UNIT 1 ROLE OF THE PRODUCTION DEPARTMENT

Structure

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1.0 AIMS

In this unit, you will learn about the role played by the production department in the process of book publishing. You will be told about the various jobs involved in developing the book design and carrying out the manufacturing of printing and production of a book. After going through this unit, you should be able to make various production decisions which a production department in charge takes for the economical production of a book.

At the end of the unit you will be able to:

- Explain the importance of book design;
- List the various options in typography;
- Enumerate the various methods of typesetting;
- Describe the different methods of printing;
- Evaluate the varieties of paper; and
- Be able to take various binding options decisions.

In a publishing house, it is the production department, which handles the artistic and physical development of both the inside and the outside of the book. This department is basically responsible for turning a manuscript into a finished book. The production section is also involved in the selection of materials and services for the jobs mentioned above. The unit will try to throw light on these areas.
1.1 INTRODUCTION

The production department is responsible for the physical appearance and manufacturing of the book. Its job is to transform a loosely written manuscript into a finished book by deciding the typesetting, printing and binding of the book. It also involves decisions regarding the process of printing to be applied and the type of paper to be used and the kind of binding to be given to the book. It estimates the cost and decides how a given manuscript can be economically produced. This involves computing all production costs, and estimating break-even figures, choosing services and materials and maintaining and controlling the production budget.

Publishing houses may be classified into small, big and modest. The classification is guided by the number of titles, figures of sales, gross receipts, number of people employed to do various jobs and number of departments looking after the publishing process. Their nature and functions may vary from house to house. A large publishing house, which handles a large number of titles, may have a separate design department.

Design and production people generally work under the chief production officer/manager in a medium size-publishing house. In some large publishing houses, the design department is independent of the production section. Various functionaries handle different jobs in the production department.

The production manager supervises and directs the various jobs involved in the manufacture of the book. This department is also called the manufacturing department of a publishing house. The manager maintains a liaison with editors and marketing people and is overall responsible for the purchase of materials and provision of services from outside agencies.

Generally the process of book production in most publishing houses is more or less the same. When a copy edited manuscript is received by the production department, information about the size of the edition, standard of production and approximate date by which the book should be ready, is also passed on. The process of transforming a manuscript into a finished book requires certain decisions to be taken by the production department. Knowledge of the structure of the production department will help you understand the various jobs performed by the production department.

Activity 1

Describe briefly the job of the production department.

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(Check your answer with that given at the end of the unit)

1.2 ORGANISATIONAL CHART OF PRODUCTION SECTION

The process of book production converts the author's manuscript into a book. This involves the coordinated efforts of various functionaries like designers, illustrators,
typesetters, printers and binders. Some of these form part of the production section, others form part of the production process. They also work with authors, editors, and others involved in the process of book production. As we have already said, a look at the organizational chart of the production section will help you to understand the various production functions from planning, designing, estimating, scheduling, purchasing materials to supervising the whole process of converting a manuscript in to a finished book. The bordered blocks indicate that design and graphic work is sometimes outsourced. The editorial section remains in close touch with the production section during the process of book production.

Organizational Chart of a Production Department and Its Functions

The Publisher

Production Manager → Editorial

Designer/Graphic Artists → Production Assistants

Proof Readers/Production Staff

The production manager supervises and directs the various jobs done in the manufacture of the book. The production department is also called the manufacturing department of a publishing house. The manager maintains a liaison with editors and marketing people and is overall responsible for the purchase of materials and provision of services from outside agencies.

1.3 PRODUCTION MANAGER AND PRODUCTION PROCESS

In simple terms, the job of the production department can be described as that of transforming a loosely written manuscript into a finished book. Much goes into the explanation of this simple statement. Book production is a complex job. Since most of the jobs are outsourced, there is never enough time for a job; the production department is always hard pressed for every single job!

