

Innovation Case Study Spotlight Series: NTT DATA's Go-To Innovation Techniques

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By Analysts [Tsuneo Fujiwara](#)

Initiatives: [CIO Leadership of Innovation, Disruptive Trends and Emerging Practices](#)

The Innovation Case Study series highlights best practices and go-to techniques of innovation heavyweights. CIOs can use this case study to explore the innovation approaches of NTT DATA, including managing customer needs, developing talent and fostering a culture for innovation.

Overview

Key Findings

- CIOs leading innovation and strategic business change often experience responding and reacting to customer needs due to limited opportunities and activities to identify customer needs first hand.
- Formalized training is an essential ingredient in identifying and developing creative and innovative talent.
- Fostering a cohesive culture of innovation becomes a challenge when innovation hubs are located throughout the world and each one is focused on slightly different expertise.

Recommendations

To leverage NTT DATA's go-to innovation techniques, CIOs leading innovation and strategic business change should:

- Gather customer needs for innovation proactively by leveraging a planned portfolio of techniques including open innovation contests, global hackathons, digital bootcamps, customer visits, virtual labs, academia collaborations and centers of excellence demos.
- Develop creative and innovative talent by providing formalized on-site, online as well as collaborative learning environments and training programs to enable co-creation, and by offering recognition for achievements.
- Raise global awareness of innovation activities by facilitating global innovation challenges and by providing employees with self-innovation hours (also known as "white space time") that can be used to conduct experiments and explorations.

Analysis

NTT DATA Overview

NTT DATA is a Japanese multinational system integration company and a partially owned subsidiary of Nippon Telegraph and Telephone. Japan Telegraph and Telephone Public Corporation, a predecessor of NTT, started a data communications business in 1967.

To gain an insight into NTT DATA's key innovation approaches and techniques (as summarized in Table 1), Gartner interviewed Hiroshi Tomiyasu, senior vice president and head of technology and innovation general headquarters, NTT DATA, Tokyo.

Table 1: Examples of NTT DATA's Go-To Innovation Techniques

<i>Technique</i> ↓	<i>Category</i> ↓	<i>Description</i> ↓
Use a combination of techniques to identify and deliver customer innovation opportunities.	Sourcing and scaling ideas	NTT DATA leverages multiple global COEs, open innovation contests, global hackathons, NTT DATA Technology Foresight (NDF) technology trends, customer visits, academia collaborations, innovation school and retreats for innovation.
Recognize and reward internally developed creative and innovative talent via execution and culture change.	Talent management	Each employee in the Tokyo headquarters is allowed 50 hours of self-directed innovation time per year. Through customer projects and various training courses, employees gain skills in a specialized domain and are assigned to support other teams as part of COE. Advanced professionals are also recognized in the Tokyo headquarters and become the spokesperson in their specialization.
Construct innovation culture to change the mindsets and habits of employees.	Innovation culture	Innovation School by NTT DATA, internally known as innCub3, offers its employees an open opportunity to learn innovation techniques collaboratively by learning, doing and sharing experiences. Creativity and innovative ideas are fostered because "innovative spaces" are created inside the company to let employees experiment in safe environments while they face real challenges of their projects and achieve "quick wins." Innovation is not the goal, but a consequence of doing things differently. This shapes a culture for innovation.
COE = center of excellence		

Source: Gartner

Innovation Philosophy

NTT DATA's primary goal is to support customers' innovation by building long-term relationships with customers. The success of customers is the primary priority. Digital drivers for customers are currently:

- Automate and optimize business processes.
- Integrate supplier, partner and customer ecosystems.
- Reinvent the customer and employee experience.
- Provide new digital products and services.
- Create new, disruptive business models.

Thus, the current focus areas for innovation, primarily based on the above customer demand, are: data and intelligence, intelligent automation, customer experience, Internet of Things (IoT), IT optimization and cybersecurity. This shows full alignment of business goals with innovation goals (see [IT Instigators: Design Your Roadmap for Proactive IT Innovation](#)).

Innovation Organization

At NTT DATA, the technology and innovation steering committee (TISC) is responsible for corporatewide technology and innovation activities, and regional technology and innovation initiatives are aligned to the corporate direction. TISC is the authority for innovation identification, acquisition, partnering, building intellectual property, as well as go-to-market and deployment/operational plans.

