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# Print Media Distribution: Process, Profitability, and Challenges

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A Research Monograph of the  
Printing Industry Center at RIT

No. PICRM-2006-01



# Print Media Distribution: Process, Profitability, and Challenges

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## With Thanks

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## Executive Summary

Today the distribution of printed media is viewed as a value added or ancillary service. Ancillary services have been identified as a key printing industry growth opportunity in a recent PIA/GATF report (Davis & Gleeson, 2005). Distribution is a customer service offering that starts when the job is scheduled. Efficient distribution involves the use of market expertise to negotiate freight rate and logistics services, routing, and overall compilation or management and organization of products and distribution. Other aspects of distribution include warehousing, shipping, inventory management, fulfillment and kit packing.

The objectives for Phase Two of this research project were to:

- highlight the importance of print media distribution as part of the print production process,
- gain a clearer understanding of the costs and profitability of distribution for graphic communications companies,
- develop a graphical model of select distribution applications, and
- document solutions utilized to address key distribution challenges.

Four printing companies that offer distribution services participated in this phase of the research study. The participants were asked ten questions about distribution workflow, challenges, profitability, and future trends within their companies as well within the printing industry as a whole.

The key findings of this research study are summarized as follows:

- **Print Distribution Workflow**

Although distribution is considered to be an important part of the production process, none of the four companies participating in this study had a documented and/or standardized distribution workflow. The companies do consider their distribution workflows to be a proprietary process and also understand the value in starting the production process by first understanding the customer's distribution requirements.

Distribution workflow models for six different types of printing companies were developed from discussions with select participants from Phase One of this research. Core similarities and common structures are apparent among these workflows, and there does seem to be a correlation between the size of the printing company and the complexity of its distribution system.

- **Distribution Costs and Profitability**

While it was reported that there is a marginal profit realized from select distribution services, it is the opinion of the researchers that this is still a gray area. If the companies interviewed in this study are representative of printing compa-



nies in general then it appears that distribution charges are dependent on the service and whether or not the customer perceives value in this offering.

- **Solutions to the Most Common Distribution Problems**

The three most common problems cited by the research participants were:

- storage/warehousing,
- fuel surcharges, and
- customer information flow.

Solutions offered to address these problems were:

- **Storage/warehousing** — All of the participants responded that they are focused on creating solutions to address space limitations and physical constraints through building expansions and/or the reorganization of their current warehousing facilities.
- **Fuel surcharges** — All of the participants have implemented solutions, ranging from reducing the number of their carriers, to negotiating rates with the United States Postal System (USPS) and third party logistics firms, and charging clients for these increased charges.
- **Customer information flow** — The education of internal and external customers is an area of concern to the participants, in addition to technology investments such as mailstream management solutions software.

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## Introduction

In *The New Medium of Print: Material Communication in the Internet Age*, Frank Cost (2005) categorizes the value of print into six areas: informative, instructive, persuasive, evocative, decorative, and operative. These six “vectors of print value” do not register as positive values if the printed material does not get to its intended audience at the right time and in the right condition. The same holds true for the distribution of print, both physical and electronic. While distribution is not a highly publicized or published area of the printing industry, there is no question that it is essential to the print production process.

The rise in the number of printers offering distribution services is driven partly by the desire to get the customers’ products to them in the shortest time possible. Also, offering distribution services is a natural extension of the printing business. It provides an opportunity for printers to differentiate themselves and to offer more value to their customers, thus solidifying long term relationships.

With about 45% of all printed materials being distributed by mail (Romano, 2005), getting the right products into the hands of customers has often been the responsibility of the printer. Driven by customer demand and the continuous pressure to reduce costs and shorten the supply chain, printers have been moving into mailing services. In some

cases, printers have been held accountable for the performance of the mailing house (*Printing Impressions*, June 2005). NAPL's *2004–2005 State of the Industry Report* highlights mailing as one of the top four services that printers expect will grow over the next two years. Approximately 48% of the research participants that participated in NAPL's study see mailing as one of the fastest growing services in the industry (NAPL, 2005). By streamlining their operations and consolidating suppliers, customers are able to save money on postage, transportation, and taxes (Bates, 2004). Also, mailing directly from a print facility makes it possible to optimize for the lowest possible mailing rates. The general rule governing bulk mailing rates is that the less work the United States Postal Service (USPS) has to do to deliver a piece of mail, the lower the rate will be (Cost, 2005).

While most printers will agree that offering distribution adds value, the types of challenges this service incurs and the associated potential for profitability are still areas that need to be understood.

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## Research Objectives

In November 2004 a proposal to study the status of distribution in the printing industry was presented to and accepted by the Printing Industry Center Partners. This topic of research was considered a valued addition to the Center's growing body of research on the printing industry. The 2005 outcome of this study was the first of a three-phase research project.

The 2005 outcome, or Phase One of this research study, satisfied the objectives that had been set forth for the first year. Information was generated regarding current issues, challenges and trends that printing companies face as a result of physically distributing printed materials. Some insights were made into the structure of the physical distribution workflow process and the impact of e-distribution and print-on-demand on this workflow.

While the research was productive, it was surprising to find out that very little had been published in printing industry literature about the physical distribution of print. Conversely, there has been a significant focus on the electronic distribution of information, possibly due to continued growth and interest in this area. Thus, Phase Two of this research was focused on the distribution of printed media.

The objectives for Phase Two of this research project were to:

- highlight the importance of print media distribution as part of the print production process,
- gain a clearer understanding of the costs and profitability of distribution for graphic communications companies,
- develop a graphical model of select distribution applications, and
- document solutions utilized to address key distribution challenges.

# Methodology

The following approach was taken to obtain information and data for this project:

- Continued search of secondary sources for any new research that was published in the last 12 months (on-going).
- In-depth interviews with the four participating printing companies in the Phase Two study to gain insights into their distribution workflow structure, distribution challenges and solutions, and levels of profitability from distribution services.
- Second-level interviews with select printers and print services providers from Phase One of the research study, in order to develop a library of distribution workflow models.

## Sample

Four printing companies who offer distribution services participated in this phase of the research study. These participants were asked ten questions about distribution workflow, challenges, profitability and future trends within their companies and within the printing industry as a whole.

For confidentiality reasons the names of the participating companies are not published in this monograph. The companies are identified simply as Companies 1–4. Only one of these four companies had participated in the Phase One research study.

## Study Limitations

Limitations in this research study include:

- Sample size: Four companies were interviewed, which is a very small sample size. Two of the companies are local (Rochester, NY) printing firms. Additionally, there was minimal variation in the type of companies interviewed.
- Results: The results are qualitative, and no statistical inferences can be made.

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# Results

## Company Demographics

The demographics of the four printing companies studied are shown in Table 1. Each company was categorized by classification, annual sales in millions, number of locations, and number of employees.

Of the four companies interviewed, one was classified as a packaging printer, one as a communications services provider, and two as commercial printers. Annual sales of these companies range from \$12.5 million to \$38.5 million. The number of employees per company ranged from 75 to 250. Each company operates from one location.

Table 1. Phase Two research participant demographics

Name	Company 1	Company 2	Company 3	Company 4
Classification	Packaging printer	Communications services provider	Commercial printer	Commercial printer
Annual sales (in millions)	\$38.5	\$12.5	\$14	\$28
# of locations	1	1	1	1
# of employees (total)	250	75	82	180
# of employees at this location	250	75	82	180

### Print Distribution Workflow Processes

The participants in Phase One of this research study were asked to provide a definition of distribution in the printing industry. The following composite definition was developed from all responses:

“Distribution 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.

