and-print (electronic distribution)*

Customers are looking for ways to streamline the printing and distribution process in order to reduce shipping costs and control inventory. Some print services providers, especially networked printers, are finding the solution in distribute-and-print models enabled by the Internet.

*Cost reduction and improved efficiencies*

E-commerce can help print buyers combat inefficiency by eliminating duplicate purchasing and streamlining procurement electronically through fewer suppliers. Also, buyers can benefit from controlled costs because e-commerce reduces the amount of labor required to conduct each purchase.

*Supplier consolidation*

Today's customers are looking for single-source suppliers or a one-stop-shop. By offering customers more value through Web-based integration, printers enable customers to accomplish their print buying with fewer suppliers, ultimately saving them the cost of selecting and managing multiple suppliers.

**CHALLENGES TO PRINT SERVICES PROVIDERS IN IMPLEMENTING E-COMMERCE**

In the 2005 PIC research study entitled *Utilization of E-Commerce by Commercial Printing Companies*, participants indicated that they encountered the following challenges when implementing or investigating an e-commerce system:15

- A high cost involved in implementing e-commerce strategies (versus the return-on-investment).
- Difficulty in finding an all-in-one system that fulfills all the print services provider’s requirements.
- Training and educating employees as well as customers. Web-enabled commerce systems are relatively new to the printing industry and demand special training and skill sets.
• Complexity of a print job order. For simple job orders such as business cards and letterheads, print e-commerce systems work well. The challenge lies in complex jobs. In such cases the customer service representative may have to step in and assist.
• Mentality of print services providers. Some printers do not see the benefit of implementing e-commerce strategies; therefore, e-commerce vendors need to explain the value of e-commerce to them.

WHO BENEFITS FROM E-COMMERCE SERVICES?

The majority of interview respondents from the PIC e-commerce study affirmed that the printer, customer and end user all benefit from e-commerce services.16

• Printers benefit by being able to provide a value-added service for their customers. E-commerce, being a fixed model, removes negotiation for price and provides a hands-off approach to ordering print. Customers do most of the work, and payment and invoicing are automatic.
• Customers benefit from the convenience and ease of use. Especially for mobile professionals, e-commerce provides more options and allows the customer to transfer information more efficiently.
• End users enjoy the savings passed on from customers and receive faster service.

HOW ARE PRINT SERVICES PROVIDERS USING E-COMMERCE?

Most of the respondents in the research study were not utilizing the full capabilities of e-commerce. At the time of the study, 2005, no respondents were implementing a total e-commerce solution from design and file creation to inventory management and order tracking. Most participants were implementing a limited form of e-commerce, mainly through an ordering system.17

The reasons for this underutilization of e-commerce services are not fully understood; however, low initial customer demand for a total e-commerce solution may be one explanation. Also, certain barriers to entry, specifically cost and employee training, can be contributing factors. In 2004, 37% of the participants in NAPL’s State of-the-Industry research study mentioned e-commerce capabilities as an investment priority over the following five-year period (2004–2008), compared to the 18.8% who had mentioned it five years before (for the years 1999–2003).18

As technology advances and more customers begin to demand e-commerce services, printers will likely begin to implement more strategies to address customer needs.
CHAPTER SUMMARY

The printing and publishing industry is undergoing both cyclical and structural changes. Today’s print services provider must prepare for growth in an environment that is getting more competitive and more complex.\textsuperscript{19} According to Erin Core, the integration of web-enabled print is part of a decade-long evolution of our industry, and people either acknowledge it, or they don’t. Adopting e-commerce encompasses and improves communication between print buyers and sellers as well as improving the workflow.\textsuperscript{20}