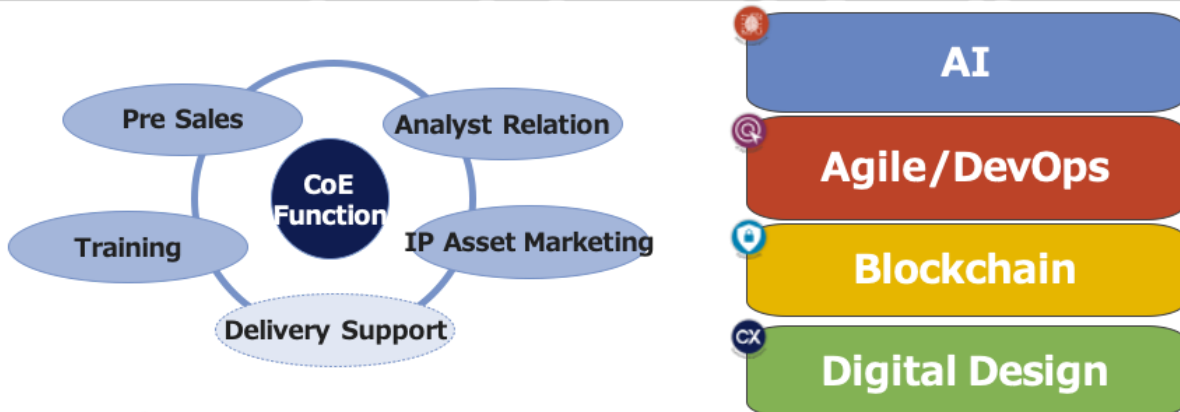
NTT DATA currently operates several global centers of excellence (COEs), governed by the TISC, with each COE focused on a specific domain (see Figure 1). They act as innovation and business accelerators. Since 2018, they've provided digital competency in the areas of artificial intelligence (AI), agile/DevOps, blockchain and digital design, and since 2020, for intelligent automation, software engineering automation and IoT. Currently, there are 800 AI professionals, 300 agile/DevOps professionals, 300 blockchain professionals and 550 digital design professionals that belong to the COE. They are responsible for analyst relations, presales, intellectual property (IP) asset development and deployment support, resource development and innovation delivery support. Note that many of the COE professionals also belong to an NTT DATA company in their respective countries, so they serve dual-hatted.

Figure 1. NTT DATA's Global Digital Competency COE Overview



Digital Competency CoE Overview

Experts from each country will utilize their strengths of specific fields to provide proposal and project support.



3 New CoEs since 2020



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NTT DATA

Innovation Context

The primary objective of innovation at NTT DATA is to support their external customers' innovation by providing differentiated digital capabilities. Given the low appetite for risk, funding is normally secured via the TISC prior to commencement.

Currently, 90% of innovations are incremental as opposed to radical, and they are divided roughly between 55% enhancements to existing products or services and 45% new products or services. The vast majority of innovations are targeted to be completed in less than 18 months, but currently about 15% are planned for a longer duration. Because the primary driver of innovation is customer demand, NTT DATA tends to favor incremental, pragmatic and shorter duration innovations versus radical, riskier and longer duration innovations. This shows a context similar to the risk-averse setting that many enterprises fall into (see [Take Baby Steps to Innovate in a Resource-Constrained or Risk-Averse Environment](#)).

Innovation Techniques

Even though the primary objective of innovation at NTT DATA is to support customers' innovation, each employee in the Tokyo headquarters is allowed 50 hours of self-directed innovation time per year. Employees can use this time to self-generate innovation ideas, collaborate with others to conduct some experiments and explore new areas of innovation. As an example of how to use this allotted time, employees are encouraged to submit proposals for the annual global hackathon occurring since 2017. This year, AI was the topic, and it was dubbed the Global AI Challenge 2020 (see Figure 2).

The event was promoted in LinkedIn, and it received more than 1,300 submissions from around the world. More than 200 participants representing 135 teams competed in the challenge online, despite the COVID-19 pandemic.