It is a customer service offering that starts when the job is scheduled. Efficient distribution involves the use of market expertise to negotiate freight rate and logistics services, routing, and overall compilation or management and organization of products and distribution. Other aspects of distribution include: warehousing, shipping, inventory management, fulfillment and kit packing” (Cummings & LeMaire, 2005).

Fulfillment is a value added service that can be defined as “the receipt, storage, assembly, and shipment of product and /or data to a third party.” (Vincenzino & Paparozzi, 2003) As mentioned previously it is one of the many aspects of distribution services.

The four companies that were interviewed in Phase Two were asked to describe/explain their company’s physical distribution workflow. They were also asked if the workflow was a documented and/or standardized procedure.

#### Company 1

“There has not been a need to document our workflow. This is not a focus area for cost reduction (non value added). In fact, the more simplistic the process the less likelihood

there is for errors.” One of the interviewees did indicate that a documented process could be useful for evaluating QC within the distribution process, as this time is not accounted for in the workflow.

Participants from Company 1 also indicated that distribution is part of the order process. “A shipping address is needed before an order can be processed. This requirement is embedded in the order software. Orders are packaged and labeled right off the production line.”

Additionally, the interviewees stated that with 85% of the orders, the customer designates which of the four company-qualified carriers will be used.

### Company 2

“Our fulfillment workflow is different from the company’s distribution (standard) workflow. There are several possible workflow scenarios due to the various services offered. However, our fulfillment workflow is standardized and documented (for internal use only).”

The following information from one of this company’s marketing collateral pieces illustrates its distribution service offering: “More often than not, we find ourselves coordinating and managing the assembly, storage and mailing of a finished print campaign or mailing effort. Kitting, inventory and fulfillment go hand-in-hand with our print production and fulfilling our clients’ requirements. Our dedicated staff and in-house fulfillment experts guarantee reliable and cost effective control of your finished pieces and their final destination.”

### Company 3

The interviewee would not discuss any workflow process and only indicated that finished products are shipped from the plant to one of the following locations:

- 1) Kitting center (subcontractor),
- 2) Customer distribution center,
- 3) Customer mailing center,
- 4) USPS (via subcontractor), or
- 5) End user.

### Company 4

The following information regarding distribution is quoted on the company’s Web site: “Our Company offers a vast array of distribution services. The team provides full service integrated logistics plans, including customized end-to-end deliveries and execution of the mail plan. We also provide extensive tracking services, presenting clients with the ability to track mail and direct shipments as they are processed by USPS and other carriers.”

The interviewees shared the following information about the company's distribution workflow:

- 1) The finished printed material enters the shipping area from the bindery department, the pressroom, or from an external source.
- 2) The material is packaged, which can include banding, wrapping, boxing, etc.
- 3) The package's weight is recorded.
- 4) Bills of lading (BOLs) and packing slips are produced using computer-generated software and affixed onto the package.
- 5) The carrier that was previously scheduled to pick up the shipment arrives and picks it up.
- 6) In some cases reports are created by the carrier, in order to track the progress of the shipment.

## Workflow Diagrams

As can be seen in the above section, only Company 4 provided limited information on the actual print distribution workflow. Thus no workflow diagrams could be developed as a result of these interviews.

However, follow-up interviews were held with a select group of companies from Phase One of this study in order to gain more in-depth information about physical (print) distribution workflows. The following six distribution workflow diagrams were developed in conjunction with participants from a select group of Phase One companies. As with the Phase Two participants, the identities of these firms are not published in this report. The six companies are comprised of two large firms, two mid-sized, and two small. For the purposes of this research, company size is defined in the following manner:

- Large: greater than 500 employees
- Mid-sized: between 50 and 499 employees
- Small: less than 50 employees

Figure 1 (see page 11) is the workflow diagram for a small digital printing book publisher. As a print-on-demand (POD) printer, the simple distribution workflow consists of the finished product (books) moving directly into the shipping department and then being distributed (shipped) to the end users by way of the USPS, United Parcel Service (UPS), or FedEx.

The distribution workflow outlined in Figure 2 (see page 12) is that of a small digital printer that establishes the requirements for distribution before the print process begins. Upon completion of the finishing process, products are sent directly to clients or to the end-users themselves (i.e., the clients' clients). The company uses UPS and the USPS to mail products to a single location or multiple locations, based on customer requests.

The distribution workflow outlined in Figure 3 (see page 13) shows a complex and sophisticated workflow process. This large commercial publishing company has two main ways of physically distributing finished materials. Small packages and mailings (less than 500 copies) are sent to the “hand center” and larger packages or mailings are delivered to the “shipping department.” 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 operation, also known as the detached mailing unit. Then, from this facility, they are sent to the various locations. Another option is to “destination ship” directly to specified USPS locations, or to a freight forwarder (such as FedEx), and have it distribute the materials according to customers’ specifications. A third option allows finished materials to be sent to a fulfillment center, to couriers, or to LTL (less than truck load) or FTL (full truck load) carriers.

Figure 4 (see page 14) illustrates the distribution workflow for a mid-sized commercial printing firm. For most products, the job ticket contains instructions for final distribution. Jobs that will be distributed through the postal system are sent to the mailing department, where a separate mailing ticket determines whether the piece is inserted into other materials, or is already self-addressed. The shipping department is responsible for palletizing and labeling cartons. The company may deliver products using their own trucks or by carrier.

Figure 5 (see page 15) illustrates the print distribution workflow for a mid-size commercial printer that has its own fulfillment operation. Printed and finished materials are distributed either to customers’ warehouses, the company’s own fulfillment center, or directly to end-users. In the fulfillment center, finished products are physically delivered to clients using the company’s trucks, or are shipped through USPS, UPS or FedEx. A core portion of this company’s print business is printing materials for promotional events. Due to the nature of the client base some finished products are delivered directly to the location of an event.

The final workflow, which is illustrated in Figure 6 (see page 16), represents the distribution process for a large networked printer. A networked printer utilizes multiple print locations to which electronic files are distributed for printing at the point of delivery. This company has three options for distributing printed and finished materials:

- customers can pick up printed and finished jobs from a local print center,
- jobs can be delivered through local carrier services to a client’s home or business, or
- jobs can be shipped by FedEx.

When a job is shipped through FedEx or local carriers, it is packed and a quality check is performed before it is shipped. The customer can track jobs via the Internet, where “confirmation tickets” are issued once jobs have been successfully shipped and delivered.