The future of print lies in the integration of Internet services and print technology to provide customized and timely solutions to customers. Print providers must take a stand on how e-commerce should work for them. Companies would be wise to embrace the Internet and utilize it to redefine their businesses. E-commerce is an opportunity to eliminate inefficient processes, differentiate one printer from the other, and provide customer-oriented solutions that add value to the printer/customer relationship beyond the actual printed piece.\textsuperscript{21}
In 2002, the printing industry witnessed its deepest decline in real print activity in the past three decades. According to Charles Pesko, founder and president of InfoTrends, a leading market research and consulting firm in the digital imaging and document solutions industries, over 21,000 presses (12%) dropped out of the market between 1999 and 2001 because of insufficient demand.1 Given this decline, printers have realized that they can no longer rely solely on the delivery of print to achieve revenue goals and must instead re-evaluate the profitability of their core businesses. Since the late 1990s, combined prevailing economic and technological forces have restrained revenue growth and depressed the earnings of most U.S. commercial printing companies. In their 2004 book Making Value-Added Services Work, G. David Dodd and William K. Lavelle, Jr. state that for several years, a growing chorus of graphics arts industry economists, analysts, authors, and consultants have been admonishing printers to “reinvent” their businesses to meet the competitive challenges of a rapidly evolving graphic communication marketplace.2 Consequently, an increasing number of companies have remodeled their strategies and adopted value-added services to address the growth and profitability crisis in the industry. The focus on this type of service diversification increased significantly while the U.S. endured its worst recession in over two decades. As the industry consolidates further and continues to shrink, only those companies that are able to distinguish themselves and satisfy unique customer needs will be able to succeed.

According to Andrew Paparozzi in NAPL’s 2003 State of the Industry Survey, companies that want to be successful with the service diversification process must consider several issues:3

• The cost of incorporating additional services as well as upgrading and/
or purchasing new equipment to support the diversification strategy.

- Altering external client perspectives so that they will expect and request diversified services.
- Altering the perspectives of internal clients (employees) to accept changes in strategic direction.
- Establishing/ensuring continued profitability from any diversified services that are offered.
- Marketing the company and its respective services more effectively to ensure achievement of strategic and business goals.

In 2007 Paparozzi suggested that when a customer finds a single vendor that he or she can trust, the result is a partnership that takes price out of the equation. The printer then becomes an integral part of the client’s business, creating a barrier to exit even if there is a printer closer in proximity to the customer. However Paparozzi cautioned that “If you mess this up you lose everything.” A contingency plan is needed to address any problems that may occur in such a partnership.  

**VALUE-ADDED SERVICES**

Graphic communication is no longer a print-centric field; the traditional structure on which the industry was built can no longer sustain growth and viability. Print has become a commodity that has increased the intensity of the competition between printing companies. For years industry experts have been advising printers of the need to diversify and offer value-added services. Industry observers and printers offer interesting insights into the types of value-added services that can be included in a print provider’s product mix.

Value-added services can be defined as those services that offer customers a “one-stop shop” solution that increases the value of the product offered, by promoting efficiency and reducing customer costs. Dodd and Lavelle define value-added service in the printing industry as any non-print, graphic communication-related service. This type of service diversification can occur before the print run, after the print run, as a part of overall product enhancement, or as a communications-related service. Value-added opportunities can also be found in services such as training, delivery, and distribution. The combination of services at various workflow points can offer tremendous value to the customer. Table 9.1 shows a listing of value-added services that fall under each of these categories.
Table 9.1 Types of Value-Added Services Offered by Printers

<table>
<thead>
<tr>
<th>VALUE-ADDED SERVICE OFFERINGS</th>
<th>BEFORE PRINT RUN</th>
<th>AFTER PRINT RUN</th>
<th>OVERALL ENHANCEMENTS</th>
<th>OTHER COMMUNICATIONS RELATED SERVICES</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Design</td>
<td></td>
<td>• Fulfillment</td>
<td>• Variable Data</td>
<td>• Marketing Campaign Design</td>
</tr>
<tr>
<td>• Photography</td>
<td></td>
<td>• Mailing</td>
<td>• Internet/Web</td>
<td>• Implementation Services</td>
</tr>
<tr>
<td>• Fulfillment Services</td>
<td></td>
<td>• Services</td>
<td>Services (page</td>
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<tr>
<td>• Document Management</td>
<td></td>
<td>• Management</td>
<td>design, hosting)</td>
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<tr>
<td>• CD Services</td>
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<td>• Consulting</td>
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<tr>
<td>• Variable Data</td>
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<td>• Database</td>
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<tr>
<td>• Internet/Web Services (page design, hosting)</td>
<td></td>
<td>• Management</td>
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<tr>
<td>• Client Training</td>
<td></td>
<td>• Services</td>
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<tr>
<td>• Consulting</td>
<td></td>
<td>• Marketing</td>
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<tr>
<td>• Database Management Services</td>
<td></td>
<td>• Campaign</td>
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<tr>
<td>• Document Management Services</td>
<td></td>
<td>• Design</td>
<td></td>
<td></td>
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<tr>
<td>• Art and Creative Services</td>
<td></td>
<td>• Implementation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Facilities Management</td>
<td></td>
<td>• Services</td>
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</table>

Respondents to NAPL’s 2003 State of the Industry Survey predicted an increase in value-added services such as fulfillment, mailing, creative services, digital asset/database management, and web services. Further, more than 50% of the participants from the 2006 NAPL Printing Business Conditions State of the Industry Update indicated that value-added services have boosted their print revenue.

