

TECHNOLOGY

# Unlocking the Potential of Non-Core Technology Assets in Large Firms

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*Large firms can systematically manage and utilize their non-core technology assets to maximize value creation.*

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# Introduction

Over a period of time, large firms often accumulate vast portfolios of non-core technology (NCT) assets, which are underutilized despite their potential value. Unlike core technologies that are critical to a firm's competitive strategy, NCTs are often sidelined due to a lack of alignment with the firm's immediate objectives. However, effective management of NCTs can open doors to significant innovation, revenue streams, and competitive advantages. Firms are equipped with resources to exploit these technologies but often lack the frameworks or strategies to do so. This article delves into the intricacies of managing NCTs, presenting a robust framework and various strategies to help firms maximize their value of NCTs.

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C. S. Galbraith, "**Transferring Core Manufacturing Technologies in High-technology Firms**," California Management Review," (1990) 32,4: 56-70.

## Understanding Non-Core Technologies

NCTs refer to technologies that, while valuable, do not align with a firm's current strategic goals. They often emerge as by-products of research and development (R&D) activities. Unlike core technologies, which sustain competitive advantage, NCTs might have latent

market potential that remains untapped. For large firms, NCTs represent a unique opportunity to diversify technological portfolios, enhance organizational resilience, and venture into new markets. However, the management of these assets is fraught with challenges, including high costs, integration complexities, and a lack of dedicated resources. The effective management of NCTs draws from principles of open innovation, technology transfer, and knowledge management. Open innovation encourages leveraging external partnerships to augment internal capabilities. This approach is particularly relevant for NCTs, as it enables firms to collaborate with entities better positioned to exploit these assets. Knowledge management processes—spanning the creation, dissemination, and application of knowledge—play a pivotal role in identifying and utilizing NCTs. Firms with strong absorptive capacities can recognize the potential of NCTs and integrate them effectively into commercial ventures.



# Paths and Modes for NCT Utilization

To manage and exploit NCTs, firms can choose from three broad pathways: internal development, external development, and partnerships. Each pathway comprises multiple modes, each suited to specific circumstances and goals.

## I. Internal Development

*Establishing a New Business Unit:* Creating a dedicated business unit to incubate and develop NCTs offers a focused approach. This model provides the flexibility and resources needed for NCTs to mature, potentially transforming them into core technologies or standalone ventures. However, this approach requires significant investment and long-term commitment.

*Shelving:* Shelving involves archiving NCTs for potential future use. While this strategy incurs minimal immediate costs, it requires periodic reviews to prevent the obsolescence of shelved technologies. Shelving can serve as a strategic reserve for cross-licensing or defensive purposes.

*Discarding:* In cases where NCTs lack foreseeable value, firms may opt to discard them. While this strategy frees up resources, it risks overlooking latent potential. Firms should exercise caution and perform thorough evaluations before discarding assets.

## II. External Development

*Selling:* Selling NCTs to external entities enables firms to monetize underutilized assets. This approach is particularly effective when NCTs hold value outside the firm's strategic focus. Valuation, however, remains a critical challenge, often influenced by market dynamics and buyer perception.

*Licensing:* Licensing allows firms to retain ownership of NCTs while granting external entities the right to use them. This mode generates ongoing revenue and reduces development risks. Successful licensing agreements often depend on the licensor's support for the licensee's commercialization efforts.

*Donations:* Donating NCTs to universities, research institutions, or non-profits can yield goodwill, tax benefits, and opportunities for collaboration. This mode aligns with corporate social responsibility goals and can foster ecosystem development.

### **III. Partnerships**

*Joint Ventures:* Joint ventures bring together complementary resources from multiple entities to develop NCTs collaboratively. While they mitigate risks and distribute costs, joint ventures often face challenges related to alignment of objectives and control.

*Strategic Alliances:* Strategic alliances offer a flexible approach to leveraging external expertise and resources. These alliances are particularly effective in high-tech sectors, enabling firms to share knowledge and accelerate innovation.

*Spin-Offs:* Spin-offs involve creating independent entities to develop and commercialize NCTs. Spin-offs can retain varying levels of parent firm ownership, allowing firms to benefit from the success of the new venture while reducing operational complexities.

## **The management process for NCTs can be conceptualized in three phases:**

Conduct a comprehensive review of the technology portfolio to identify NCTs. Catalogue identified NCTs, ensuring detailed documentation to facilitate decision-making. Evaluate the potential paths and modes for each NCT, considering factors such as feasibility, market potential, and alignment with strategic goals. Perform due diligence to assess risks and opportunities. Implement the chosen strategy and establish metrics to evaluate success. Conduct periodic reviews to refine approaches and adapt to evolving circumstances.

*Benefits of NCT Management:* Monetizing NCTs through sales, licensing, or partnerships provides additional revenue streams. Developing NCTs fosters innovation and opens doors to new markets and technologies. Effectively managing NCTs enhances a firm's ability to adapt to changing market dynamics.

*Challenges of NCT Management:* Estimating the value of NCTs is complex, often influenced by market uncertainties and intangible factors. Firms often fail to identify the potential market applications of NCTs. Without a dedicated framework, NCTs are shelved or discarded prematurely. Developing NCTs requires dedicated resources, which may strain existing operations. Collaborations and partnerships risk unintended knowledge transfer, potentially compromising competitive advantages. Limited expertise in leveraging NCTs hinders their integration into broader business strategies.

## Example Cases

Several firms have successfully leveraged NCTs to drive growth and innovation:

- Procter & Gamble: By reviewing its patent portfolio, the company identified dormant technologies with licensing potential, generating significant revenue.
- IBM: Through its licensing programs, IBM earned billions in royalties, showcasing the profitability of external commercialization.
- Nokia: The company's donation program supported over 100 start-ups, indirectly enhancing its brand value and fostering an innovation ecosystem.

## Recommendations for Managers

To maximize the value of NCTs, managers should:

1. Establish Dedicated Teams: Create cross-functional teams to identify and manage NCTs.
2. Leverage Open Innovation: Collaborate with external partners, including universities and research institutions.
3. Invest in Knowledge Management: Build systems to capture, share, and apply knowledge related to NCTs.
4. Adopt a Flexible Approach: Regularly reassess NCT strategies to adapt to changing circumstances.
5. Engage Stakeholders: Involve employees, investors, and external partners in the decision-making process to ensure alignment and support.

# Conclusion

Non-core technologies represent a largely untapped reservoir of potential for large firms. By adopting structured approaches to their management, firms can unlock significant value, driving innovation, revenue, and strategic growth. However, the journey is not without challenges. Firms must navigate complexities such as valuation, resource allocation, and strategic alignment to realize the full potential of their NCT assets.

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