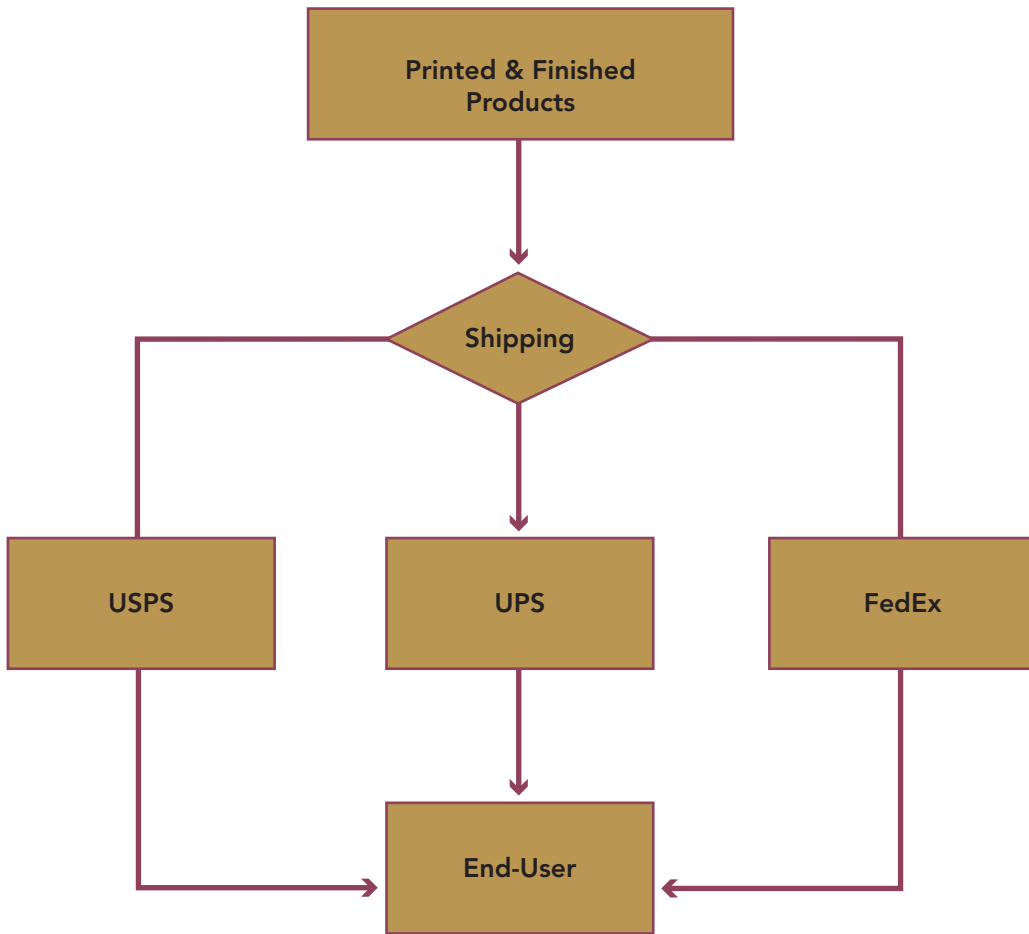


Figure 1. Distribution workflow for a small digital printing book publisher (Source: LeMaire, 2006)

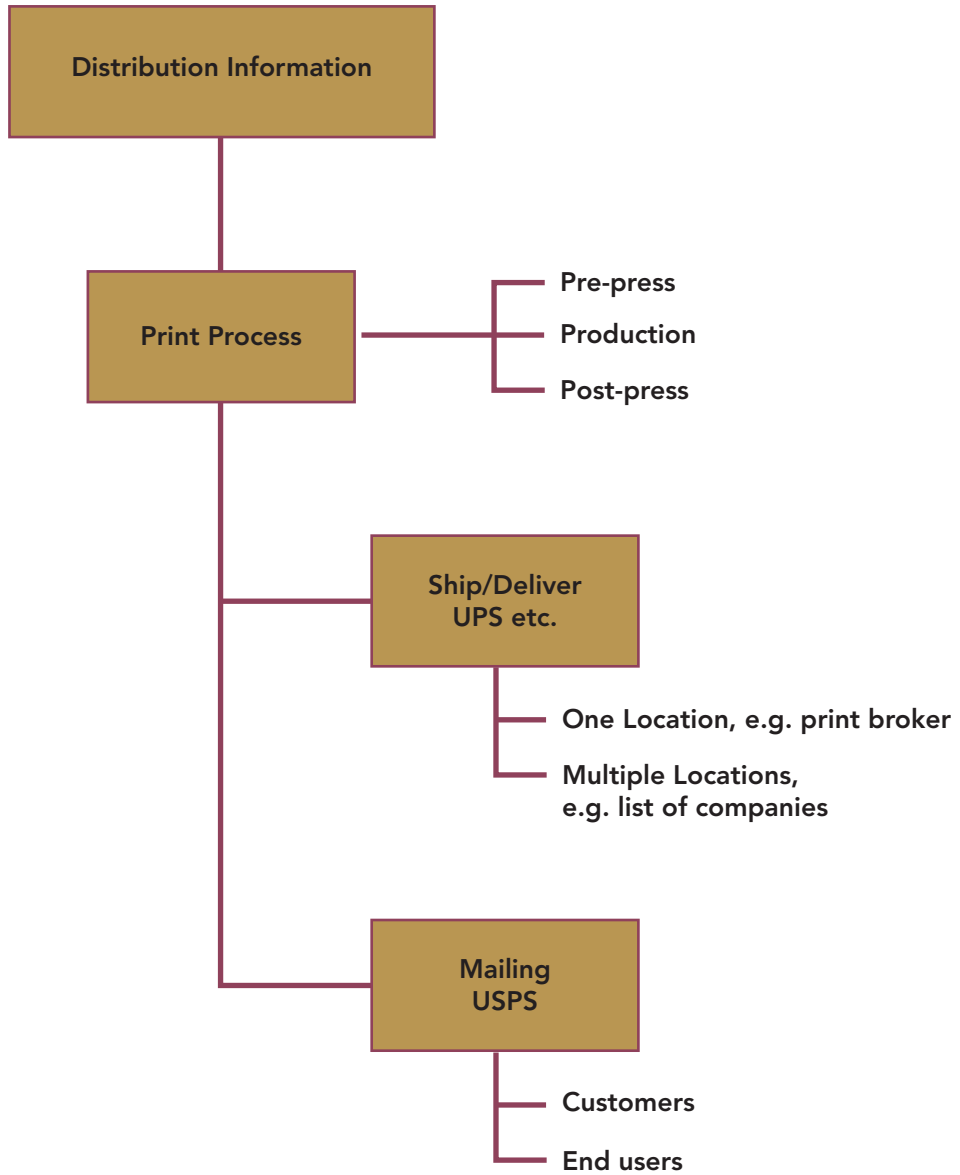


Figure 2. Distribution workflow for a small digital printer  
(Source: LeMaire, 2006)