The production manager, therefore, must have the following qualities:

- He should have a great deal of patience and strength and be a solid decision maker.
- He must have a thorough knowledge of typography and printing.
- He has to be diplomatic with individuals within and outside the publishing house as people outside the production department do most of his jobs.
- He should also be good at maintaining accounts, as he has to compare all invoices for services obtained and materials purchased. He has also to prepare the cost estimates for the book.
The stages of book production are many and complex.

There are basically five stages in book production:

1. **Manuscript proposal and evaluation**: The production section is involved at this time to provide rough cost estimates and possible break-even. The production section will work out costs with different options.

2. **Book design**: After the copyediting and implementation of house style the manuscript is sent to the design department. The designing would include the decisions about the selection of type size and typeface. Details about the body type, the chapter heads and their positioning will be taken before the matter is typeset. For an illustrated book, the layout is carefully marked.

3. **Final Cost estimates**: Casting off may also be done to have a near exact idea as to how many pages the book will have when printed. Cost calculation is also done at this stage to work out the break-even factor. Decisions on the kinds of materials to be used are also collectively taken with editorial and marketing people. The printer is selected keeping in mind the type of the book, the budget and the facilities with the press.

4. **Printing of the book**: After the text is typeset, it comes back to the section for proof reading. Camera-ready copies are checked for completeness, accuracy and image quality. Several sets of proofs are read. Production section approves the final proofs and approves the final set of printed sheets. The printer delivers the printed sheets.

5. **Binding of the book**: After the printing is done, the sheets are bound according to the decided format. The books are packed according to the specifications given by the production section.

| Activity 2 |
| What are the five stages of Book Production? |
| (Check your answer with that given at the end of the unit) |

In the following sections we will discuss the role of the production department in some detail.

## 1.4 ROLE OF PRODUCTION DEPARTMENT

Production is basically the function of turning a manuscript into a bound book by dealing with designing, typesetting, printing and binding. The production department maintains communication with the publisher and the suppliers of various materials and services. The section is also supervises purchases of items and timely delivery of goods required and maintains schedules for each book.

Further, the section is responsible for computing all production costs and estimating break-even figures (to know how many copies of a book need to be sold to recover
the production cost) by applying various cost estimates, quantities to be printed and selling prices. A successful production manager is one who produces a book most economically and expeditiously.

1.4.1 Designing of the Book

Visualizing a book and translating the concept into action by planning and specifying the visual attributes of the book, bearing in mind the theme and the thought of the author, is known as book designing. It also means planning and specifying all the graphic and physical elements of a publication.

Some publishing houses have their own designing department but most others depend upon freelance designers. With the introduction of Desk Top Publishing and computers, the work can be taken care of by the phototypesetter or composer. But the need is still there to have some person in the production department to look after this aspect so that the department can have an idea about how the book would look after publication cannot be under-estimated.

The design department or designer in a production department is required to take certain decisions about the physical appearance of each book. This includes decisions about the typeface, type size and the print area. This would be guided by the subject matter of the book and readers for whom the book is intended.

A large variety of typefaces are available nowadays. Each typeface has its own characteristics. Readability and legibility are the two fundamental characteristics which one should never forget while deciding on a typeface. Readability is the characteristic of the body of type that makes it comfortable to read. Legibility, on the other hand is the quality of type that makes it possible to read. Legibility depends upon the white space within a letter and between letters. Readability is also contributed by the size of the typeface, length of the line and spacing between words, lines and margins. Colour and texture of the paper should be in relationship with the subject matter of the book. Margins are important, therefore, should be as generous as possible consistent with the length of the print matter and within the cost consideration.

Balancing of the following factors is the key to successful book designing:

- Suitability of design to the subject matter of the book
- Attractiveness
- Clarity and readability for the readers
- Economy for the publisher as well as the purchaser
- Feasibility for the printer

1.4.2 Casting Off

The casting off exercise would also enable the production department to work out the near exact cost of production. Though a rough estimate of the cost of production would have already been worked out at the time of evaluation of manuscript, the details of the cost involved in each operation would give nearly exact idea of the cost of production of a book.

