

TRENDS

Innovation in the New Normal

How to Go about Exploitation and Exploration in Uncertain Times

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Amid the accelerating advance of technology, digitalization is bringing rapid changes to the functioning of society and industry. Alongside the relentless upheaval of accepted attitudes and practices wrought by COVID-19, a new normal is emerging that emphasizes different values than those of the past. How must business management adapt if it is to deliver innovation in this new normal and achieve sustainable growth? Prior to the Hitachi Social Innovation Forum 2020 TOKYO ONLINE in November 2020, Dr. Norihiro Suzuki, Chief Technology Officer at Hitachi, had a conversation with Professor Charles A. O'Reilly of Stanford University about the future of innovation. Professor O'Reilly is the coauthor of *Lead and Disrupt*, which discusses the concept of ambidexterity, the ability of an organization to simultaneously succeed in its mature business while competing in emerging businesses.

How Relevant Is Ambidexterity in Today's World?

Suzuki: The management concept of *ryōkiki* (ambidexterity) shared in your book, *Lead and Disrupt*, is very insightful. Please tell us why this approach is even more relevant today, in this era defined by volatility, uncertainty, complexity, and ambiguity (VUCA), including the current coronavirus pandemic. I would specifically like to hear about how ambidextrous management and the balanced application of “exploitation” and “exploration” can help achieve sustainable growth as well as what is happening with innovation under the new normal.

O'Reilly: We see that the pace of technological change is increasing. The rate of penetration of the Internet, computers, mobility, and probably artificial intelligence (AI) and machine learning is faster than ever.

Now, we understand that; but I think what companies don't pay enough attention to, at least in the USA, is that great companies are becoming irrelevant. They are being acquired by other companies. In some cases, they are failing. The increasing pace of change puts great pressure on leaders of companies not only to compete in their existing businesses, where they make their money and satisfy their customers' needs today, but also to explore the future.

Fifty years ago, the role of managers was easier because the pace of change was slower. They didn't have to be



as agile at both exploration and exploitation. With the increasing pace of change, the pressure is greater because you have to be successful today, but you also have to be successful in the future. The fact that many successful companies are failing is, I think, a warning sign for managers.

I live in Silicon Valley, and many of my students either found companies or go to work in small companies, and they are very entrepreneurial. But I think big companies should be more innovative than small companies because big companies have more resources, they have more access to customers and they have deeper technology. They ought to be more adaptable and more innovative than small companies, but often they are not.

If we were having this conversation 40 years ago, 30 years ago, we could point to some major companies that were innovative in their fields. But, of course, today, they are basically gone. The future is not guaranteed.

Suzuki: I see. It is because the future is uncertain that we must never stop moving forward into the unknown. At Hitachi, we have started corporate venturing. We have already invested in some startup companies, and we are now promoting collaborative projects with them. There is also Hitachi Fellow Kazuo Yano, well-known for his work in AI, who has established the company Happiness Planet under the “inside-out” *dejima* (outlying island) model of business development, the first such venture for Hitachi. I would like to further encourage entrepreneurship and mindset change, not only within our business divisions, but also in the Research & Development (R&D) Group.

How Can Innovation be Fostered?

O'Reilly: If you ask any executive around the world today, they will say that innovation is important, no question about that. But here is where they make a mistake: To be innovative, you have to have three separate disciplines. First, you have to have a process to develop new ideas: ideation. That is corporate venture capital, that is R&D, that is design thinking, and that is internal contests. My experience is that companies around the world are doing a pretty good job at that.

The second discipline, which is completely separate, is incubation. You can come up with a lot of great ideas, but how do you figure out which of those ideas are likely to be accepted by customers? That is, how do you validate those ideas? Many companies, including Hitachi, have done a good job with the business model canvas, with lean startups. They have disciplined processes to actually figure out which ideas might work in the market.

It is the third area where big companies run into trouble, that is, scaling.

So, you need to have ideation, incubation, and scaling. Almost every company is willing to spend money for ideation and to do experiments for incubation. It is when the time comes to invest, when you are going to take assets and capabilities away from existing businesses and devote them to new businesses, that many companies run into trouble.

Let me tell you a story of a company in Germany. This company has great processes for ideation. They've set up separate business units in Munich and Berlin for incubation. But they are failing completely at scaling because their existing managers are unwilling to devote resources to new businesses that cannibalize their existing businesses. So, what I worry about when talking to executives is not that they don't understand that they need to be innovative, but that they don't have the discipline necessary to scale these businesses.

