

Transformation by Radical Innovation

Turning Megatrends and Emerging Technologies into Growth Opportunities

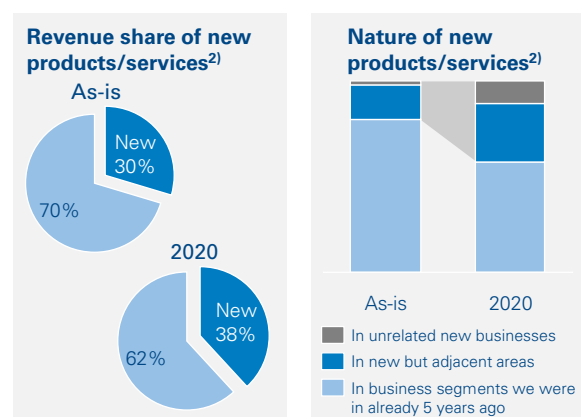


Is your company sufficiently innovative? Most CEOs and CTOs would like to say yes, although Arthur D. Little’s recent Global Innovation Excellence¹⁾ study reveals that most companies are focusing on incremental, rather than radical, innovation. The most successful innovators in the study, in terms of EBIT and sales from new products, spend as much as one third of total R&D resources on radical innovation activities. While in the past, successful companies prospered by focusing on incremental innovation, tweaking existing products and processes, today they face difficulties competing with start-ups and younger companies with game-changing offerings. While new entrants usually benefit from lean and flexible organizations suited to the culture and processes needed for radical innovation, previously successful incumbents struggle to adapt their bigger and more cumbersome organizations. In this article, Arthur D. Little shares its perspective on how larger companies can become “radical innovators” by focusing on three critical key success factors.

The challenge – intensified competition and price pressure

Arthur D Little’s global CTO/CIO study (2011) suggests that a steadily increasing share of revenue, going from 30% to about 40%, will come from new products and unrelated business in 2020 (see Figure 1). By 2020, companies in every industry will be increasingly exposed to intensified competition and price pressure, particularly those commoditized products and services which lack distinctive attributes. To reinforce growth in this environment, companies need to be ahead of challengers and exploit upcoming market opportunities for new sources of revenue. However, the majority of companies solely focus on incremental product innovation and geographical expansion, even though radical innovations often generate higher margins. Radical innovations are new products, services, processes or business models which are game-changing, and which allow a company to “grow beyond the core” by targeting new markets and/or customer needs. Radical opportunities can arise from technology leaps, megatrends or simply a company’s capability and innovation culture. However they must ultimately give rise to valid new business growth opportunities – and this article explains how to do this.

Figure 1. The importance of innovative new products in adjacent and new business areas



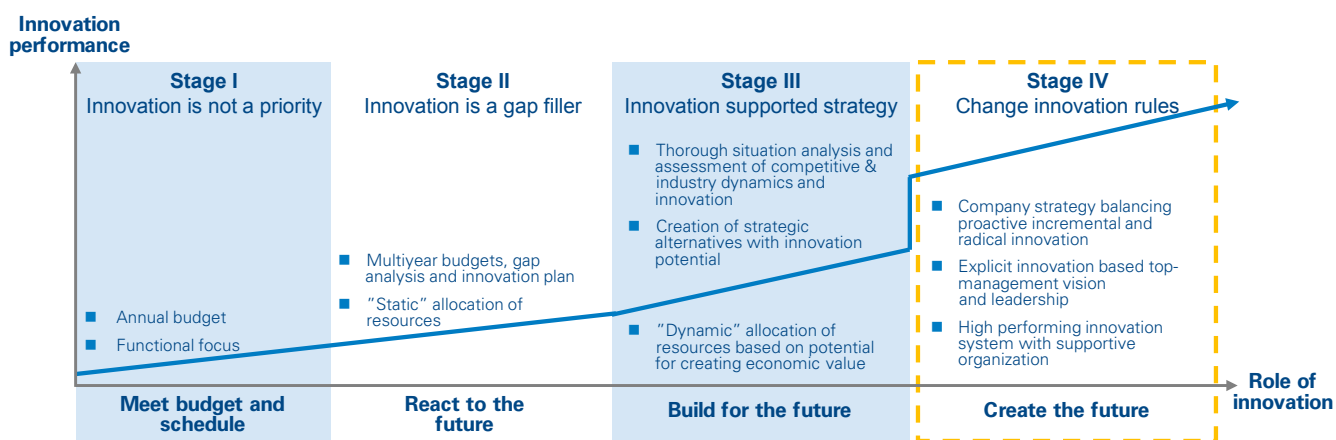
Source: Arthur D. Little
 Note: 2) Revenue share, products launched within the past 5 years

Creating the future and changing innovation rules

Innovation capability can be divided into four stages where the approach towards innovation differs (see figure 2). Many companies have multi-year innovation plans (stage II) and some

Note: 1) www.adl.com/InnovationExcellence

Figure 2. Evolution of innovation excellence



Source: Arthur D. Little

have an innovation supported strategy and are opportunistically engaging in radical innovation (stage III). However, only a few companies have reached stage IV where the innovation system is used to create the future with focus on both radical and incremental innovation as means for growth. Companies in stage IV proactively scout for new technologies in their innovation ecosystem and actually change innovation rules.