Which value-added services do print services providers typically offer? Highlight 9.1 summarizes data from a 2004 Printing Industry Center research study, Industry Trends in Fulfillment, Finishing, and Distribution, where finding the answer to this question was one of the key focus areas.
Participants in a 2004 Printing Industry Center research study on *Industry Trends in Fulfillment, Finishing, and Distribution* were asked about the impact of service diversification (value-added services) in their companies. The following is a summation of the questions and participant responses.

**What value-added services does your company offer?**
Based on popular value-added services currently being offered, the most popular in-house service was e-commerce (71%), followed by fulfillment (54%), digital asset management (54%) and finishing (52%). The least offered in-house service was Web-to-print (4%). All services were generally offered in-house rather than outsourced. Fulfillment (6%) followed by mailing (4%) and consulting (4%) were the top outsourced services.

**Why did your company decide to offer these services?**
The primary reason given for offering value-added services was competitive advantage (64.6%), followed by strategic decision (62.5%), and the service being requested by the customer (54.2%). Some respondents further elaborated, stating that they wanted to be able to differentiate themselves from their competition, to better understand the needs and demands of their customers, and ultimately to identify an additional profit opportunity.

**How long has your company offered value-added services?**
Forty-six percent of respondents had offered value-added services for more than ten years; 17% had offered them for one to five years, and 2% had offered them for less than a year.

**What was the primary strategy used to integrate these services into the existing business workflow?**
No single trend emerged. In-house developments (29.2%) represented the most popular strategy, followed by outsourcing (25.0%), acquisitions (20.8%), and partnerships (20.8%).

**Are the value-added services that your company offers meeting revenue expectations?** (Revenue expectations could refer to a loss or a profit.)
While 37% said “yes,” another 35% said “somewhat.” It was assumed that “somewhat,” could mean less revenue was received than expected.

What is the primary benefit your company receives from offering these services?

Most respondents selected more than one option as a primary benefit. A better value proposition (68.6%), a stronger competitive position (66.7%), and recognition as a service provider (62.5%) were the most selected benefits. Differentiation (58.3%) and profitability (47.9%) followed.

What is the primary benefit your customer receives from these services?

The options selected reflected what the companies (not the customers) perceived to be benefits. One-stop shopping (70.8%) was the primary customer benefit offered, followed by saving time (58.3%), cost reduction (50.0%), customer retention (45.8%) and consulting (36.9%).

How do you charge your customer for the value-added services your company provides? Choice of four options: fixed fee, variable fee (fee depending on the job that needs to be done), hybrid fee (a combination of fixed fee and variable fee), and other.

Fifty-eight percent of respondents charged a hybrid fee, while 29.2% charged a variable fee. A small percentage (4.9%) charged a fixed fee. Those that selected the “other” option suggested that they use an all-inclusive price structure or usually custom quote their jobs.

What value-added services do you see your company offering in the future?

Respondents foresee that their companies will offer fulfillment, finishing, and distribution and mailing services.
HIGHLIGHT 9.2
THE EPI COMPANIES: A MODEL OF SERVICE DIVERSIFICATION

The EPI Companies, located in Marietta, GA, has continually evolved its service offerings to help clients create and execute ideas leading to strategic marketing, merchandising and communications results. After more than 30 years in business the company has grown and has been transformed into a major print provider.

In 2002, EPI’s strategic plan called for diversification around a print-centric model. “We set out strategically to become a marketing services company. This change included dropping the word “printing” from our company name” said Cindy Woods, senior vice president and chief marketing officer. Over the past five years the company has incorporated the following service offerings, in this order:

- logistics/fulfillment,
- digital print,
- EPI Dashboard (e-commerce) services,
- ad specialties/promotional products,
- POP/sample displays,
- creative/design, and
- photography.

Both client demand and the change in strategic plan led to the addition of these offerings. According to Woods, the company’s relationships with key suppliers were leveraged in order to integrate equipment and systems as seamlessly as possible. She cautions however, that adding diversified services is not for the faint at heart, and there is a great deal of trial and error in implementing services that have their own set of “industry norms” and paradigms. “The payoff comes when a client sees the value in a single touch point for delivery of their marketing project or campaign. There is much blood, sweat and even a few tears behind the scenes to make sure that promises are kept and needs are met.”