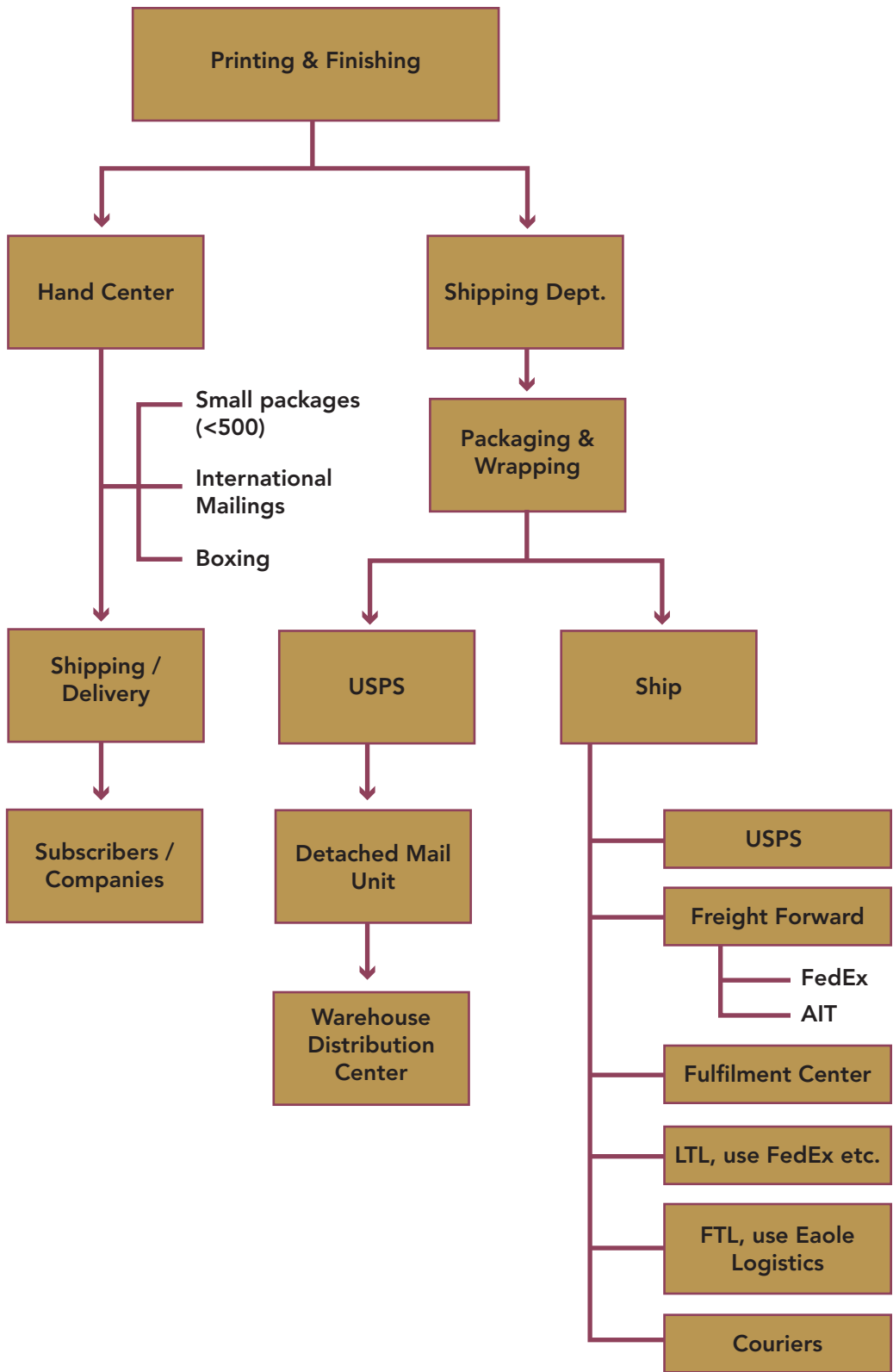


Figure 3. Distribution workflow for a large commercial publishing printer  
 (Source: LeMaire, 2006)

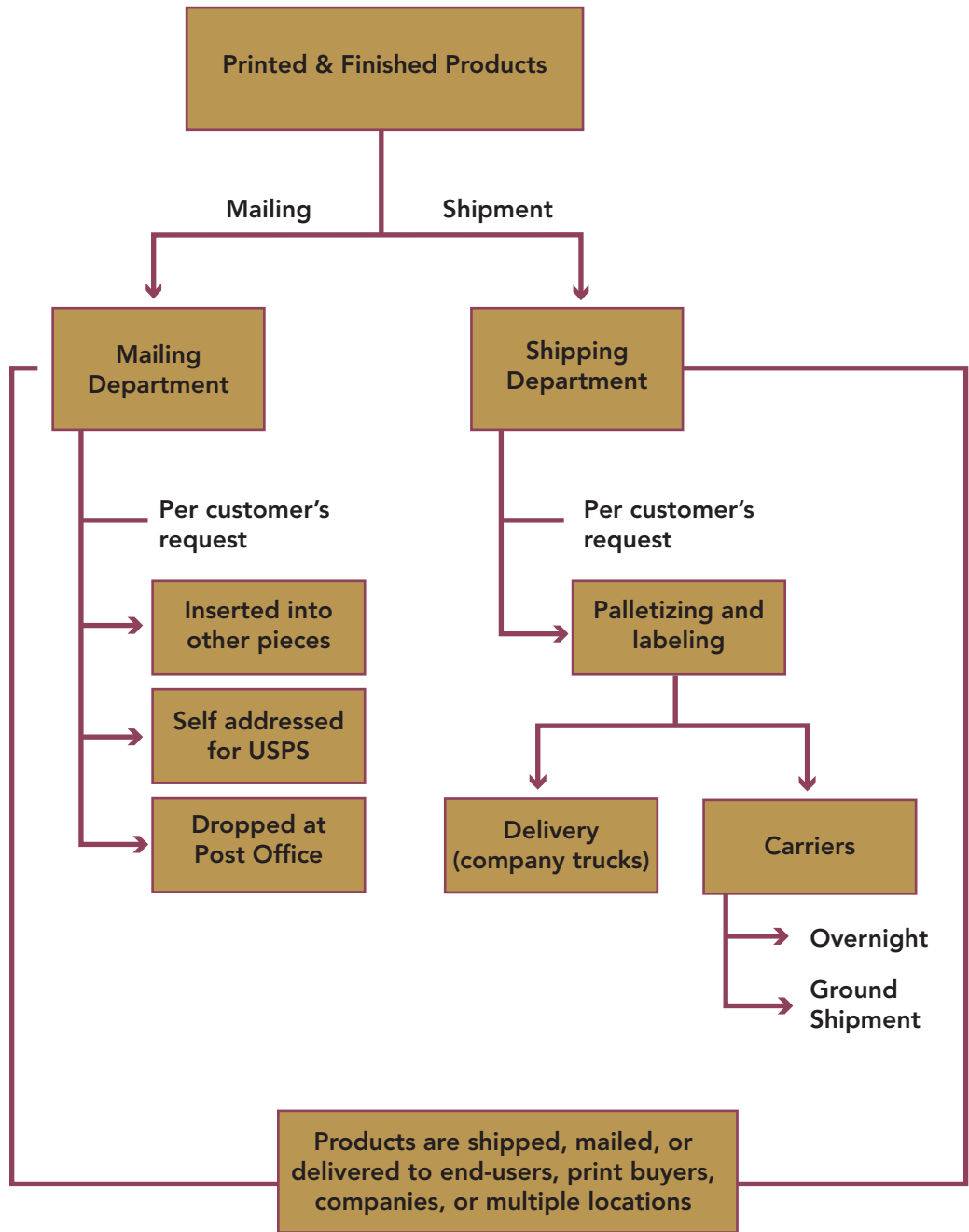


Figure 4. Distribution workflow for a mid-sized commercial printer (Source: LeMaire, 2006)