Companies which move from stage III to stage IV turn radical innovation from a random activity to a deliberate system where potential game-changing innovations are created, nurtured and exploited for reinforced growth ahead of the competition.

To make the capability sustainable and repeatable (characteristics of stage IV), the company strategy needs to support the balance between radical and incremental efforts and investments. This balance will vary depending on pace of technology development, impact of megatrends in the specific industry and means of competing in the core business, adjacent business and in new businesses. The balance will also depend on the timeframe of results and the requirements of top and bottom-line impact.

“The most successful companies spend 1/3 of their R&D budget on radical innovation”

The most successful companies, in terms of EBIT and sales from new products, from our Global Innovation Excellence study are mainly stage III and stage IV companies. One third of their total R&D resources is spent on radical innovation activities and the remainder on balanced or incremental innovation activities. Looking in more detail, on average 21% of resources are focused on radical product/services innovations, 6% on radical process innovation and 5% on radical business model innovation.

How to tap into radical innovation for reinforced growth?

Arthur D. Little has identified three critical success factors to reach stage IV and tap into radical innovation.

1. Give full management support to a vision for radical innovation, and support innovation leaders to define relevant adjacent fields for radical growth

Top management needs to have a joint vision of radical innovation as a mechanism to generate growth, supported with funds and sufficient attention and “kudos” for innovators to powerfully overcome any internal cultural or budgetary barriers. Stage IV companies naturally have innovation on the top executives’ strategic agenda alongside other strategic priorities.

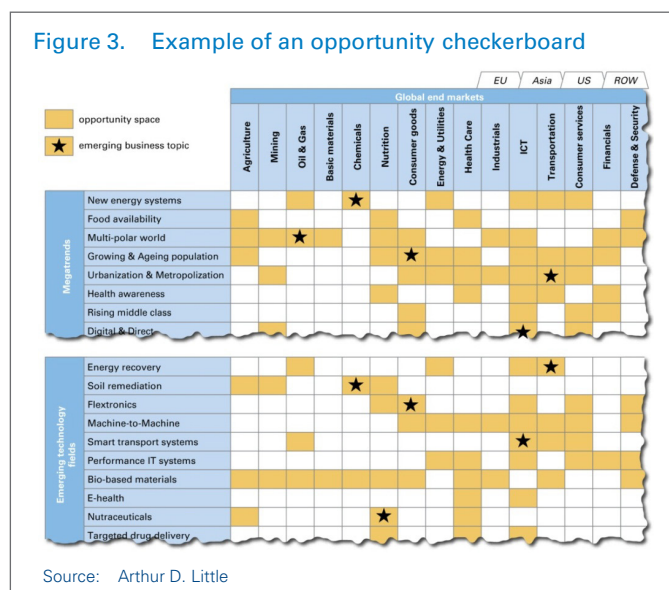
An entrepreneurial, fast moving and responsive culture is what typically enables small start-up companies to successfully implement game-changing strategies. Big companies can’t always be this nimble. Instead, the most successful large organization radical innovators are effective in identifying and supporting “innovation leaders”¹⁾ at different levels in the company, from the board of directors and below e.g. in business and R&D functions. The innovation leaders are critical for entrepreneurship and creating a culture of innovation.

The implementation of top management’s radical innovation vision requires these innovation leaders to not only closely monitor megatrends and emerging technologies but also seek to exploit and fully capitalize on available technologies in existing, adjacent and new business areas. The innovation leaders have different characteristics and roles. Innovation leaders do not necessarily need to come up with radical innovations themselves but they support innovators.

We find that the most attractive opportunity areas for radical innovation often build on a company's inherent market and technology capabilities and strategic direction. Drawing on these current market/technology capabilities and company ambitions, opportunity areas can be identified by creating a "checkerboard" of opportunities containing three key dimensions (see Figure 3):

- Global end markets (core, adjacent and new)
- Megatrends (ageing population, urbanization etc.)
- Emerging technology fields (machine-to-machine, smart transportation systems etc.)