Figure 2. NTT DATA's Global AI Challenge 2020 Overview



NTT DATA's Global AI Challenge 2020 Overview

An online AI competition from 1 June through 15 July

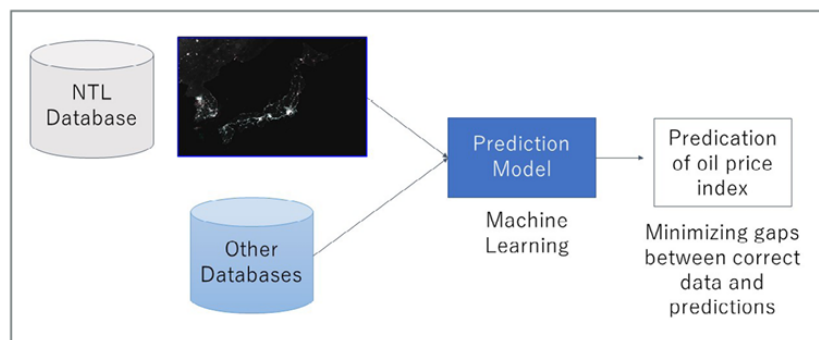


Challenge:

The participants create AI models from the data including nighttime satellite imagery for capturing the world business activities in the COVID-19 pandemic. The created models with the most accurate forecast are chosen from the actual price fluctuation.

Participants:

- 135 teams^a
- 215 participants^a



Source: Adapted From NTT DATA

^a Around the globe

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Since 2012, NTT DATA Technology Foresight ([NDTF](#)), an annual research project, has provided technology trends and information trends on the innovations that are expected to have an impact in the next three to 10 years. Recently, more granular innovation opportunities have been tracked by industries such as healthcare, financial, automotive, telecommunication and retail. Care has also been given to regional innovation focus. For instance, in Japan, exploration in blockchain technology has been stopped due to high trust level and low desire to transform the Japanese financial market, while innovation continues actively in Italy. A blockchain application for 200-plus Italian banks enabling daily interbank reconciliation (from monthly) is being developed based on Corda Enterprise 3.3 in Italy, to:

Mitigate operative risk in interbank reconciliation.

Improve transparency of data exchanged between the banks.

NTT DATA is also actively partnering with technology startups and academia such as the Massachusetts Institute of Technology (MIT) in Cambridge, Massachusetts; Chinese Academy of Sciences in Beijing, China; Tohoku University in Sendai, Japan; and the University of Calabria in Cosenza, Italy, to support innovation activities.

Innovation Process

At NTT DATA, customer-centric innovation is considered a value chain, with three phases:

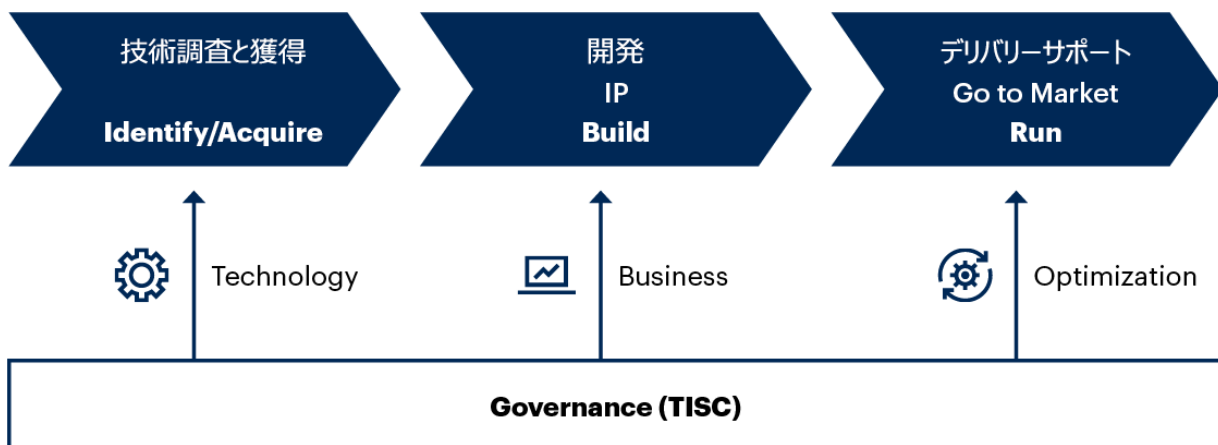
1. **The Identify/Acquire phase** identifies the emerging trends, and conducts research to evaluate new, disruptive technologies.
2. **The Build phase** conducts proofs of concept (POCs) of the technology identified/acquired in the previous phase, and builds IP for specific business applications.
3. **The Run phase** shares and delivers the IP and goes to market.

