Chapter 7: Document Reproduction

Overview

Reproduction processes have changed a lot as technology advances; there are many choices to make in an office setting. This chapter provides a wealth of information about the various steps in the process and the choices along the way to assist the administrative assistant.

Lecture Notes

A. Copying and Duplicating Technologies

1. The **Copying Process** creates a limited number of exact images from originals using xerographic, fiber optic, or laser imaging processes.

   a. Copiers classified by output volume include:

   - Low-volume/convenience copiers are used for very small jobs; some options: paper, collating, reductions and/or enlargements, manual duplexing (2-sided), 30 copies per minute, 20,000 copies per month
   - Medium-volume copiers are operated by trained personnel; may be centralized; more advanced options; used for longer documents and larger quantities, 20,000–125,000 copies/month.
   - High-volume copiers are centralized and scheduled jobs; 85–120 copies/minute, staple-sorters, automatic feed, job recovery feature; trained technicians operate and maintain.

   b. Specialized Copiers are useful for custom work in the office.

   - Color copiers make high-quality copies at a higher cost than black and white.
   - Digital copiers accept originals downloaded from computer systems for printing; 120 pages per minute, excellent resolution/quality.
   - Multifunction units may include copier, printer, fax, and/or scanner; cost of machine reasonable; repairs complicated.
   - Large document reproduction are useful for computer printouts, large drawings, and oversized sheets.
   - Diazo processing is used for engineering and architectural drawing, an original document in a translucent state.

2. **Duplicating** refers to the creation of multiple copies of originals for stockholders, customers, or other large groups; used when hundreds or thousands of copies are needed.

   a. Offset duplicating is based on the principle that grease and water do not mix; the image is receptive to ink (grease) and other areas are water.

   - Material created on an offset paper master (direct-image master created on smooth paper by keying or writing directly on it), electrostatic master

(original is hardcopy printed or drawn onto a sheet of bond paper with black ink), or a metal plate (useful for items that will be printed over and over using the same master).

- Three offset cylinders work together to create the duplicated copy (master, blanket, impression).
- Useful in the office because of the cost savings for large numbers of copies using a single master.

b. Digital duplicating combines convenience copying with the economy of offset printing.

- Low copy cost, color printing, and large image sizes are key features.
- An extra computer interface for digital duplicating can meet the desktop publishing needs of the office.

B. Typesetting and Composition Processes

A typesetting process is used to create a master copy for printing professional publications; the composition process formats the text into appropriate page and document layout.

1. **Typesetting and Composition Measurement Styles** may vary in a single document. *Be sure students are familiar with the terms listed.*

   a. Character size is measured in points, 72 points equals one inch.

   b. Pica is the measurement used for the width and length of a line, 6 picas to an inch.

   c. Typeface characteristics and styles may vary.

   d. Type font is the term to describe a common typeface used, typeface and point size.

2. **The Typesetting Process** electronically converts keyed words into professional-looking type.

   a. Copy input uses one of two types of equipment.

   - A typesetting keyboard can be used to input the characters, machine instructions, and codes (direct entry).
   - Electronic entry uses a word processing or desktop publishing program for input.

   b. Copy output is the exposed photosensitive material that is put in the processing unit; camera-ready copy is created to make the plates necessary for printing.

3. **The Composition Process** depends on the equipment that is available.

   a. Photocomposition is the process of setting the type as it is keyed; images photographed.

   b. Camera-ready copies can be created from word processing or desktop publishing software.

c. Text keyed in word processing software can be converted with composition software to create master pages for reproduction. Typesetting and print codes must be inserted into the recorded text.

d. Web pages can be created using various software applications, those designed for Web page development or applications like word processing and spreadsheets.

C. Imaging Processes

1. **Facsimile Imaging** is used in two ways.

   a. Facsimile (fax) transmission sends a copy of an image from one place to another over telephone lines or microwaves; it is machine to machine communication. The transmission takes between three seconds and six minute per page.

   b. Electronic scanning digitizes text from a printed page and saves it to disk or master; different electronic scanners are used for each process.

      - Converting text to word processing using an electronic scanner.
      - Converting text to a master saves time because it doesn't have to be rekeyed; masters are produced in four to six minutes.

2. **Electrostatic** imaging creates an offset master or overhead transparency using a copier.

   a. The master is created using a sensitized master instead of copy paper; it is then ready to use in the offset duplicating process.

   b. A blank transparency is used instead of copy paper, but be sure to use those for use in a copier.

3. **Imaging Processes in Copier Operation** may appear simple, but they are complicated.

   a. Xerographic imaging projects an image of the original onto a positively charged drum and then passes it to negatively charged paper. Powder or liquid toner is used.

   b. Fiber optic copiers use glass fibers to carry the image to the paper that has been fused with toner. The machines are smaller and less expensive, but the copier is slower than other low-volume copiers.

   c. Laser imaging uses a beam of light that reflects off mirrors, then to a drum and paper; this produces high-quality, high-speed copies.

D. Finishing and Binding Processes

This is the final step of the project, and it is the part that gives it a "professional look."

1. **Sorting and Collating** multiple copies of multi-page documents can be done as the copies come out of the machine.

2. **Stapling or Stitching** pages together finishes different types of documents. Stitching is used when the document is too large for staples.

3. **Binding** options are available, including 3-ring, plastic comb, spiral, Wir-O, Velo, fastback, sewn-and-glued, case, and lay-flat.

4. **Folding** into a booklet or pamphlet can be done using a folding machine. Some machines can fold at 30,000 sheets per hour.

5. **Laminating** preserves and protects documents with a plastic film covering. It uses pressure and heat to bond the original into the plastic film, then the film is trimmed 1/4-inch from the edge of the document.

Additional Resources for Students

Recommended readings (no texts should be more than two years old):

- Tilton, R., J. Jackson, and S. Rigby. *The Electronic Office: Procedures and Administration*. South-Western Publishing Co.
- Calkins-Fulton, Patsy J. and Joanna D. Hanks. *Office Technology and Procedures*. South-Western Publishing Co.
- Oliverio and Pasewark. *The Office: Procedures and Technology*. South-Western Publishing Co.
- Quible, Zane K. Administrative *Office Management – An Introduction*. Prentice-Hall, Inc.
- Parker, Roger C. *Looking Good in Print: A Guide to Basic Design for Desktop Publishing*.
- Ray, C., J. Palmer, and A. Wohl. *Office Automation: A Systems Approach*. South-Western Publishing Co.
- Regan, Elizabeth A. and Bridget N. O'Connor. *Automating the Office – Office Systems and End-User Computing*. Macmillan City.

Current issues of periodicals or business publications are also an excellent resource. Some of the following periodicals have an accompanying Web site.

Current Periodical	***Web Address***
Gregg Reference Manual	
IAAP Complete Office Handbook	http://www.iaap-hq.org/products/handbook.htm
Modern Office Technology	
OfficePro	http://www.iaap-hq.org/officepro/toc.htm