This study presents a comprehensive framework for optimizing publication pricing across multiple digital platforms while balancing revenue generation with accessibility constraints. Through the application of a penalty-reward optimization model, we successfully addressed the fundamental challenge faced by publishers operating across platforms with varying royalty structures and market penetration.

Our analysis reveals several key insights that have practical implications for multi-platform publishing strategies. First, the inverse relationship between platform royalty rates and market share creates a natural tension that requires careful optimization—platforms offering higher royalties (MoKa Reads at 92.5%, Leanpub at 80%) typically command smaller market shares, while dominant platforms (Amazon KDP with 29% market share) offer substantially lower royalties (35%). Second, our weight ratio analysis demonstrates that optimal revenue occurs not at the extremes of pure market share or pure royalty optimization, but rather at a 75% royalty weighting, suggesting that while high-royalty platforms are crucial for revenue maximization, completely ignoring market dynamics leads to suboptimal outcomes.

The proposed smart initialization strategy based on royalty rank ordering proved effective in biasing the optimization toward affordability goals while maintaining computational efficiency. The resulting optimal prices range from $15.23 for MoKa Reads to $19.92 for Amazon KDP, staying well within our target bounds derived from Canadian consumer purchasing patterns and maintaining an average price close to the market-identified target of $13.69.

For the MoKa Reads Collective and similar not-for-profit publishing organizations, this framework provides a systematic approach to pricing that aligns with the mission of maximizing accessibility while ensuring financial sustainability. The methodology is particularly valuable for organizations seeking to "spend the least to support the most," as it explicitly incorporates affordability constraints while optimizing across diverse platform ecosystems.

Future research could extend this framework by incorporating dynamic demand elasticity, exploring temporal pricing strategies, and examining the impact of book-specific characteristics such as subject matter complexity or target audience demographics. Additionally, the model could be adapted to include print format optimization and international market considerations as publishing operations scale globally.