The Renaissance of Innovation –
The Deloitte Innovation Survey
Data Nation Germany

The developing digital and data driven economy presents diverse challenges and changes for companies, consumers and politics. As part of the “Data Nation Germany” series, Deloitte is tackling these issues with empirical investigation and trend analysis to provide fresh, new perspectives on developments. This publication is the seventh in this series.

**Methodology**

The current Data Nation Germany study, “The Renaissance of Innovation – the Deloitte Innovation Survey,” examines the importance of digital technologies and processes for companies and how they relate to innovative strategies in the digital age. The study is based on a survey of Chief Innovation Officers and top management responsible for innovation in over 150 German companies drawn from all business and industrial sectors.

The survey analyzes innovation in German companies from three perspectives:

- the business perspective on new digital technologies and processes,
- role of the available types of innovation and methods, as well as,
- drivers and barriers to innovation and the implementation of digital technologies and processes.

Simply increasing innovation budgets will not be enough to become innovative in the digital economy. Decisive will be the implementation of suitable innovation strategies and methods as well as the integration of digital technologies into companies. German companies should not look to the methods of Silicon Valley for guidance. Successful innovation strategies must be embedded into the DNA of the company.

*Nicolai Andersen*
Partner, Head of Deloitte Innovation
Executive Summary

Digitalization is challenging established innovation strategies and new technologies are dramatically changing markets, companies and innovation processes. This Data Nation Germany study analyzed the

- business perspective on new digital technologies and processes,
- role of the available types of innovation and methods, as well as,
- drivers and barriers to innovation and the implementation of digital technologies and processes

The study is based on a survey\(^1\) of Chief Innovation Officers and top management responsible for innovation in over 150 German companies and drawn from all business and industrial sectors.

56 percent of companies have invested in Big Data Analytics, 55 percent in Cloud Computing. Machine Learning has had the largest growth rising from 31 to 48 percent.

Despite increasing innovation budgets, companies still feel unprepared for the change

To remain competitive under the emerging digital conditions, companies in the German economy are continually increasing their innovation budgets. According to respondents and Deloitte analysis, the innovation expenditure in companies is growing by 2.7 percent annually. This means that by 2019, the annual amount spent by companies in Germany on innovation will have risen from 166 billion Euro today to 175 billion Euro.

However, almost every second company believes that it is, at best, reasonably prepared for changes in its market. Only 30 percent feel well prepared. At the same time, 80 percent of companies that have significantly increased their innovation spending in the last two years, feel they are better positioned to deal with market changes.

Highest potential in the Internet of Things and Machine Learning

The Internet of Things and Machine Learning show the highest potential for implementation. This is assessed on the relationship between the future importance of a technology and its relevance for businesses today. More than a third of companies see the Internet of Things or Machine Learning as important technologies for the future of their sector, but do not consider them relevant or readily implementable today.

Innovative potential lies untapped – many companies are applying very few types of innovation

Forty percent of the companies surveyed broadly use more than four out of ten common innovations. The remaining 60 percent of companies implement at the maximum only three innovations and leave the others unused.

36 percent of respondents believe R&D tax incentives have improved and 24 percent think access to IT experts has become easier. Only 16 percent report a shortage of skilled personnel.

By 2019, the innovation expenditure of the German economy will reach 175 billion Euro.

\(^1\) See the annex for details concerning the Deloitte Innovation Survey 2017.
Fig. 1 – Importance of Digital Technologies and Processes

**Question:** Which of the following technologies and processes will have a significant impact on the sector in which your company is operating in the next five years. Which of the technologies and processes are relevant for your company and can be implemented today?

- Cloud Computing: 56%
- Big Data Analytics: 53%
- Internet of Things: 49%
- Machine Learning: 37%
- Robotic Process Automation: 25%
- Crowdsourcing Platforms: 18%
- Blockchain Technology: 17%

- Future technology implementation gap
- Companies that consider the technology relevant and implementable today
Although there is a spectrum of ten innovations, 60 percent of companies only use up to three.
Most often companies innovate in networks – i.e., in cooperations formed along a value chain, in terms of product features and functionalities, or in processes.

**Fig. 2 – 10 Types of Innovation**

**Question:** Which of the 10 Types of Innovation does your company apply?

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<th></th>
<th>Total</th>
<th>Manufacturing</th>
<th>Consumer goods</th>
<th>Chemical industry</th>
<th>Pharmaceuticals</th>
<th>Retail</th>
<th>Transport/logistics</th>
<th>Banking</th>
<th>Technology</th>
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<td>9%</td>
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- >5% above average (total)
- +/-5% relative to average (total)
- <5% below average (total)
Those companies that assess themselves to be successful in implementing new trends in innovative products or services often use incubation and ideation as methods to strengthen their innovation capacities.

The innovation ecosystem opens possibilities: Innovation is increasingly emerging from wide networks of partner companies (52%), universities and research institutions (36%), agents external to the sector (35%) and start-ups (18%).

**Fig. 3 – Innovation Mechanisms**

**Question:** Which innovation mechanisms does your company use to tap into external innovation sources?
The lack of time to innovate and low technological know-how inhibit implementation

According to companies, tax incentives, the support of Public Private Partnerships, access to capital as well as the cluster policies have all improved significantly, which is beneficial to innovation.

Fig. 4 – External Innovation Environment

**Question:** How has the external innovation environment changed in the last two years?
The Deloitte Innovation Survey

The Deloitte Innovation Survey is conducted with Chief Innovation Officers and top management across all sectors who are charged with innovation in German companies. The survey investigates strategies concerning innovation as well as the importance of new technologies.

Companies are operating in an environment of increasing uncertainty and confront ever more dynamic and shortening innovation cycles. At the same time, new technologies and processes offer enormous growth potential. In this environment, efficient innovation strategies are critical to the success of a company.

Findings from the Deloitte Innovation Survey can assist Chief Innovation Officers and top management to assess the importance of new digital technologies and processes. They also support the development of successful digital innovation strategies and to ensure that the best technological and investment decisions are made.
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