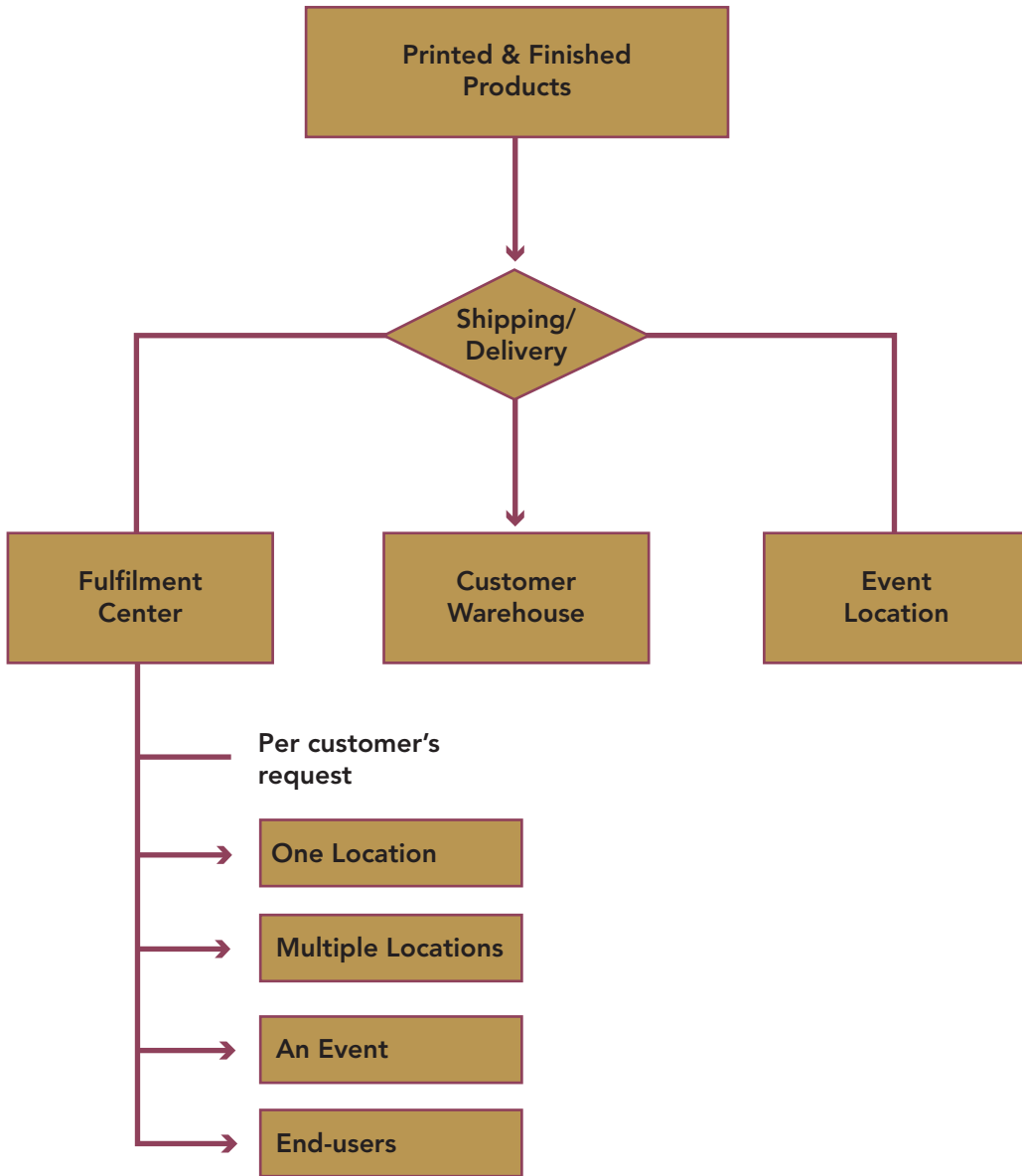


Figure 5. Distribution workflow for a mid-sized commercial printer with fulfillment center (Source: LeMaire, 2006)

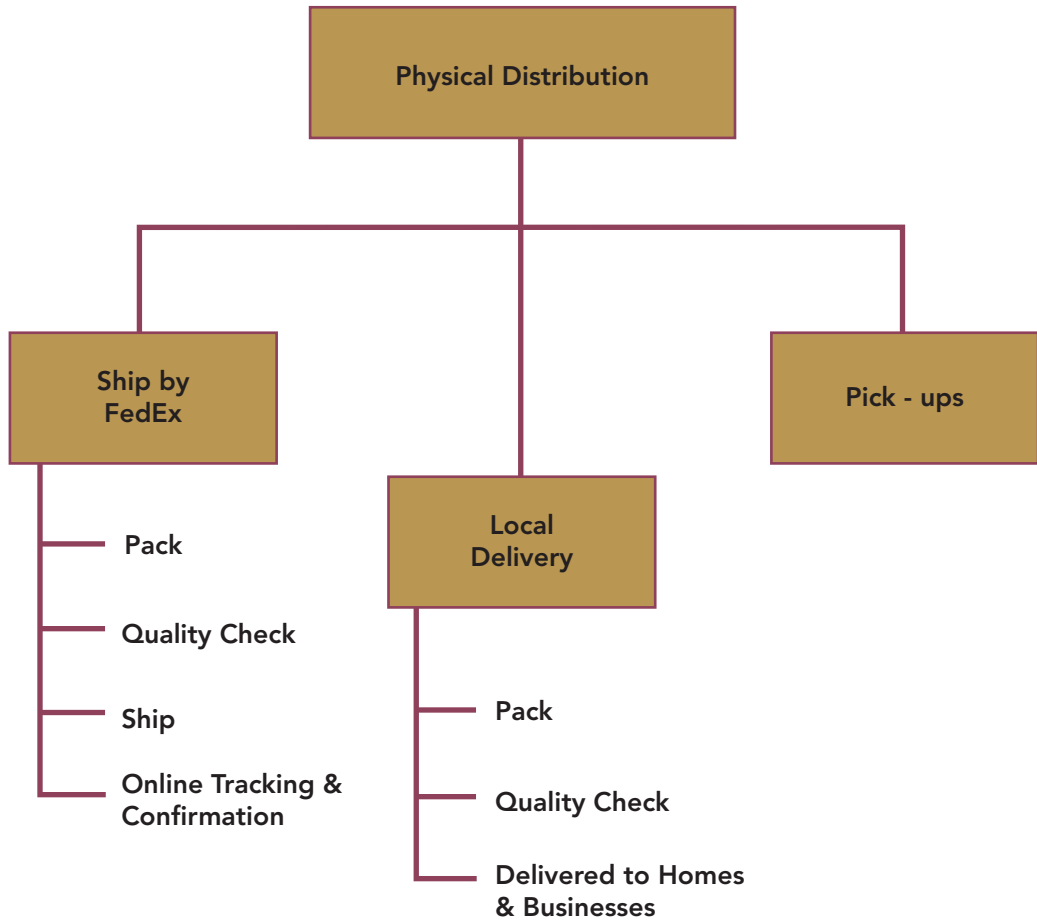


Figure 6. Distribution workflow for a large networked printing company  
(Source: LeMaire, 2006)

## Outsourcing Issues

The following questions were asked to all of the companies:

- Is any part of your physical distribution workflow outsourced?
- If so, which phase(s)?
- What percentage of the time are these phases outsourced?

The breakdown of outsourcing of distribution functions for the four participating companies is shown in Table 2. Both Companies 1 and 2 do not use outsourcing, so “area outsourced” and “percentage outsourced” were not applicable. Company 3, however, outsources 25% of its fulfillment, and Company 4 outsources 2% of its postal logistics. Company 4 also noted that regular mail preparation and poly-bagging are almost always performed in-house.

