Chapter 13
Intellectual Property in the Age of Machine Creativity:
Understanding the Legal Landscape and Emerging Issues

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ABSTRACT

This chapter explores the intersection of intellectual property (IP) law and generative artificial intelligence (AI), focusing on the complex challenges and emerging issues presented by these technologies. It provides a structured taxonomy of IP concerns related to AI, including authorship and ownership, copyright infringement, fair use. By analyzing the legal and ethical implications of these challenges, the chapter aims to offer insights into current IP frameworks and propose potential solutions and best practices for stakeholders. Through a multidisciplinary approach that includes legal texts, academic literature, and case studies, this chapter contributes to the development of new theoretical frameworks and informs policy, practice, and public understanding in the evolving landscape of machine creativity.

1. INTRODUCTION

Generative artificial intelligence poses both a philosophical and practical challenge on a scale. AI's capabilities, unlike static technologies, expand exponentially as advancements continue. In recent years, the complexity of AI models has been growing exponentially at an accelerating pace, with new capacities emerging that

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remain unknown even to their creators. Each successive AI system develops novel abilities, often without a clear understanding of their origins or future implications. Consequently, the future now harbors a profound new dimension of uncertainty, risk, and unpredictability.

In November 2022, OpenAI released ChatGPT, marking a significant turning point. While large, general-purpose, or "foundation" models and their generative outputs had been research subjects for years, ChatGPT's launch captivated the public and media, attracting substantial venture capital investment. These expansive models, capable of generating text, images, videos, games, music, and code, were widely heralded as transformative forces that would revolutionize innovation and democratize creativity, all amidst intense media fascination. While these technologies offer numerous opportunities for innovation, they also present significant challenges, particularly concerning intellectual property (IP). This study will delve into the complex landscape of IP as it intersects with generative AI, analyzing the multifaceted problems and challenges that arise.

Creativity is a subject of significant interdisciplinary relevance, encompassing fields such as psychology, engineering, the arts, and management, and is traditionally defined by generating novel and practical ideas (Amabile, 1998). Various models have been developed to study creativity across different disciplines. In marketing, for instance, the 4Ps model is widely utilized, viewing creativity about the person, the product, the process, or the press of the environment (Richards, 1999). In management and organizational studies, creativity has been explored at three distinct levels: the individual, where personal traits and cognitive abilities are seen as drivers of creativity; the team, where factors like team composition and leadership are considered influential; and the organizational level, where the focus is on the role of organizational culture and climate (Amabile, 1998; Woodman et al., 1993).

Integrating AI systems offers opportunities and challenges across essential creative domains. Generative artificial intelligence expands the boundaries of creative expression, enabling artists to transcend traditional mediums and explore the possibilities of digital and algorithmic domains (Martens, 2024). Nearly every facet of creativity is influenced by this technology, as it is closely linked with cultural dynamics. Since practical deep-learning techniques became feasible around 2012, powerful machine-learning models for a content generation have emerged. Initially applied in music, these models quickly expanded to other creative fields, including drawing, painting, cartoons, poetry, and rap lyrics. The quality of works produced by generative AI systems is now approaching a level where they can be used in contexts traditionally reserved for human-made creations. Historically, generative AI systems served as tools to assist and inspire artists, requiring substantial expertise in the relevant creative domain to operate. However, as technology advances, there is a noticeable shift towards more autonomous systems, where creating a work might