

**UNIVERSITI TEKNOLOGI MARA**

**A STUDY ON THE APPLICATION  
OF DIGITAL PRINTING  
TECHNOLOGY AND ITS  
INFLUENCE ON BUSINESS  
OPPORTUNITIES**

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## ABSTRACT

The global market for printing has been shrinking even though the demand for printed goods continues to evolve. The print industry is undergoing significant changes due to shifting consumer preferences. This includes a transition to shorter print runs, variable data printing, and on-demand printing. This study aims to explore how digital printing technology can contribute to the sustainability of commercial printing companies. It seeks to understand the extent to which digital printing complements the offset printing process and how the opportunities provided by digital printing technology can enable commercial printing companies to survive and thrive amidst current challenges. Recognizing the long-term effects of this situation, therefore this study is conducted to determine the impact of the development of digital printing technology on the printing industry and to explore the business opportunities provided by digital printing technology to commercial printing companies. A qualitative method was used to collect data for the study. Interviews were conducted with representatives from four digital printing and commercial companies located in the Klang Valley area. The findings of the study show that the development of digital printing technology has had a significant impact on the printing industry in Malaysia and abroad. The invention and application of digital printing technology can help commercial printing companies remain competitive and grow alongside advancements in the field. While both offset and digital printing techniques have their advantages, combining them can yield the best results. Emerging digital printing technologies present opportunities for print enterprises to expand and adapt in the future. For future research, it is recommended to investigate the impact of digital printing technology on the packaging sector, a market that is well-developed and holds significant potential for growth.

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# CHAPTER 1

## INTRODUCTION

### 1.1 Research Background

The printing industry can be described as a sector involved in producing printed materials such as books, magazines, newspapers, packaging, and more (Thompson, 2021). This industry has undergone significant changes due to the digital revolution. The development of digital technology has not only transformed how content is published but also impacted traditional printing processes. Innovations like digital printing enable smaller print runs, faster production, and personalized features, which differ significantly from traditional methods such as offset printing. The digital revolution has brought both challenges and opportunities to the printing industry. Companies must adapt to new technologies to remain competitive in an increasingly dynamic and fast-paced market.

Offset printing companies, a key component of the conventional printing industry, have struggled to keep up with advancements in electronic engineering, computer science, and information technology during the late 20th and early 21st centuries. These advancements have made life more convenient, comfortable, and shaped new lifestyles. According to Itika (2023), digital technology has advanced significantly in recent years, creating exciting opportunities for reading and learning. This progress in digital printing will encourage offset printing companies to embrace digital technologies in their production lines to meet evolving customer demands.

Digital printing offers numerous advantages, including print-on-demand capabilities, variable and personalized printing, fast production cycles, workflow efficiency, the ability to handle small-quantity orders, color consistency, and effective inventory control (Noor, 2018). A deeper understanding of the future development of digital printing, alongside changing market demands and trends, will enable printing companies to sustain and grow their businesses. To achieve this, companies require accurate and systematically conducted information.

Extensive research on the printing industry and digital printing highlights the importance of technological advancements and marketing strategies for the success and survival of the printing industry. Consumers increasingly demand lower prices,