Table 2. Outsourcing of distribution functions

Company Name	Outsourcing used?	Area outsourced	Percentage outsourced	Comments
Company 1	No	n/a	n/a	
Company 2	No	n/a	n/a	
Company 3	Yes	Fulfillment	25	
Company 4	Yes	Postal Logistics	2	Regular mail and poly bagging are almost always done in-house

## Shipping and Destination Modes

### Shipping Modes

As shown in Table 3, finished goods leave a printing facility for varying destinations and by various shipping modes. Company 1 utilizes its customers’ trucks 65% of the time; Company 2 uses its own trucks 50% of the time; Company 3 uses other carriers 50% of the time; and Company 4 uses carriers 65% of the time. On the whole these companies rarely use courier services for shipment of finished goods. Other significant points were that Company 1 rarely uses its own trucks (doing so just 1% of the time), and Company 2 rarely uses its customers’ trucks (again, doing so 1% of the time).



Table 3. Shipping modes

% Used	USPS	Company truck	Other carrier	Customers' trucks	Courier service
Company					
Company 1	0	1	34	65	0
Company 2	35	50	12	1	2
Company 3	10	20	50	10	10
Company 4	20	10	65	2.5	2.5

**Destination Points**

Table 4 summarizes the most common destination point locations of each company studied. The participants displayed a diversified mix of destination points; however a few key points are worthy of mention. Customer storage, for example, was the first or second most common destination point for all four participants. There is a significant difference between the two commercial printers' responses, since only 20% of Company 3's products had customer storage as the final destination point, whereas 65% of Company 4's products went to customer storage. Internal mail is not a destination point for any of the participant companies, and internal storage and customer conversion are both relatively uncommon destination points. Company 3 was the only participant to cite other destination points. Company 2 uses the USPS to deliver finished jobs to their final destination points most frequently; however this still accounts for only 35% of its product.

Table 4. Destination points

Destination Point	Company 1	Company 2	Company 3	Company 4
USPS	0	35	10	20
Internal mail	0	0	0	0
Internal storage	0	4	5	5
Off-site storage	20	0	10	1
Customer storage	40	40	20	65
Customer fulfillment	20	20	10	6
Subcontractor	20	0	25	0
Customer conversion*	0	1	5	3
Other	0	0	15	0

\*This is a customer specified finishing company where the customer would specify to the printer where product finishing (conversion) should occur.

## Distribution Challenges and Solutions

A specific list of distribution challenges (see Table 5) identified from the Phase One research study was shared with the Phase Two participants. They were then asked if their companies had encountered any of these challenges and if so what approaches were being taken to resolve these problems. Table 5 outlines specific solutions that Phase Two participants had put in place.

Table 5. Key distribution challenges and solutions

Challenge	Solutions			
	Company 1	Company 2	Company 3	Company 4
Storage and warehousing	Re-rack & reorganize warehouse.	Ensure adequate space.	Ensure adequate space, understand costs, invoice customers.	Securing off-site space, and building an expansion to existing structure.
Profitability	n/a	n/a	Timely customer invoicing.	n/a
Customer information flow	Shorten lead times.	Acclimate & educate internal & external customers.	n/a	Make technology investment into SECAP.*
Fuel surcharges	Reduced # of carriers, negotiated for 1998 rates, & capped surcharges.	Customer not charged for increased surcharges.	Invoice the customer for increased charges.	Negotiating w/ 3rd party logistics firms for better rates.
Postage	n/a	n/a	Incorporate postage checks and permits.	Work closely with USPS.
Trucking	Uses four customer-designed carriers for 85% of shipments.	n/a	Establish better pick-up and delivery timing.	n/a
Automation	n/a	n/a	n/a	Set up in-line boxers in the bindery.
Customer service	n/a	n/a	n/a	Employee training & more technology enhancements.
Timing and scheduling	Warehouse revisions and shipping FTL (60%) & LTL (40%).	n/a	Establish better cycle times.	Training/scheduling of employees, better management practices.
Employment (hiring/retention)	n/a	n/a	n/a	More extensive interviewing, reference checks.

\*SECAP is a proprietary mailing software program developed and used by this company.

### Distribution Costs and Profitability

An increasing number of companies have remodeled their strategies, adopting value added services (VAS) in order to address the growth and profitability crisis that is plaguing the printing industry. According to NAPL, the only way that printers can combat the challenges they are facing and remain competitive is to offer diversified services (NAPL, 2004).

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 (Cummings & Chhita, 2004). According to Alexander (2003), service diversification can occur before the print run (such as design and photography), after the print run (such as fulfillment, mailing services, document management, and CD services), or as overall enhancements (such as variable data, Web services, and facilities management). In addition to product benefits, value-added opportunities can be found in services such as training, delivery, and distribution. The combination of services at those workflow points offers tremendous value to the customer (Davis & Meyer, 1998).

In the first year of this research study, 14 of the 16 companies interviewed indicated that distribution was viewed as a value added service in their companies. The primary reasons why distribution was seen as a VAS were:

- The customer is charged for distribution.
- Distribution is a service differentiator.
- Distribution is part of the total customer solution.

Subsequently, the participants in Phase Two of the research were asked the following questions:

- Does your company market (advertise) distribution services? Does your company charge the customer for distribution services? If so, is distribution a separate line item on the customer’s invoice?
- What percentage of a printing job quote is allocated to the distribution cost? What types of costs (e.g. postage, shipping, etc.) are assessed?
- Is distribution a profitable service in your organization? Explain your response.

Table 6 outlines the participant responses. Company 1 and 2 do not market print distribution services. Company 1 assists customers with distribution issues, and Company 2 markets its fulfillment services, but not distribution. Both Companies 3 and 4 market distribution as a service offering.

Table 6. Distribution costs and profitability

Company	Marketed service?	Distribution charges	Distribution % of job quote	Profitable service?	Comments
Company 1	No, but will assist customers with distribution issues.	Freight charge is estimated based on geography. It is a separate line item.	Not in job quote.	Distribution is not viewed as a profit center.	This company also has a separate Distribution and Fulfillment entity.
Company 2	Fulfillment – yes; standard distribution – no.	None – unless mailed or shipped via UPS, etc.	Depends on product, destination and turnaround time.	Standard distribution is not viewed as a service for profit. Fulfillment is a new service, close to breakeven.	Provide à la carte services & charge for everything.
Company 3	Yes	Yes it is a separate line item.	10%: one-way trucking, postage, kitting (10% of fulfillment services).	Yes	Potential ancillary service – “great add-on.”
Company 4	Yes	Yes	5–10%, quoted on an order as “drop shipping and logistics, or mailing services.”	Yes, a small profit.	Freight is marked up; postage is not. Mark-up covers trucking services and UPS.

The response to the question “Does your company charge for distribution services?” was generally “yes,” and this would include either reimbursing the manufacturer for freight and postage charges and/or other services such as warehousing and fulfillment. Companies 3 and 4 both indicated that distribution services represented 5–10% of the job quote. Additionally, Company 4 stated that freight is marked up to cover the cost of trucking and USPS services.

### Future Directions, Trends and Growth Opportunities

The participants were questioned about future directions, trends, and growth opportunities they see for the printing industry in the area of distribution. The responses are summarized below.

#### Future Directions and Trends

##### Company 1

“There will be continued reduction in available resources (e.g. tractor units). Many of the freight haulers are going out of business which will result in a reduction in the number of qualified carriers to be used.”