Figure 3. Example of an opportunity checkerboard



By having defined explicit opportunity focus areas and communicating them across the organization, top-level executives can more easily create a clear and shared vision for radical innovation as a source of growth. The opportunity areas should serve as guidelines for investments in radical innovation activities, without stifling other good ideas¹⁾.

2. Generate and explore ideas in open, collaborative "innovation ecosystems" addressing your greatest business needs

Each focus opportunity area requires feasible ideas on how, when and where to conduct business in the area. Stage IV companies use an idea generation and assessment process to achieve this, often involving a high degree of collaboration. This often involves stakeholders from an organization's complete business ecosystem, in order to generate different perspectives from customers, employees and research partners and other collaborators. Innovation leaders at top and senior level create processes and pre-requisites for such structures, and recognition of participants.

Stage IV companies balance top-down generation processes and encourage broader bottom-up idea generation processes. The on-going idea generation process where customers, employees and partners continuously search for and explore ideas can be complemented with, for example, focused "idea generation events." The created ideas need to be evaluated and filtered depending on their potential financial impact and strategic fit.

Innovation leaders have an important role in assessing ideas from a technological and customer perspective, and comparing the current strategic positioning to develop well founded investment recommendations. Drawing on external and internal pre-requisites, stage IV companies deliberately acquire competences, technologies and/or resources from collaborations and partnerships to successfully grow selected ideas.

3. Redesign innovation processes and provide dedicated resources to explore and validate radical ideas

Successful companies have adapted their existing incremental innovation processes to enable radical innovation. The result is a balanced organization, suited to deal with both incremental and radical innovation.

Stage IV companies go on to explore the commercial and technical feasibility of radical ideas. Future end users should be highly integrated in this concept exploration phase, as they can help to shape ideas into viable concepts that they buy into.

Incremental product creation processes with clear and standardized Stage Gate requirements may mean that radical projects are "killed" before the project team has reached a sufficient understanding of the actual potential of an idea or concept. Stage IV companies instead often develop radical ideas in an autonomous environment with less rigorous structures.

Innovation leaders have an important role in stimulating creativity and create tailored environments needed for radical innovation, while maintaining fast and focused development of selected ideas with commercial value.

For radical innovations, project teams are often dedicated and provided with time and resources to take the idea all the way to commercial launch. To provide such conditions, some successful stage IV companies have launched a company incubator or venturing unit which invests and nurtures radical innovations within the opportunity areas.

Insights for the executive

Our survey of CIOs and CTOs suggests that tapping into radical innovation will be critical for reinforcing growth. To achieve this, three critical success factors must be delivered on:

Note: 1) For additional insights read Arthur D. Little's article "Finding new growth: the case for innovation by enlargement", Kemp, De Jongh and van Oene, 2012.

1. Give full management support to a vision for radical innovation, and support innovation leaders to define relevant adjacent fields for radical growth
2. Generate and explore ideas in open, collaborative “innovation ecosystems” addressing your greatest business needs
3. Redesign innovation processes and provide dedicated resources to explore and validate radical ideas

Giving an effective balance between radical and incremental investments, the three steps will turn megatrends and emerging technologies into opportunities to reinforce growth in the ever-changing market.

Case study: StageIV-InnovatorCo

StageIV-InnovatorCo is a world leading engineering company. The company has succeeded in continuously introducing radical new products to the market during the last decade. The radical products have provided completely new ways of addressing the customers’ true pain points and competitors have each time tried to follow when possible.

StageIV-InnovatorCo has created a strong innovation ecosystem with deep collaborations with its major customers to identify radical new product opportunities addressing unmet needs. The leading customers are also involved in the early exploration and development phases. In addition to actual innovations, these partnerships also provide a way of testing whether potential radical products would be palatable to the rest of the market.

The chairman of the board and CEO are “innovation leaders” and continuously push other innovation leaders at different levels in the company to find new enhanced solutions to customers’ issues. They are also willing to invest in game-changing innovation – more than half of StageIV-InnovatorCo’s R&D budget is spent on radical new product development. The management team uses portfolio management to ensure an optimized mix between incremental and radical innovation. The board ultimately decides on the composition of this portfolio.

Selected ideas are pursued and grown in a separate environment, however, with the benefits of being in a large corporation. The ideas are pursued as autonomous projects, led by strong intrapreneurs. The pursued ideas have high recognition from top management and support from corporate service units.

The company mindset and investments have resulted in – and continues to generate – more than double digit annual growth in sales and profits during the last decade.

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Arthur D. Little

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