All three phases are governed by the TISC, and various techniques are leveraged depending on the nature of the innovation. Figure 3 provides a summary view of the innovation value chain. NTT DATA continuously conducts knowledge sharing and provides training for their innovations. If deemed beneficial for their customers, NTT DATA participates in business ecosystems to co-innovate.

Figure 3. NTT DATA's Innovation Value Chain



NTT DATA's Innovation Value Chain



Source: Adapted From NTT DATA
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Case Study – High-Precision Indoor Location Information Technology

A unique service has been released through innovation activities. NTT DATA and Narita International Airport (NAA) released an airport navigation app called NariNAVI on 20 September

2018. This app can be used within NAA's terminals. A high-precision indoor location IT developed by GiPStech, an NTT DATA's partner startup in Italy, leverages radio frequency and geomagnetism (the earth's magnetic field) to determine one's position.

This app is the first of its kind to be used within an airport in Japan. NariNAVI allows users to view a three-dimensional map displayed in 2.5D on their smartphone using 2.5D map platform technology. This cloud service is equipped with an indoor positioning function and a map delivery function for smartphones to realize a location information service within indoor spaces. NTT DATA will leverage introducing the high-precision indoor location information service at NAA to:

- Examine further advancement of navigation services.
- Expand the application of location information at NAA such as to manage employees and articles.

NTT DATA will also aim to expand its business in the future by developing location information services for public transportation and companies with large-scale indoor facilities.

Talent Management

NTT DATA believes in identifying and developing innovation talent internally through a combination of online and classroom training sessions. Through the COE, NTT DATA is targeting 5,000 employees to be trained in the selected digital competency. As mentioned above, professionals in AI (800), Agile/DevOps (300), blockchain (300), and digital design (550) have been trained while they worked on customer project(s) in the specific domain(s) and also supported other projects as members of the COE. This is expected to grow, and in 2020, three new domains – intelligent automation, software engineering automation and IoT – have been added.

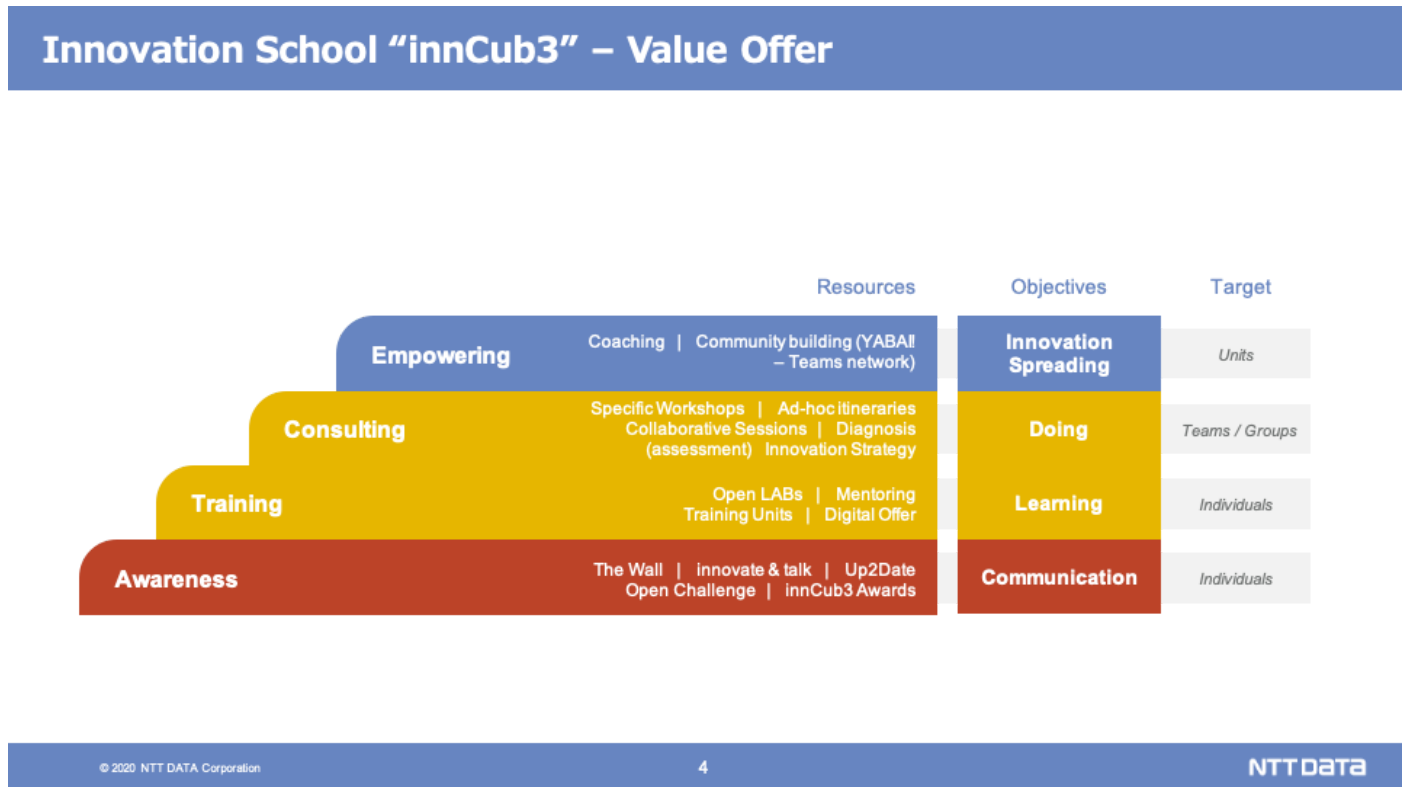
Advanced professionals in the Tokyo headquarters are the company-recognized top creative and innovative resources. Fewer than 10 resources have been identified with this recognition. NTT DATA's next-tier talents are recognized with technical grades, and around 40 such resources have obtained this recognition. These individuals become distinguished specialists and serve as company spokespersons and go-to people for the specific domains.