There will be a move toward interconnection by focusing on having full truck loads or double stack loads with other businesses with different products. Additionally, more materials will be moved via railroad. However, the logistics associated with this will be a major issue as rail yards are not very concerned with quick turnaround.

##### Company 2

Both physical and electronic distribution will be important in the future. There will be a resurgence of the “distribute and print” model, which will provide:

- Costs savings for the customer,
- Cost savings for the printer, and
- Revenue opportunities for the printer (royalties).

##### Company 3

“IT Management is something that will be a critical function for any company that intends to expand its operations to include distribution or fulfillment services.”

##### Company 4

There will be an increasing implementation of RFID technology to ensure complete tracking of processes, including LTL (less than truck load) and FTL (full truck load) shipments. Additionally, there will be more automation for fulfillment activities (e.g. boxing in-line, labeling, and packaging of material).

#### Growth Opportunities

##### Company 1

The interviewee stated that any future growth opportunities in distribution would depend on the company’s growth. However, some possible opportunities for growth included:

- adding more local area warehouses,

- the company purchasing its own tractor trailers, and
- warehousing less product and moving towards an “order quantity = release quantity” model. This would allow for quoting a more competitive price for the needed quantity, which is something customers want.

### Company 2

“In the future the company will grow in the area of electronic distribution and data asset management (DAM).” Both of these processes will help customers save money and be more efficient.

There will be few changes in physical distribution practices, but mailing services will be expanded by:

- increasing capabilities,
- adding new equipment,
- adding more shifts, and
- adding capacity.

### Company 3

In the future the interviewee sees the company bringing the kitting/fulfillment operation in-house. This is seen as a high potential growth area for the company. However, it will only happen after adequate IT management and mailing operations functions are established.

### Company 4

The management’s perspective is that the company needs a “giant leap” in technology, such as RFID or bar coding. Perhaps automation will be modified in such a way that packaging will be more systematic, and there will be less of a human element involved. Customer integration is also an area for growth. The company would like to be able to provide automatic tracking and e-mail updates to its clients. The goal is to become more proactive, rather than reactive.

## Voluntary Comments

Each company was asked to give any additional input regarding distribution specific to each organization, including challenges they face, directions they see their organizations going in the future, impacts of globalization and offshoring, product mix variables, etc. The comments are listed below.

### Company 1

Distribution must be viewed as an upfront process. Also, the electronic impact on distribution must be understood. The use of contract proofs will be limited. However, soft proofs are difficult to use in specialty printing.

### Company 2

The interviewee from this company offered the following thoughts and questions:

- “We need to think about how will the advantages of being a local distributor work in our favor, versus offshoring to China. Is it speed of delivery? How can we compete?”
- “How much product will stay as print (e.g. newspapers)?”

### Company 3

No additional comments provided.

### Company 4

The interviewee from this company expressed the following concerns and current distribution obstacles that the organization faces:

- “Gas prices keep going up...this affects distribution practices. Job quote prices to customers may increase by 10–15%. Some customers don’t understand price increases, which can be problematic.”
- “Regarding the correlation between organizational communication and technology: it is always a necessity to do things quicker and more efficiently than our competitors. More technology investments would be a value to our organization.”

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## Summary of Findings

The following discussion provides a comparison of the research findings to the defined research objectives.

### Importance of Print Media Distribution in the Print Production Process

As previously mentioned, the definition of 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 (Cummings & LeMaire, 2005). 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 a strong management support (Frazier, 2003).

All of the interview participants agreed that distribution is an important, if not critical, part of the print production process. In fact Companies 2 and 4 indicated that they promote and market distribution and fulfillment services and refer to these services on their Web sites.



Although distribution is thought to be a very important process, none of the four companies participating in this research had a documented and/or standardized distribution workflow. The interviewee from Company 1 stated that there was no need for a documented workflow and that it had not been a focus area in the organization. The interviewee from Company 4 did provide the steps for the company's print distribution process, however.

Based on the interviews with these companies it seems that one reason they do not document their distribution processes may be because they do not want them publicized externally. This was very evident with the interviewees from Companies 2 and 3, who were reluctant to discuss any specifics of their distribution processes. Additionally, other companies outside of this research study have been approached and questioned about their workflows, and their willingness to share this information for the purposes of research has also been limited.

Another factor that came out of this research that is indicative of the importance of the distribution workflow is the need to start the production process by first understanding the customer's distribution requirements. This was clearly expressed with the comment from Company 1 that distribution is the first step of its order process, and that the requirement for this information is embedded into the order software. This fact is further illustrated by the workflow distribution diagram seen in Figure 2, where distribution is the first step in the process for this digital printer. Starting the production process with a clear understanding of distribution requirements benefits both the printer and the customer, in that problems such as delayed production and late shipments can be avoided.

Given the responses from these companies, perhaps there is nothing wrong with not having a documented workflow. Such a document would be hard to standardize due to variations in product mix. Therefore, while from a learning standpoint it would be useful to be able to refer to such a diagram, there may not be an obvious benefit for a company providing distribution services.

## Profitability of Distribution Services

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" (Gorelick, 2004). Selling distribution services in the printing industry involves gathering information in order to offer tailored, customer-specific products and services. Distribution services include processes such as:

- fulfillment,
- logistics,
- mailing,
- material handling,
- packaging,

- shipping, and
- warehousing.

Dick Gorelick also states, "... 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" (Gorelick, 2004).

Companies participating in this research were asked about the cost and profitability associated with the distribution of printed materials in their organizations. Out of the four companies interviewed, two (Companies 3 and 4) stated that distribution is a profitable service. Both companies market these services and the associated billable costs are 5–10% of the total order. Company 1 does not view distribution as a profit center and Company 2 only charges if the product is distributed via the USPS or shipped via carriers such as UPS or FedEx.

While it was reported that there is a marginal profit realized from select distribution services, it is the opinion of the researchers that this is still a gray area. If the companies interviewed in this research study are representative of printing companies in general, then it appears that distribution charges are dependent on the service and whether or not the customer sees the value in it. Services such as fulfillment are viewed as specialized distribution. The customer understands the value of these types of services and thus payment is a non-issue. Conversely, if printers have not traditionally charged for standard distribution, customers may resist and/or resent having to pay for what has in the past been a free service.

The need to differentiate one print service provider from another is not only based on products or technology, but rests on the unique value perceived by the customer. The benefit to the customer is in having one supplier responsible for managing both print and distribution. The value to the print service provider is a continuous and steady flow of work (Gorelick, 2004).

### Print Distribution Models

The graphical models for six different types of printing companies were developed from discussions with the Phase One companies of this study, and are believed to be an accurate representation of all printers in the industry. Through an analysis of these models, the researchers learned a great deal about core similarities and common structures among printers, as well as their many differences. Workflows range from very straightforward and simple representations (Figure 1), to very complex multi-faceted workflow diagrams (Figure 3).

### Core Characteristics

There does seem to be a correlation between the size of the printer and the complexity of its distribution system, as shown in Figures 2 and 4. A core characteristic of all of the participants, as shown in Figures 1 and 2, is their prominent use of UPS and the USPS, as well as other shipping carriers, to transport product to their clients and end users.

Larger printers tend to offer additional options such as destination shipping, and/or utilize their own trucks for delivery.