EPI (and its clients) benefit by keeping the client “under one roof.” Many marketing projects and campaigns require multiple disciplines, even if the core product is print. For example, a print campaign may involve personal URLs or even a promotional product as a gift for responding to an offer. By offering and controlling these ancillary services, EPI can ensure that the project is delivered as promised, and that the client sees savings and value.
The value of EPI’s business model can be best summarized by its former president, Bill Woods:

We are proud that our heritage centers around print and that we have grown and adapted as a premier print provider – but EPI clients expect and deserve more from a supplier partner. By adding additional services around the print core, we enhance the value we bring to our clients and help them meet their objectives of having fewer vendors and achieving more bang for their marketing dollar.

EPI expects to continue growing print sales, while also seeking to add additional services based on changing client needs.

While a variety of additional services beyond print are being offered by print services providers, in keeping with the focus of this book, those that will be highlighted in this chapter are fulfillment and distribution.

**FULFILLMENT**

Of all value-added services that printers offer their customers today, either as a generator of increased press work or as a cog in a one-stop service machine, fulfillment is one of the most economical—and popular—options. In the 2006 *NAPL Printing Business Conditions State of the Industry Update*, 39.2% of respondents suggest that fulfillment is expected to be the fastest growing service over the next two years.16

According to the 2004 TrendWatch Printing Forecast, 22% of respondents cited broadening fulfillment, shipping, and mailing capabilities as top sales opportunities.17 A 2002 Whattheythink.com article further suggested that with expected margins of between 4% and 6%, these services were expected to become much more than a value-add for most printers.18 TrendWatch claimed that while commercial printers tended to generate a 1% net profit from printing services, mailing and fulfillment services providers were generating 4% to 10% profit margins.19

According to industry consultant Cary Sherburne, fulfillment services are the icing on the value-added cake.20

As customers increasingly seek end-to-end solution providers who can address specific business processes in a turnkey fashion, leading print service providers are jumping into the fray, offering their customers...
integrated business solutions in which fulfillment and distribution play a key role.

**TYPES OF FULFILLMENT**

Fulfillment services can range from simple pick-and-pack operations to sophisticated web-enabled programs that offer client interfaces with order and inventory management.21 Cummings and Gallagher categorize fulfillment into three basic types:22

**Literature Fulfillment**

Literature fulfillment involves the physical distribution of company information such as:

- brochures
- point of purchase (POP) displays
- product catalogs

Typically, customers request the assistance of the printer in designing, printing, finishing, warehousing and ultimately distributing the product to individuals and businesses.

**Product Fulfillment**

Product fulfillment encompasses the distribution of goods, such as:

- magazines
- CDs
- audiotapes
- free samples
- premiums

These products are distributed to retail outlets, subscribers or consumers. The printer may, for example, assemble kits containing printed postcards, booklets and other promotional items, and then ship them directly to potential customers.

**E-Fulfillment**

E-fulfillment, or Internet fulfillment, involves the electronic distribution of requested products such as

- coupons
- certificates
- company information or literature
KEY FULFILLMENT APPLICATIONS
Based on the 2004 NAPL Survey of Fulfillment Practices, other fulfillment applications could include the following services:

- Kitting/assembly - Standard or customized kits are compiled based on customer requirements. In some cases light assembly may be required.
- On-demand printing - Utilization of just-in-time (JIT) short runs and variable information printing applications.
- Database management - The process of collecting and managing information about individuals or firms in an effort to allow companies to provide better products or services.
- Point of Purchase (POP) products - Retail or restaurant identification or marketing support materials. Often involves custom packaging to hold pamphlets or sample products that are displayed prominently in a retail outlet.
- Contract packaging - On-going kitting processes supported by long-term contracts with a customer.
- Premiums - Often referred to as “trash and trinkets.” Shipping small gifts in exchange for customer information to existing or new databases for specific businesses.
- Special events/conferences - Support that involves processes such as nametag generation, attendee handouts, signage and programs.
- Returns - Involves functions such as processing, disbursement of refunds, inspecting, and restocking.
- Rebate/coupon redemption - Products or cash sent to customers based on the customers providing contact information or purchasing a product at retail price.
- Lead tracking - Often associated with trade show support. A database of marketing prospects is compiled with a series of follow-up actions such as a phone call, literature distribution or scheduling a sales call.