Many enterprises recruit creative and innovative talent externally from startups, corporations that are advanced in digital technology and/or management consulting firms. In contrast, NTT DATA believes in the importance of developing its own talent in-house to become creative and innovative, via collaboration with the COE and working on customer projects.

In 2018, NTT DATA established an innovation school in Spain (known internally as innCub3), primarily for its employees with the objective of fostering innovative DNA to all employees (see Figure 4). It conducts consulting, training and awareness programs to assess and increase innovation mindsets and learn innovation techniques, and enables group learning via open

laboratories and co-creation workshops on how to think in a customer-centric manner. The open laboratories are intended to detect early adopters and those curious about innovating. After these training activities, the participants can request mentoring from innovation coaches to start practicing their creativity and innovation techniques with their respective teams.

Figure 4. NTT DATA's Innovation School Value Offer



It is currently in pilot in Japan, and it is expected to roll out globally in 2021. Once rolled out, all employees, with the permission of their managers, will be entitled to openly enroll in the training programs.

Innovation Culture

NTT DATA's vision is to "use information technology to create new paradigms and values, which help contribute to a more affluent and harmonious society."

The innovation school above provides a sustainable and safe area to learn innovation techniques and spread the culture of innovation at NTT DATA. The environment fosters an innovation mindset in employees to generate and test creative ideas by facing real challenges of their respective customer projects. Applying creativity and innovation techniques in real challenges results in "quick wins," and it develops more confidence in conducting innovation activities. The innovation school is shaping the culture for innovation at NTT DATA by creating awareness for innovation and continuously communicating innovation activities via its monthly newsletter called "The Wall" (see [You Need an Innovation Marketing Strategy to Increase Engagement and Buy-In in Every Situation](#)), by:

- Facilitating guest speakers and innovators talk about their innovations
- Offering training programs for employees that include co-creation workshops to foster collaboration
- Providing consulting (“learning by doing”) to real challenges from the coaches and trainers

The innovation school also conducts assessments of innovation culture at the individual, team and business unit levels, by identifying drivers and stoppers that exist inherently to promote or inhibit creativity. The assessment provides recommended actions to improve the culture of innovation. The from/to/because model provides a roadmap for culture change (see [Culture Crush: Design Your Roadmap for a Culture of Innovation](#)).

Since 2019, NTT DATA has been conducting a five-day retreat in Southern Italy (Provincia di Cosenza) consisting of startups, ventures, customers, employees and local citizens as audience participants, called Harmonic Innovation Week. Its main objective is innovation ideas co-generation. The first two days are spent on defining the societal problem to solve, such as a green energy economy, and smart and sustainable mobile city. It is complemented by inspiring sessions from startups and academia. The third and fourth days are workshops on ideation and prototyping. On the fifth day, local citizens are invited to the innovation festival demo to experience and provide comments on prototypes created.

