

A Study on the impact of overprint-overlap on printing production and its application to cardboard packaging

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Abstract:

Print registration quality is a key factor affecting the appearance and market value of carton packaging. A major challenge is color misregistration, which reduces product quality and causes financial losses. This study examines Overprint and Overlap as practical prepress solutions to enhance registration accuracy, minimize misalignment defects, and improve production outcomes.

Research Problem: Color misregistration that appears after the printing of carton packaging is one of the most common challenges encountered during the production of packaging materials.

Aim of the Study: The study aims to investigate the role of Overprint and Overlap techniques in mitigating the problem of color misregistration.

Importance of the Study: The study is important as it offers practical solutions to improve packaging quality and reduce waste from misregistration, while raising practitioner awareness of Overprint and Overlap to enhance efficiency and lower reprinting costs.

Research Hypotheses: This research assumes that applying Overprint and Overlap techniques can effectively enhance print registration accuracy, improve the overall appearance of printed carton packaging, and reduce waste while minimizing production defects.

Research Boundaries: Time Boundaries: Limited to the time frame necessary to fulfill the research requirements. Spatial Boundaries: The research problem and practical application were studied at First Industrial Development Company.

Research Methodology: The researcher adopted the descriptive-analytical method to fulfill the objectives of the study.

Results: The theoretical and applied study revealed the following: Failure to apply Overprint and Overlap during prepress preparation is a major factor contributing to print defects. There is a noticeable knowledge gap among practitioners regarding Overprint and Overlap, which negatively impacts the quality of final outputs. The rate of consistent application of these techniques is relatively low (13.3%), highlighting a practical gap and underscoring the need for broader implementation. Practical training on the importance and features of Overprint and Overlap is essential to enhance efficiency and reduce waste.

Recommendations: Ensure the systematic use of Overprint and Overlap as essential prepress and design tools to address misregistration and achieve accurate print alignment. Implement specialized training programs for print professionals to improve practical awareness and competency in applying these techniques. Strengthen collaboration between prepress and press operators to integrate Overprint and Overlap settings within production files. Encourage printing institutions to adopt structured quality assessment tools to reduce waste and enhance the final appearance of packaging products.

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