

Technology Management Landscape in Indian Industries: Strategies, Challenges, and Opportunities

Sudarshan Singh Chouhan^{*}, Atul Kumar, Gunjan Agarwal

Amity Law School, Amity University, Noida, India

Email address:

chouhansudarshan30@gmail.com (Sudarshan Singh Chouhan), agarwalapril14gunjan@gmail.com (Atul Kumar), atul3704kumar@gmail.com (Gunjan Agarwal)

^{*}Corresponding author

Abstract

In India, information technology (IT) plays a crucial role in facilitating knowledge management (KM) within various industries. This study delves into the IT strategies employed for KM in sectors such as software, pharmaceuticals, and petroleum, encompassing both private and public domains. While Indian firms have adopted diverse IT tools, including the internet, the study reveals shortcomings in fully leveraging these tools, particularly KM software. Consequently, there's a pressing need for robust IT strategies to enhance KM effectiveness across Indian industries. In a developing nation like India, technology management assumes paramount importance in responding to global competition. This research scrutinizes the existing state of technology within Indian industries and the innovation capabilities within higher education institutions. It stresses the necessity for collaborative efforts among the government, industry, and academia to prioritize technology management. Such concerted endeavours are believed to bolster the nation's competitiveness and innovation prowess on the global stage. Since 1966, Indian government policies have imposed restrictions on technology imports, compelling large firms to focus on internal research and development (R&D). This study investigates how Indian companies have navigated these restrictions by judiciously allocating R&D resources among competing projects. Despite economic constraints, Indian firms exhibit exploratory efforts in R&D management, necessitating advanced planning for technology imports. The auto component industry in India has witnessed significant growth, propelled by liberalization and international partnerships. This study examines strategic technology management (STM) practices in two case organizations within this industry. The findings underscore varied technology strategies and a strong alignment between business and technology strategies. The study emphasizes the need for in-house capability development alongside technology acquisition for enhanced business performance. In India, technology management practices, particularly among Chief Technology Officers (CTOs), are evolving. Leveraging natural language processing (NLP) techniques, this study analyses the disparity between academic knowledge and practical views on technology management. The findings highlight the escalating importance of CTOs in top management, with practices tailored to organizational needs.

Keywords

Technology Management, Automobile Industry, Technology Transfer, Innovation, India, Developing Countries, Strategic Framework