## Customization

As seen in Figures 4 and 5, there is a trend among printers for more customer involvement and customization in choosing where and how a product is shipped. For example, as shown in Figure 5, customers have the option of having their products shipped to one location, multiple locations, an event, or to their end users. The customers of mid-sized commercial printers (Figure 4) can have their products inserted into other pieces, pre-addressed by the printer, and 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. This can be seen in the workflows outlined in Figures 3 and 5. Fulfillment is another possible path where finished product may be routed before being shipped to the end user.

## Solutions to Key Distribution Challenges

Distribution is an important expense, especially for magazine and catalog publishers. R.R. Donnelley, the largest printing company in the U.S., is constantly looking for ways to improve its distribution operations in order to save customers money. The company implements strategies such as co-palletization and drop-shipping. Co-palletization combines materials from different publishers on the same pallet, allowing smaller customers to gain the same postal rate savings as larger customers. With drop-shipping, the company transports publications closer to their destination before inserting them into the postal stream, thereby reducing mailing costs and delivery times (Cost, 2005).

The discussion below focuses on the areas that the participants responded to most frequently as being challenges to their organization. Not all printers are or have been impacted by these challenges; the specific challenges they face depend upon the nature of their businesses. There are however, a few obvious similarities among the participants' responses that are worthy of mention.

All of the participants, for instance, noted that storage and warehousing, as well as fuel surcharges, were challenges. Three out of the four participants noted that customer information flow and timing and scheduling were challenges. Two out of the four noted that postage and trucking issues pose challenges to their organization. Unfortunately, the researchers didn't learn much about the challenges of automation, profitability, customer service, or employment, as only one participant for each category noted seeing these areas as being challenges.

### **Storage and Warehousing**

In relation to storage and warehousing challenges, all of the participants responded that they need to address space limitations and physical constraints through building expansions and/or the reorganization of their current warehousing facilities. Some of the participants however, have been warehousing less, perhaps in order to reduce overhead costs.

### **Fuel Surcharges**

Fuel prices have remained consistently high, and printers' reactions to this issue were varied. All of the participants have implemented solutions ranging from reducing the number of their carriers, negotiating rates with the USPS and third party logistics firms, and passing on increases to clients. One of the participants however, still does not charge its customers surcharges.

### **Customer Information Flow**

Based on the participants' feedback, the nature of customer information flow and the challenges that stem from it have an impact on their organizations' timing and scheduling. The education of internal and external customers is an area that the participants focus on to combat this challenge, in addition to technology investments such mail-stream management software.

### **Timing and Scheduling**

The participants cited warehouse revisions, better cycle time and management practices, and advanced training and scheduling of their employees as solutions to the challenges they face regarding timing and scheduling.

### **Postage**

Postage increases continue to be a threat; however this is not consistent for all printers. The solutions to this challenge are somewhat dependent on the type of printer, as well as the product mix. For instance, some printers do not use the post office at all, and others use it only occasionally. The two commercial printers seem to be impacted the most by postage increases, and each addressed this challenge by communicating and working closely with the USPS.

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## **Conclusions**

Distribution has been shown to be an important aspect of the print production process. As such, distribution profitability, workflow and challenges are key issues facing printers today.

Cost savings and the prevalence of limited resources are common themes among printers, regardless of size. The lack of qualified carriers may result in more printers focusing on strategic partnerships with logistics firms in order to maximize efficiency. Continuing to build upon current technology for fulfillment processes, as well as

purchasing new equipment enhancements such as RFID technology, also appear to be common themes.

Having an established IT management function to support evolving and growing distribution operations becomes especially important for companies planning to incorporate in-house fulfillment services. One interviewee noted that e-distribution will become more important in the future. According to this participant, the “distribute and print” model will be used as a means to save the customer and printer money and to provide increased revenue opportunities. The interviewee from Company 2 feels that there will be growth in the areas of electronic distribution and data asset management (DAM). IT expertise will both save customers money and help with print production efficiencies. To quote the interviewee from Company 4: “Due to the correlation between organizational communication and technology, it is always a necessity to do things quicker and more efficiently than competitors. Thus, more investments would be a value to our organization.”

The outcome of this research study has implications for printing companies, print services providers (trade binders, mailing and fulfillment companies), equipment manufacturers, educational institutions, and industry associations.

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## Agenda for Further Research

The third phase of this research project will involve the writing and publishing of a book on the subject of print media distribution. The book will be comprised of information from this research and two previous research studies. Additionally, other topics such as globalization, offshoring, and the history of distribution will be incorporated.

Today there is minimal published information on the subject of print distribution, and yet distribution is a key element in the print production process. Therefore, a solid explanation of current trends and future directions in this area will be of interest to many entities in the printing industry.

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## Appendix

### Media Distribution in the Printing Industry: Year 2 Research Interview Questions

#### Demographic Information

Company Name \_\_\_\_\_

Company Classification \_\_\_\_\_

Annual Sales \_\_\_\_\_

Number of Locations \_\_\_\_\_

Number of Employees (total) \_\_\_\_\_

Number of Employees (this location) \_\_\_\_\_

Interviewee \_\_\_\_\_

Interviewee's Job Title/Function \_\_\_\_\_

#### Distribution Workflow Process

1. Describe/explain your physical and/or electronic distribution workflow. Is the workflow a documented and/or standardized procedure?
2. Is any part of your physical distribution workflow outsourced? If so, which phase(s)? What percentage of the time are these phases outsourced?
3. Finished goods leave a printing facility for varying destinations and by various transportation modes.
  - a) What percentage of finished goods leaving your facility is shipped via:
 

USPS	_____
Company truck	_____
Other delivery carrier (DHL, UPS, FedEx)	_____
Customer's truck (3rd Party Billing)	_____
Courier	_____
  - b) What percentage of finished goods leaving your facility is shipped/delivered to one of the following destinations?
 

USPS facility/location	_____
Internal mail facility	_____
Internal company storage area	_____
Off-site company storage area	_____
Customer storage area/warehouse	_____
Customer fulfillment	_____
Subcontractor	_____
Customer conversion	_____
Other _____	_____

### Distribution Challenge

4. The following issues were identified as distribution challenges in an earlier research study on this topic. Is your company impacted by any of these and if so what approaches are being taken to resolve these problems?
  - Storage and warehousing
  - Profitability
  - Customer information flow
  - Fuel surcharges
  - Postage
  - Trucking
  - Automation
  - Customer service
  - Timing and scheduling
  - Employment

### Profitability and Cost of Distribution

In the first year of this research study 14 of the 16 companies interviewed indicated that distribution was viewed as a value added service (VAS) in their company. The primary reasons given as to why distribution is seen as a VAS were:

- The customer is charged for distribution.
  - Distribution is a service differentiator.
  - Distribution is part of the total customer solution.
5. Does your company market (advertise) distribution services? Does your company charge the customer for distribution services? If so is distribution a separate line item on the customer's invoice? What percentage of the customer's bill is allocated for distribution services?
  6. What percentage of a printing job quote is allocated to the distribution cost? What types of costs (e.g. postage, shipping, etc.) are assessed?
  7. Is distribution a profitable service in your organization? Explain your response.

### Future Directions and Trends

8. What do you see as key directions and trends for the printing industry in the area of media distribution (electronic and physical)?
9. How will your company's distribution operation be structured in the future? Are there growth opportunities in your company's distribution area? If so, what are they?

### Additional Comments

10. Are there any issues regarding distribution that have not been covered in this interview that you feel should be published in this research study?







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