This is an example of trying to practice what is being preached in innovation.

Case Study – Open Laboratories and Co-creation Workshops at the Innovation School

Since its inception in 2018, the innovation school has generated increasing interest in innovation at NTT DATA. Pre-COVID-19, it had conducted more than 170 face-to-face training sessions, totaling more than 2,700 attendees. Post-COVID-19, it switched to online training, and a total of more than 20 sessions have been held to date, totaling more than 700 attendees, mostly in Spain and Latin America.

Moreover, the school has offered more than 100 face-to-face co-creation workshops to 850 people pre-COVID-19, and around 30 online co-creation workshops to more than 300 people post-COVID-19. Two of the recent areas of focus have been ideas for smart workplace and co-creation of improved customer websites.

The open laboratories and co-creation workshops tend to offer real-life problem-solving experience in tools for innovative proposal making, creativity assessment, ideas generation, process analysis, value proposition canvas creation, hands-on LEGO SERIOUS PLAY, design thinking, strategic innovation and business model innovation.

Conclusion

NTT DATA starts by proactively gathering customer needs for innovation by leveraging multiple opportunities and techniques including open innovation contests, global hackathons, NDTF, customer visits, academia collaborations and COE demos. Subsequently, the knowledge gained is utilized to co-create or co-innovate with customers. Creative and innovative talent is discovered and developed through formalized training programs and by offering recognition for achievements. Employee self-innovation hours help to conduct experiments and explorations.

Recommendations

To leverage some of NTT DATA's go-to innovation techniques, CIOs leading innovation and strategic business change should:

- Gather customer needs.
- Empower and reward employees for advancing the innovation theme.
- Train employees to become creative and innovative by providing those inclined to become domain specialists an opportunity to become members of the COE, by identifying customer-facing or real business problems to solve.

Appendix 1: Further Innovation Case Study Spotlight Series Reading

Below is a selection of reports from our ongoing series (see Note 1 for further information).

[Innovation Case Study Spotlight Series: Grupo Bimbo's Go-To Innovation Techniques](#)

[Innovation Case Study Spotlight Series: Amazon's Go-To Innovation Techniques](#)

[Innovation Case Study Spotlight Series: Discover Financial Services' Go-To Innovation Techniques](#)

[Innovation Case Study Spotlight Series: Capital One's Go-To Innovation Techniques](#)

[Innovation Case Study Spotlight Series: ServiceNow's Go-To Innovation Techniques](#)

[Innovation Case Study Spotlight Series: Toyota's Go-To Innovation Techniques](#)

Note 1: Disclaimer

The Gartner Innovation Case Study series profiles organizations that Gartner considers to have best-practice go-to techniques and approaches in how they manage innovation. The purpose of the case study series is to share these innovation techniques and best practices with Gartner customers for consideration, where applicable, within their own innovation programs.

Companies are selected for the case study series via a number of criteria. These include Gartner's perception of uniqueness of their techniques; approaches and results achieved; interest levels, applicability and relevance for our target audience; and/or formal recognition as an innovative company by external third parties with a rigorous and transparent methodology. The selection of

any company for the case study series should in no way be interpreted as an endorsement by Gartner, either expressed or implied.

Recommended by the Author

[IT Instigators: Design Your Roadmap for Proactive IT Innovation](#)

[Take Baby Steps to Innovate in a Resource-Constrained or Risk-Averse Environment](#)

[The Art of the Innovation Workshop](#)

[Navigate the 9 Common Pitfalls to Scaling Innovation](#)

[You Need an Innovation Marketing Strategy to Increase Engagement and Buy-In in Every Situation](#)

[Culture Crush: Design Your Roadmap for a Culture of Innovation](#)

Recommended For You

[コンピューティング・インフラストラクチャの戦略的ロードマップ：2020年](#)

[本稼働環境におけるコンテナ/Kubernetes運用のベスト・プラクティス](#)

[クラウド・コンタクトセンター・プラットフォームでMicrosoft Teamsを最大限に活用するには](#)

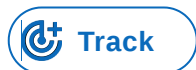
[CRMリード管理のマジック・クアドラント](#)

[AIが組み込まれたアプリケーションに関する現状・展望・注意事項](#)

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