FOUNDATION FOR FULFILLMENT SUCCESS
The scope and complexity of a fulfillment business should not be underestimated. To ensure a successful venture into this service diversification area, the following guiding principles should be followed:

- Customer needs should be regarded as a springboard for programs and services.
• A facility should be designed for maximum efficiency and productivity.
• A highly skilled fulfillment manager and qualified customer service representatives should be employed.
• Continuously train all employees.
• Operate the fulfillment business as its own profit center.
• Customer requirements should be determined and carefully documented for every program.
• Internal costs and a pricing program should be documented, reflecting the value of all services.
• Enhance the service offered by leveraging information technology and Web services.
• Fulfillment should be specifically marketed to reflect how it would help clients build their businesses.
• The progress of the fulfillment function should be continuously monitored and improved.

The results of the 2004 NAPL Survey of Fulfillment Practices demonstrated that companies were achieving positive results with fulfillment. The availability of this service was boosting print volume, improving profitability, and enhancing client loyalty. In an economy where gaining and defining market share has become critical, such attributes make fulfillment quite appealing and an area to be explored.25

Fulfillment appears to be a service that more print providers are offering. A representative group of printers were surveyed in a 2004 PIC research study regarding the extent to which fulfillment services were being offered in their companies.26 The results of this portion of the research can be seen in Highlight 9.3.

**DISTRIBUTION AS A VALUE-ADDED SERVICE**

The need to differentiate one print services provider from another is not only based on products or technology, but also on the unique value of the provider as perceived by the customer. The benefit to the customer is in having one supplier responsible for managing both print and distribution, while the value to the print services provider is a continuous and steady flow of work.27

Further, many value-added services are a natural extension to or integrated with distribution. Services such as fulfillment, warehouse management and facilities management come to mind.

*How Distribution Can Add Value*

In the 2005 PIC study entitled Media Distribution in the Printing Industry, 14
Participants in a 2004 PIC research study entitled *Industry Trends in Fulfillment, Finishing, and Distribution* were asked about fulfillment services in their companies. In this study, fulfillment was defined as the ordering, sorting, managing, assembly and dispersion of product through activities such as kitting, providing personalized customer packages of a product or multiple products. Questions and participant responses are summarized below.

**Does your company offer any fulfillment services?**
Of those responding, the majority (68%) of companies offered fulfillment services.

**What types of fulfillment service(s) are offered?**
Although responses to the options listed were fairly evenly distributed, kitting was a primary fulfillment service offered. Respondents were allowed to “check all that apply,” and it became clear that most companies offer multiple fulfillment services. The majority of companies offering the various fulfillment services listed did so internally, as opposed to outsourcing this function to a third-party vendor.

**Are the fulfillment services that your company offers meeting revenue expectations?**
While 21% of the respondents indicated that the fulfillment service(s) offered by their companies were meeting revenue expectations, 42% of all respondents elected not to respond to this question. Another 25% indicated that fulfillment services were “somewhat” meeting revenue expectations, and 6% responded that they “were not sure” whether revenue expectations were being met. Only 6% indicated that the fulfillment services offered were not meeting revenue expectations.

of the 16 companies interviewed indicated that distribution was viewed as a value-added service in their company for three primary reasons: 28
- The customer was charged for distribution.
- Distribution was seen as a service differentiator.
- Distribution was part of the total customer solution.
One way to ensure that distribution services are adding value to an operation and its customers is to have an internal infrastructure that can adequately support the goals and objectives of the company. One approach that printers could consider is establishing a formal distribution center that encompasses many functional departments. Figure 9.1 illustrates the wide range of value-added activities that could be offered in a distribution center:

- **Fulfillment** – kitting, pick and pack, just-in-time (JIT) printing.
- **Mailing operations** – addressing and barcoding; a mailing specialist providing a USPS interface.
- **Product returns** – receiving, inspecting, restocking, reshipping and security.
- **Storage** – warehousing of customers’ raw materials, finished goods, work-in-process (to be completed on demand), and other items. Each item should carry an in and out charge as well as a monthly charge.
- **Inventory management** – list maintenance, IT management, report generation and billing.
- **Shipping** – a logistics function involving rate negotiation, product tracking, and filing claims.
- **Packaging** – involving the preparation of product for shipment, and in some cases working with design and structural engineers before the product is manufactured to ensure appropriate packaging options.
- **QA and inspection** – monitoring checklists and auditing shipments.
- **Document destruction and recycling** – a chargeable service involving the disposal of classified and expired documents.