Suzuki: That is a good point. At Hitachi, we have a business pipeline. R&D's role is the first part, the process of ideation, or the birth of a business. Taking that first step from zero to one, in other words. Then, our Social Innovation Business division's main focus is on making the business model. Their task is to take the business from one to 10. The final piece is scaling, which is the role of the business unit. This is the organization that has the business channels, the connections with customers. Its role is to scale the business



Charles A. O'Reilly

After graduating with a degree in chemistry from the University of Texas at El Paso, he went on to earn an MBA in information systems and Ph.D. in organizational behavior and industrial relations from the University of California, Berkeley. He has worked as a professor at the University of California, Los Angeles and University of California, Berkeley as well as a visiting professor at Harvard Business School. His teaching has concentrated on strategy, leadership, and the management of human resources. He has won teaching awards at Berkeley and Stanford and has received both a Lifetime Achievement Award and the Distinguished Scholarly Contribution Award from the Academy of Management. His recent research has focused on organizational culture and the influence of senior management on innovation and change. He has also developed and led numerous executive education programs, including Leading Change and Organizational Renewal and the Human Resources Executive Program.

from 10 all the way up to 100. These three disciplines need to work together to make the business succeed.

O'Reilly: That makes good sense. But the problem is that within the business unit, they are less likely to adopt new ideas that provide lower margins for their existing business.

I spent some time with a big software company. They knew the world was shifting to software as a service (SaaS). They had a SaaS product that they wanted to sell to their existing customers, but their existing business units were unwilling to do that because it was a lower-margin product. So, business units can scale, but they scale for product extension. They scale for adding new products and services. Existing business units are slow to adopt new innovations if they cannibalize existing products or provide lower margins. The point I make in my book is that the organization responsible for exploration needs to be separate from the rest of the company.

Suzuki: I expect you are right. In practice, business divisions are obliged to pursue profitability and profit margins. This frequently leads them into short-term thinking. Nevertheless, the trend in business is toward services, where the business model is completely different. It takes a long time to get a commensurate return on investment. The growth of service businesses requires you to maintain a long-term perspective. Clearly, existing business divisions will not be able to invest in new businesses if their focus is solely on short-term profits.

O'Reilly: One way to address this problem is to separate the new business, at least until it becomes big enough that it is viable. Then you can reintegrate it.

A second way to do it is to ensure that senior managers are monitoring this business and making sure it gets the assets and capabilities it needs.

In another company, senior management saw this new technology and realized it was the future. They had it within a business unit and gave money for it to the business unit, but the business unit manager used that money for existing businesses. They starved the new business. So, it requires senior management oversight to make sure the new business gets what it needs.

Overcoming the Success Syndrome

Suzuki: Many companies are still trying to figure out what is or will be normal. Maybe they even think they can continue with business as before once things settle down. Your book warns us about the success syndrome, in which managers' ability to explore is actually undermined by success at exploitation. What sorts of leaders, changes, and organizations are needed to overcome its pitfalls?

O'Reilly: I think one of the warning signs is a focus on short-term metrics. A focus on the business this year at the expense of the future.

That is why I think it takes leaders, not managers. Let me make a distinction that I suspect you know.

A manager is somebody who makes sure that things get done right. A manager worries about efficiency and making sure customers are happy. A leader worries about the future and makes sure the company is going to survive not just for five years, but also for another 20 or 50 years.

Of course, we have to do well in our existing businesses, but we have to be willing to devote both attention and the required assets and capabilities to these exploratory activities.

Suzuki: That is right. We have two main goals, inspired by a desire to contribute to society as well as focusing on existing business sectors. The first is to deliver greater value to customers through efficiency gains. The second is to improve people's quality of life (QoL) and help achieve the Sustainable Development Goals (SDGs), with a long-term commitment to creating a better society in the future. Private-sector companies need to be pursuing both of these goals. To this end, do you have some suggestions for executives about how to change their culture or organization?

O'Reilly: I am actually writing a book on how to do that. I have heard that, in Japan, culture is often talked about as "*bunka*," or DNA. I don't think that is helpful because you can't change your DNA. "*Bunka*" is too broad. I think culture is "*yarikata*," the way things are done. You can change

and manage that. And you can align that with strategy. I think we know how to change culture.

Suzuki: How about an organization? While "*bunka*" may not be amenable to change, organizations can be adapted to suit the goals of the company. Do you have an opinion on that?

O'Reilly: Yes, I believe a more helpful way to think about culture is as the pattern of behavior in an organization that is rewarded by people and systems. If I come to work as a new employee, it is very important for me to understand how I need to behave to be seen as a good person, to fit in, to learn the company way. I will do that by listening to my senior managers, listening to my boss, seeing who is getting promoted, who is seen as successful or not, etc. Think about culture as the pattern of behavior. Once you think about culture that way, you can manage it, because we can change a pattern of behavior.

