

## Advancing AI-Driven Digital Platforms and Evaluating Global TTO Best Practices for Enhanced Technology Transfer Models

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### Abstract:

The evolution of technology transfer in the 21st century has been significantly shaped by the rise of AI-driven digital platforms and the innovative practices of leading Technology Transfer Offices (TTOs) worldwide. This research explores how artificial intelligence and digital platforms are transforming the frameworks employed by globally renowned TTOs, aiming to advance strategic technology transfer models for the digital age.

Drawing from case studies at prominent universities across North America, Europe, and Asia, this study critically evaluates the effectiveness of TTO processes in deploying AI and digital platforms to accelerate technology commercialization. The research provides a thorough analysis of innovation management tools, including Stage-Gate processes, Technology Readiness Levels (TRL), and ecosystem-based approaches. It further examines how AI enhances IP management, stakeholder collaboration, and strategic decision-making within TTOs.

Preliminary findings reveal that institutions integrating AI-driven solutions demonstrate significant improvements in efficiency, scalability, and innovation output. However, challenges persist, such as aligning academic priorities with industrial expectations and ensuring equitable access to digital resources. To address these challenges, this study proposes an adaptive framework that combines global best practices with advanced AI functionalities to foster a more inclusive and sustainable technology transfer ecosystem.

The research provides actionable insights for policymakers, academic leaders, and industry practitioners, contributing to the broader discourse on the intersection of AI, digital transformation, and technology transfer strategies.

### **Keywords:**

Technology Transfer, AI-Driven Platforms, Technology Transfer Offices, Innovation Ecosystems, Digital Transformation, Best Practices.