A Study for Identification of Defects Occurred During Production in Printing Organization
Anil Kundu1 Vikas Jangra2 Sandeep Kumar Garg3

1,2,3Guru Jambheshwar University of Science & Technology, Hisar – 125001, Haryana (INDIA)

Abstract—Printing organization is a composed structure of pre-press, press and post-press sections. The production cycle of any job consists of execution of different operations in respective sections. Now a day the quality and time both are the prerequisite of customer while ordering for any job. But the defects occurred at any stage of production is major hindrance causing reducing quality and consuming more time resulting wastage. In printing industry wastage is becoming sensitive issue day by day. So it is evitable and need of the hour to identify such defects to overcome during production. The key objective of present study is to identify such various defects generally occurred during printing.

Key words: Production Cycle, Defects, Wastage, Quality, Pre Press, Press and Post Press

I. INTRODUCTION

Any printing organization is combination of pre-press, press and post-press sections. In order to produce any job it consists of execution of different operations or processes as per requirement in different respective sections. In other word the complete production chain is interconnection of pre-press, press and post-press for successful production. In prepress section various operations carried out consists of image designing, image generation, image conversion, image assembly and image carrier preparation. In press section all those operations are involved which are necessary for printing. As this research work is a case study of Thompson Press, Faridabad. Thompson press has offset printing machines in press section. Offset printing is a commonly used technique whose principle is derived from the planography printing process. This Planographic printing process is generally a process in which image and non image area are chemically separated. The image carrier is made with the use of certain chemicals in such a way that image area is ink receptive and non-image area is water receptive. During printing the inked image is transferred from plate to rubber blanket and then subsequently on to printing substrate with the help of suitable impression pressure. Therefore this printing process is coined as the name offset printing process. In post-press section all the binding and finishing operations are carried out after printing. This section includes binding, lamination, embossing, UV coating, gold foiling etc. The flow chart for print production of any printing organization is shown in figure 1.

II. RESEARCH METHODOLOGY

This was a case study of Thompson Press, Faridabad. During the research work different jobs of commercial printing were analyzed with the key objective of identification of defects occurred during production causing wastage. For the study seven jobs were analyzed. These jobs were tracked from initial to final stage during production. During this production cycle various problems were identified and data was collected. The data so collected was on day to day basis. The entire data was analyzed using suitable statistical tools and techniques in order to conclude.

III. DATA COLLECTION AND ANALYSIS

The research data i.e. identifying problem during production of the job in Thompson Press was collected on day to day basis. The primary sources of data included the observations of various defects aroused during printing production.
operations. During study the main aspects to be taken into consideration included scum, set off, color variation, mis registration, mottle, water spot and others (feeding problem, packing defect, blanket problem, power cut etc.). The entire data was analyzed using suitable statistical tools and techniques. Finally the interpretation of collected data was made to analyze and conclude. The findings of research are presented below:

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Job Type</th>
<th>Scum</th>
<th>Set off</th>
<th>Color Variation</th>
<th>Mis Registration</th>
<th>Mottle</th>
<th>Water Spot</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Magazine</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>Brochure</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>3</td>
<td>Booklet</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
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<tr>
<td>4</td>
<td>Invitation Card</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>5</td>
<td>Book Domestic</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
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<td>6</td>
<td>Diaries</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>7</td>
<td>Periodicals</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Table 1: Frequency of Defect Occurrence

IV. RESULTS AND CONCLUSION

After collecting the data, it was analyzed. This research paper elucidated a concise overview of defects occurred during production of different jobs. It was observed that the results obtained during the research were in accordance with the standard range. During the observation it was found that average job affected in sheet fed section was recorded 2.20% while on the other hand the frequency of data recorded was 1.50% in quality control department. When we proceeded further this value was reduced and observations depicted that in case of lamination, UV coating and binding the result observed was 0.61%, 0.56% and 0.33% respectively. Also this conclusion was drawn that scumming, color variations and other problems were major reasons behind wastage. In order to reduce wastage suitable procedure should be implemented. Also to encounter scumming, set off and color variations common preventative measure should be opted.

REFERENCES