Estimating the number of pages that a particular manuscript will take when typeset is called casting off. A page estimate is arrived at by making a character or word
count of the whole manuscript and dividing that by the number of words anticipated on each typeset page, within a given typeface, design and print area.

A more precise analysis is derived from a breakdown, which is count of the various types of materials such as text, tables, footnotes etc. The idea is to arrive at an estimated number of printed pages the manuscript will occupy when set and made up. Printers' copy--fitting tables can assist in arriving at the estimated figure.

### Activity 3

**What are the factors that are the key to successful book designing?**

(Check your answer with that given at the end of the unit)

#### 1.4.3 Typesetting and Composing

Composing can be defined as the process of setting the type or assembling by hand or machine. Typesetting and composing means the presentation of textual material in graphic form on paper or some other medium. Before the advent of desktop publishing, typesetting of printed material was done in print shops by compositors working by hand, and later with machines.

Hand compositing was rendered obsolete by continuous casting or hot metal machines such as the Linotype machine and Monotype. With the new technologies taking over, photomechanical methods are used for typesetting and composing the text.

The following methods are used these days for this purpose.

- **Phototypesetting:** This system first appeared in the early 1960s and rapidly displaced continuous casting machines. These devices consisted of glass disks (one per font) that spun in front of a light source which selectively exposed characters onto light-sensitive paper. Originally they were driven by pre-punched paper tapes. Later they were hooked up to computer front ends.

- **Cathode Ray Tube:** The next generation of phototypesetting machines to emerge were those that generated characters on a Cathode ray tube. In a Cathode ray tube advanced computer electronics and electronic video is used for producing character images.

- **Desk Top Publishing:** Desktop Publishing (DTP) is the power of personal computer to create paper based publication that until very recently required powerful machines and highly skilled craftsmen to produce. It is a medium of producing screen based camera ready copy and art work without recourse to conventional cut and paste system. The production manager is supposed to be conversant with the various composing systems.

DTP is usually understood as a publishing process, whereas it is primarily a system of composing pages. When text is fed into the computer, it comes on the monitor
screen. It is possible to play about the format, the way it should look on the page, shift the graphics and photographs till you get a page that is exactly the way you want it to be.

The main features of DTP are:

- It is able to use multiple type fonts in a single document or page.
- It can combine text and graphics in a single page.
- It can create page layout or place previously created text or graphics into that page.
- It can format a page by deciding or altering columns, margins etc.

1.4.4 Proof Reading

A proof is a trial print or sheet of any printed material made before the production run, that is checked against the original manuscript and upon which corrections are marked. These are test images of composed matter drawn from several stages of printing process. There are many kinds of proofs— galleys, page proofs, repro proofs, machine proofs and final proofs, after which the matter is finally printed.

Proof reading is an integral part of printing process. The process of book production is a combination of certain sequences which include designing, casting off, selection of printing process, composing the matter and correcting the composed matter before the final printing.

Proof reading plays an important role in producing good quality books. A book full of printing errors discourages the reader and lowers his interest in the publication and can turn an otherwise important work into a worthless and frustrating experience for a reader. Proof reading terminology, methods of marking the proofs and their symbols have remained almost unchanged. For the production persons, the thorough knowledge of these is still a major force in producing books.

To be an accurate and good proof reader one has to have certain inherent qualities of head and heart. Among many requirements that are necessary to make a good proof reader, the following figure prominently:

- Linguistic competence
- Retentive memory
- Familiarity with typography
- Knowledge of correction marks

This is an important function of the production section as the quality of the final product largely depends upon the correctness of the text.

Today, advances in printing technology and the introduction of computer-based composing technology have revolutionised the methods of book promotion and many (though not all) of the proof reading tasks can be accomplished with the help of word processing software.

1.4.5 Printing of the Book

Books are generally printed through one of the three basic processes of printing: letterpress, offset and gravure.
1. **Letterpress:** is a traditional process in which images are transferred by pressure from an inked raised relief plate to the material being printed through the operation of a machine. This is also called relief printing. This is the original printing method but has been taken over by offset printing.