Many of the functions shown in Figure 9.1 already exist in most printing operations as chargeable services. A dedicated distribution center could be customized according to the size of a printing company and the services offered. Companies that do not have a formal distribution center or logistics department could establish one after evaluating how their logistics and shipping functions are structured. Having a distribution center is yet another way in which a printing company can differentiate its business model. The importance of this is discussed in Highlight 9.4.
Figure 9.1 Potential Distribution Center Operations
HIGHLIGHT 9.4
ANOTHER WORD FROM DICK GORELICK

In his article “Building Business Profitability: 101 Ways to Increase Profitability,” industry consultant Dick Gorelick provides a wealth of knowledge to printers who want to differentiate themselves from their competitors. He offers two pieces of advice regarding differentiation: 1) differentiate your company, but don’t be different; and 2) value equals benefits to customers.29

Differentiate your company, but don’t be different

• The industry appreciates the need for a company to develop a differentiated strategy/mission/direction.
• Many early adopters of technology use technology as a differentiator. At best, that’s a short-term solution, because once effective new technology becomes more affordable it will become more widely available. As a result, it will lose credibility as a competitive differentiator.
• Competitive differentiation that is effective for several years is not product-based or technology-based. Instead, it is based on a reason to buy from your company—some type of unique value perceived by the customer. There’s a major difference between different and differentiated. Confuse the terms at your own peril.

Value equals benefits to customers

• Once a customer is interested in the features of a new product, technology or service, the seller needs to quickly and precisely answer the following question: “How will this benefit my customer?”
• No change in equipment, staffing, location, organization or service has value unless it can be meaningfully and credibly translated into perceived benefits to customers.

THE FUTURE OF VALUE-ADDED SERVICES

More and more printers are diversifying by incorporating value-added services into their business model. In the future these service offerings will be the norm for most printers—not unique, but rather a normal part of a printing company’s business operation.
CHAPTER SUMMARY

Value-added services are becoming the lifeblood of the commercial printing business, both in terms of profitability and customer relationships. This is a universal opportunity and no company regardless of size is exempt. In fact, smaller companies can offer value-added services easily because they are more flexible. “Adding value” is one of the buzz phrases now. Value-added services have become a requirement for survival and success in this industry.

The current demand for printed products and services are primarily driven by economic growth, the Internet and customer behavior. Consequently, printers are incorporating a differentiated value-added strategy into their business models to provide the desired services that customers now require in order to meet their own business goals. As such, offering value-added services has become a trend in the printing industry.

Companies are trying to offer customers a “one-stop shop” service. In doing so, many specialty services are being brought in-house. Services such as finishing and distribution that were previously considered an afterthought are now being seen as value-added services. Fulfillment is currently being considered as the top value-added service in the industry. In addition, technology-based services are improving efficiencies and forcing companies to change their business models. Other technology-based value-added services include data asset management, variable data printing and Web-to-print.
As we have seen, distribution involves the movement of finished printed materials from a printing plant to an internal storage location, the customer, a distribution center or the end user. More and more customers are looking to printers for solutions to the problems associated with distribution. As the final link in the supply chain, distribution is challenging, requiring not only core competencies but also strong management support.

Print services providers would agree that distribution is an important, if not critical part of the print production process. Some companies actively promote distribution and fulfillment services and refer to them in their marketing literature. Highlight 10.1 features Standard Register, a company that has established itself as a full-service document management provider by offering a variety of services including print, distribution and fulfillment.

HIGHLIGHT 10.1
STANDARD REGISTER: A LEADER IN DISTRIBUTION SERVICES

Standard Register, headquartered in Dayton, Ohio, is a leading document services provider. Established in 1912 by John Q. Sherman, the company has continued to expand and evolve while keeping pace with technology innovations.

Standard Register offers numerous value-added services to support its customers, including distribution services and Print-On-Demand centers.

Distribution Services

Standard Register has 24 U.S. distribution centers, primarily to warehouse and store long-run print jobs. The focus is on storage close to the customer,
requiring multiple product storage locations. Another focus is the secure storage of documents such as checks and deposit slips to support the insurance and banking industries.