2. **Offset printing:** In this method, ink is transferred first to a blanket surface and then to paper from a plate on which the printing and non-printing areas are on the same level, but the non-printing areas are wetted so that they will not print while the printing areas are coated with a greasy ink that resists the water. The process is also called lithography, offset printing or photo offset. The process works on the principle that grease and water do not mix.

3. **Gravure** (also known as intaglio) is printing from a plate into which an image has been cut rather than raised, as in relief printing (letter press). As the image has been cut below the surface of the plate, when the plate is inked, the ink flows into the cuts, then when excess ink is cleared off the surface of the plate, the ink remaining in the cuts and prints on paper in contact with the plate.

These processes have their advantages and disadvantages. The production manager's decision will be guided by suitability of the process, number of copies to be printed and the ability and capacity of the printer to deliver the desired quality within the specified time frame.

### Activity 4

Discuss briefly the three commonly used processes of printing.

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(Check your answer with that given at the end of the unit)

### 1.4.6 Paper Selection

A bewildering variety of paper is available to a publisher for bookwork. The decision to select one particular kind for a given book will be the result of various considerations. Selection of paper is a major decision because paper cost goes up and down directly in proportion to the size of the edition. Factors that influence the selection of paper would include weight, strength, opacity, surface texture, colour and its folding quality. Absorption of ink and resistance to moisture are other considerations which a production manager would look for while deciding the paper for the text. Paper being the main constituent in the cost of production of a book, the production manager can show his expertise in selecting paper which is economical but at the same time can give desirable results.

Paper is available in varieties of finishes, qualities and weights, which can be selected according to the nature of the book. The efficiency of the production manager lies in his ability to match the quality of paper with the process of printing. Let us give you a brief idea of the different kinds of paper and their qualities.

**Antique paper:** It is a kind of printing paper with rough and textured finish. It is pulpy and fluffy. It absorbs ink quickly and more suitable for letterpress printing.
**Art paper:** It is a smooth finish paper which is acquired by coating of china clay and other adhesives. It has an attractive finish and used for illustrations and publicity literature. It is less durable, cracks easily when folded and sticks in damp conditions.

**Bond paper:** It is a rough, strong and durable paper mainly used for office communication. A lighter slightly paper of this kind is called 'Bank paper'.

**Book paper:** The paper commonly used for book printing is classified as book paper. It is strong and durable and is often surface sized to make it suitable for offset printing.

**Cartridge paper:** It is a hard, tough class of paper made with a rough surface, particularly used for drawings.

**Cover paper:** A slightly thicker and durable quality of paper available in wide varieties of finishes, textures and colours.

**Map litho paper:** this variety of paper is used for printing by offset lithography. It is widely used for books and magazines.

**Newsprint:** This paper made from mechanical wood pulp is the cheapest kind of printing paper. It is brittle and less durable.

There are unlimited varieties of paper available and may be used for purposes other than mentioned above. The production manager has to select the paper according to his requirement with economy and production results in view.

Paper quantities are calculated in terms of reams. A ream has 500 sheets.

The following details are needed to calculate the quantities of paper:

1. Number of pages of a book
2. Size of the sheet
3. Size of the book page
4. Number of copies to be printed
5. Percentage of spoilage

For calculation of paper in reams for a given book the following method can be employed:

\[
\text{Number of pages in the book} \times \text{number of copies to be printed} \div \text{number of pages in a section} \times 500 \text{ (Ream)}
\]

**Section = Number of pages obtained by subdivision of a sheet size**

<table>
<thead>
<tr>
<th>Example:</th>
<th>How many sheets (in reams) in a demy will be required for printing 2000 copy edition of 368 pages book to be printed in demy octavo size (5½ × 8¼).</th>
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<tbody>
<tr>
<td>368(pages in the book) × 2000(copies to be printed)</td>
<td></td>
</tr>
<tr>
<td>16(pages in a section) × 500(sheets in a ream)</td>
<td></td>
</tr>
<tr>
<td>So we get ( \frac{368 \times 2000}{16 \times 500} = 46000 \text{ or } 92 \text{ reams} )</td>
<td></td>
</tr>
</tbody>
</table>

*You may do some similar exercises with your own figures.*
1.4.7 Binding of Book

It is the element of binding, which distinguishes the book from loosely kept sheets of printed materials. The process of binding involves folding of large printed sheets down to book size, gathering the folded sheets in a continuous sequence, sewing or fastening them together and attaching the end paper and covering them.