**Print On Demand (POD) Centers**

Standard Register’s 25 POD centers reflect a direct ship-to-customer model. Four of the centers also have fulfillment capabilities that support statement printing, mailings and VDP (variable data printing). Another function of the centers is kitting for variable and personalized documents.

According to Jerold Richards, director of distribution, and Angela Saunders, product marketing manager of services, Standard Register has embraced distribution, on-demand printing technologies and fulfillment as value-added services benefiting both the company and its customers.

**Company Benefits**

- Increased revenue stream
- Strengthened customer relationships
- Increased competitive advantage

**Customer benefits**

- More effective and efficient services
- One-stop shopping
- A consultative relationship for customized services

According to Richards, distribution services are evolving as continued strategies are developed to offset the decline of print and to maintain current levels of revenue. Standard Register’s distribution service sets it apart from the competition and gives it an advantage over smaller, regional printers. The company plans to continue to strengthen this part of its business and to expand into other value-added service areas.

**A FOCUS ON THE FUTURE**

Services such as distribution and fulfillment will continue to be incorporated into the product offerings of printing companies, and more companies will formalize these processes. However, several other trends are also expected to impact the distribution of print media in the future. Each of these trends can have an effect on how (and how much) print is distributed.
Digital Printing

Distribution, including mailing services, has been a growing market area as printers continue to move into the areas of variable data printing and targeted marketing such as direct mail. The 2005 RIT Printing Industry Center study entitled *An Investigation into Papers for Digital Printing* found that 24% of its participants view direct mail as a job in which printers have to help their customers be successful in order to ensure future growth. Effective distribution is a critical component of direct mail, and therefore many printers who offer digital printing are implementing distribution services in-house.

As technology continues to improve, more printers with digital equipment are offering distribution and mailing services. Polaris Direct is an example of a rapidly growing, full-service direct mail company. At its 72,000-square-foot facility in Hooksett, New Hampshire, Polaris employees use digital printing equipment and an array of print management, data processing, binding, inserting, and mailing equipment to create effective direct mail campaigns. In a presentation at the 2004 On-Demand Show, Charles Pesko indicated that digital printers will be more likely to offer design and creative services, fulfillment services, mail processing, and client training in the future.

Print-on-Demand

In the print-on-demand or publish-on-demand (POD) model, a copy or print is not created until an order is received. While POD may use any printing technology, digital printing is used so frequently that the terms are often used interchangeably. POD is often associated with self-publishing, but POD is not exclusively a self-publishing business model. Even large to mid-sized printing companies may use POD in special circumstances, such as reprinting older titles that have been out of print or for conducting test marketing.

So far print-on-demand has had a relatively small impact on the traditional printer’s distribution operations. Many participants in RIT’s 2005 research study on media distribution did not offer print-on-demand capabilities, and very few indicated that they had lost business as a result of the POD capabilities of competing firms. Those firms that do offer print-on-demand have seen a positive impact on distribution, specifically with timing and scheduling. Also, some participants who offer POD noted that it has enhanced workflow and resulted in more end-user distribution, even though POD is more expensive and requires more project management.
Electronic Distribution: The “Distribute and Print” Model

In their 2004 book *Making Value Added Services Work*, Dodd and Lavelle claim that printers and converters are extending their markets and diversifying their service offerings beyond ink on paper, turning downstream in the production chain to offer mailing and fulfillment and other services such as electronic distribution of files.13

Because customers will perhaps be able to select a “distribute and print” option more frequently in the future, printing companies must continue to assess the financial impact that will result from extreme reductions in printed material. Printing companies would be wise to look for other business ventures to replace lost profitability.

Offshoring: The End of Physical Distribution as We Know It?

In today’s global economy, offshoring has become more common. A British research company defined offshoring in 2004 as the delocalization of work.14 Simply put, offshoring means sending work and jobs to other countries where labor is cheaper.15 Though the cost of production overseas is less expensive, the cost of distributing print back to the country where it will be used can be high, especially for long runs. For some businesses, especially global companies, offshoring provides a great opportunity to save money on the cost of production, thus allowing printing and distribution to occur closer to the point of utilization. The acceleration of technology and communication, and the speed by which information travels around the world, are some contributing factors to the increase in offshoring.

But print produced close to the point of distribution can also offer cost reduction opportunities. Andrew Paparozzi recently said that producing print closer to distribution minimizes disruption of economic factors such as rising energy and paper costs.16 Thus, printers need to develop a network where there is an opportunity to produce closer to the point of distribution as needed.

Lean Manufacturing

Lean manufacturing is a process model that seeks to avoid wasteful actions to optimize profitability of products and services. From as early as the 1920s, lean manufacturing practices have helped companies cut costs and streamline their processes. Currently, numerous companies nationally and globally have turned to the ideology of lean manufacturing by using such tools as Six Sigma which is used to eliminate defects and non-value added actions while increasing efficiency.17

Several items in printing companies can be identified as waste, including overruns, rejected print jobs due to defects or unsatisfactory product, ex-
cessive ink and paper used in makeready, and time. These expenses can often be minimized with the proper techniques and training.\textsuperscript{18}

Thomas Cummings, divisional vice president and director of Kodak’s Operating Systems, says that “lean is not just a work process, but a philosophy that helps guide our business thought process.” Lean practices need to be supported or sponsored at the highest level of an organization to help foster a lean culture and remove barriers which might impede progress. It is also important for people in an organization to develop “eyes” for waste, to help spot inefficiencies and then be able to eliminate the waste in the process workflow.\textsuperscript{19}

\textit{Why Should the Printer Focus on Lean?}

Why should the printer be concerned about lean manufacturing? Among the many possible answers are five critical reasons:\textsuperscript{20}

1. Many print industry competitors are implementing lean practices to help improve operational efficiencies. Lean manufacturing can be a competitive edge for a printer.
2. The use of lean tools helps eliminate waste in transportation, inventory, motion, waiting, over-processing, overproduction and defects/ rework.
3. Lean helps to reduce cycle times by eliminating the non-value-added steps in the workflow.
4. Lean helps to improve customer satisfaction by providing customers what they need, when they need it and with the expected quality level.
5. A lean mindset can help identify and eliminate process inefficiencies that can tie up cash flow, space and people.

R.R. Donnelley, the largest printer in the U.S., has a global presence with multiple locations. Headquartered in Chicago, Illinois, the company offers a variety of applications including book printing, direct mail, packaging and publications. The R.R. Donnelley plant in Roanoke, Virginia specializes in book production, and has created a standard PDF (Portable Document File) workflow to improve efficiency throughout the entire print production and distribution workflow process.\textsuperscript{21} Fortune magazine profiled the plant in September 2003 and described its success. “With these new digital techniques, the Roanoke plant produces 75% of its titles in two weeks or less, compared with four to six weeks for a four-color book in a traditional plant,” the article stated. “Overall, Roanoke has increased throughput 20% without having to buy an additional press or another binding line.”\textsuperscript{22}
When asked whether they saw finishing and distribution as a growth opportunity, 79% of the respondents in RIT’s 2005 media distribution study replied that it was. Digital printing appears to be a driver that will demand close to instant delivery into the market. As the demand for digital printing increases, so will the demand for finishing and distribution. Most respondents saw the advantage of offering customers a “one-stop-shop” by integrating automated finishing and distribution processes into their workflows in order to decrease lead times and improve the service offered. By offering finishing and distribution services they will attract new customers as well as retain old ones.
More and more customers look to printers for solutions to the problems associated with distribution. As the final link in the supply chain, distribution is challenging, requiring not only core competencies, but also strong management support.

Companies such as Standard Register actively offer a variety of document management services including print, distribution, document management and fulfillment and are able to provide a “one-stop-shopping” solution for their customers.

There are a number of key future trends that will impact the amount and the way in which print is distributed in this country and beyond. These trends include digital printing, print-on-demand, electronic distribution, off-shoring and lean manufacturing.

The more printers can understand why their customers choose print to communicate a message and why they should spend a significant percentage of their communication dollars in print, the more financial success they will enjoy. In addition, with continuous price increases in raw materials such as ink and substrates, as well as increasingly demanding customers and the need for a more specialized labor workforce, companies are being forced to re-evaluate their business models. As they continue to discover methods and
services that will help distinguish them from their competitors, printing companies will implement new business models.
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RESOURCES

INDUSTRY ASSOCIATIONS

IDEAlliance
http://www.idealliance.org

Mailing and Fulfillment Services Association
http://www.mfsanet.org

National Association for Printing Leadership
http://www.napl.org

The Print Council
http://www.theprintcouncil.org

Printing Industries of America/Graphic Arts Technical Foundation
http://www.gain.net

Research and Engineering Council of NAPL
http://www.recouncil.org

United States Postal Service
http://www.usps.com

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