The book can be case bound (hard bound), paper bound, staple stitched or spiral bound. School books can be sewn and paper bound. Reference books can be hard bound. A similar decision is expected from the production manager, which will be in line with the overall production of the book.

Multifunctional binding machines are in operation these days. There are binding machines which contain complete assemblies required for various operations of binding. Binding machines also have been developed for perfect binding – a process in which signatures are trimmed into loose sheets, which are then glued.

Many options are available, depending upon the nature of the book: the selling price, which the publisher wants to keep, and the money, which he can afford for the binding of the book.

A detailed treatment to binding has been given in the block on book binding (Block 3 of this course.)

<table>
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<th>Activity 5</th>
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<tbody>
<tr>
<td><strong>What is the formula for calculation of amount of paper for a given book?</strong></td>
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<td><img src="image" alt="Formula" /></td>
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</table>

(Check your answer with that given at the end of the unit)

1.4.8 Selection of Services

There are only a few publishing houses which have in-house production facilities. Most others have to depend upon outside suppliers and services for designing, printing and binding of books. It is, therefore, essential that the production department keep a complete control of the time schedule. Instructions to service and material suppliers should be complete and unambiguous to achieve the final product at lowered cost with improved quality.

Speed is the password of the production department. Tight schedules, daily pressures and insistence of the editorial department to rush through a publication to meet some deadline pose tremendous challenges to the job of production manager. Colleagues within the publishing house and suppliers outside the publishing house require a great deal of patience with firmness to get the work done in time.

A good production manager should be able to handle short term or long term pressures while keeping his cool, be highly organised, and have considerable foresight and meticulous worker who can attend to every detail. Efficiency and economy is what one looks for into a production manager.
The process of manufacturing the book may be complete with the role of production department. The process of publishing does not end there. The process is complete only when a book reaches the hands of the reader and the Sales promotion department performs this job.

1.5 SUMMING UP

In this unit we have tried to tell you about the role and functions of the production department in the process of book publishing. We have mainly discussed with the help of organizational chart various jobs, which the production section looks after in the publishing house. We have described some of the responsibilities of the production section and also the qualities of an efficient production manager. The following areas of production work have been discussed:

- Designing of the book
- Casting off
- Typesetting and composing
- Printing of the book
- Paper selection
- Binding of the book
- Selection of services

In this unit, we have also attempted to introduce the various jobs done in the production section. The brief description of various functions should enable the learners understand the role the production section plays in the process of book production.

1.6 AIDS TO ANSWERS

Activity 1

Its job is to transform a loosely written manuscript into a finished book by deciding the typesetting, printing and binding of the book. It also involves decisions regarding the process of printing to be applied and the type of paper to be used and the kind of binding to be given to the book.

Activity 2

1) Manuscript proposal and evaluation  2) Book design  3) Final Cost estimates
4) Printing of the book  5) Binding of the book

Activity 3

The following factors are the key to successful book designing.

- Suitability of design to the subject matter of the book
- Attractiveness
- Clarity and readability for the readers
Introduction to Book Production

- Economy for the publisher as well as the purchaser
- Feasibility for the printer

Activity 4

Letterpress, Offset printing, Gravure

Activity 5

For calculation of paper in reams for a given book the following method can be employed: Number of pages in the book × number of copies to be printed ÷ number of pages in a section × 500 (Ream)

Section = Number of pages obtained by subdivision of a sheet size