Suzuki: As you know, Hitachi is trying to realize a human-centered society. So, to change our culture or mindset, our



Norihiro Suzuki

Joined Hitachi in 1986 after graduating with a master's degree from the School of Engineering at the University of Tokyo. After working on research and development in fields such as digital image processing and embedded systems, he was appointed Senior Vice President and CTO of Hitachi America, Ltd. in 2012, General Manager of the Central Research Laboratory in 2014, and General Manager of the Global Center for Social Innovation in the Research & Development Group in 2015. He was appointed to his current position in 2016. Since 2019, he has also served as General Manager of the Corporate Venturing Office. He has a Ph.D. in engineering. He is a member of the Institute of Image Information and Television Engineers and the Institute of Electronics, Information and Communication Engineers, and a senior member of IEEE.

starting point is the challenges that people face and want to do something about. In other words, we begin with a sense of ownership of social agendas as the end goal and then take steps to achieve that idea of the future. As each person participates and thinks as a member of society, the society's issues become more apparent. This kind of culture change or sense of ownership is important for realizing Society 5.0.

O'Reilly: That is important. I agree with that. But it is also how senior managers behave.

People within Hitachi watch you, and they watch the CEO. They listen to what you say, but they also watch what you do. So, one of the important ways that culture is changed is through the behavior of senior managers. It is through getting people involved the way you described, but it is also through the senior managers and what is being rewarded within the organization.

Current Trends in Innovation

Suzuki: The current pandemic has affected all of us, changing values and how we interact with society. We are all trying to find the new normal. Is there any innovation or trend that has caught your attention and that you feel is particularly noteworthy?

O'Reilly: As I said at the beginning, the pace of change is increasing. The rate of adoption of new business models, of new technologies like AI and machine learning, is happening faster. Consumer preferences are shifting. In the USA, for example, the way young people think about automobiles is completely different from the way people of my generation did. They are perfectly happy to use ride sharing and get their driver's license at a much later age.

Another shift that is relevant for us today in the USA, and perhaps in Japan, is how people work. Because of COVID-19, working from home is becoming, and I think will continue to be, a big shift. We have been tracking a number of companies, mostly in the USA, and working from home is becoming much more important. People like it, they are more productive, they have more control of their

schedules. They are actually working longer hours when working from home. I think that will continue even after the pandemic is over, and some of that change will become permanent. Some companies are even selling their real estate because they realize they don't need all these offices.

Suzuki: The R&D Group where I work has also been involved in the COVID-19 response. As part of an initiative to manufacture and supply face shields, it was the R&D Group that did the design. We have engaged in collaborative creation (co-creation) with a number of customers on the use of video analysis for monitoring physical distancing and have also worked on technology for vaccine production. We are leveraging advances in technologies such as fifth- and sixth-generation mobile communications and AI to accelerate innovation. Examples include improvements to safety and security in healthcare and pharmaceuticals and the optimization of value chains to improve efficiency in industry. We are also seeking to become a leader in the environmental sector, as laid out in our Hitachi Environment Innovation 2050 targets, with plans for carbon dioxide (CO₂) emission reductions of 50% by 2030 and 80% by 2050 (relative to the base year of 2010). Other targets include making our production activities carbon neutral by 2030, including raw materials and other procurement. As innovation will be essential to achieving these goals, the R&D Group is also prioritizing environmental research.

O'Reilly: I think that is wonderful. I expect that Hitachi's specialist expertise and depth of understanding of your customers will prove to be major advantages.

Adopting an Ambidextrous Approach

Suzuki: My final question addresses the main part of your book: What is your advice for adopting an ambidextrous approach? The right balance of exploitation and exploration seems to be the key, but I assume that this will be different for everybody. What factors should we consider in deciding the right balance?

O'Reilly: It depends on what markets you are in. Some markets are changing relatively slowly, so I think the balance can be much more toward exploitation than exploration. But in markets where things are moving rapidly, the balance needs to shift more toward explore.

Exploitation is about efficiency; it is about staying close to customers and driving cost down. And that is where you make your money. Exploration is inefficient because you are doing experiments and don't have a guarantee. So, the amount of exploration depends on your judgment about how rapidly the particular technology or market is likely to be disrupted.

For example, the energy industry is being disrupted. But it will be probably another 10–20 years before we are no longer reliant on some of the conventional energy resources. So, those companies have 10–20 years to do this. Other industries, like the financial industry, with fintech in its markets, are changing much more rapidly.

I think it is a matter of judgment, on the part of leaders, of how big the threat of disruption is. If the threat is likely to occur within 5–10 years, then I think the balance needs to be aggressive toward exploration. If the judgment is that it is 20 years out, then I think you can be a little more cautious about it.

Suzuki: Whether it is energy or IT, the speed of market disruption certainly varies a lot from sector to sector. In pursuit of this disruption, we reorganized the R&D Group in 2015 based on three different models of innovation. The new organizations were called, respectively, the Center for Global Social Innovation (CSI), the Center for Technology Innovation (CTI), and the Center for Exploratory Research (CER). The CTI supports the existing business divisions through the development of technology platforms while the CSI works both on generating new value for customers and on looking ahead to consider what forms of innovation and market disruption are likely in the future. It then uses co-creation to create value in partnership with those customers on the basis of their concerns and challenges. This is the Hitachi approach. In terms of disruptive technologies, meanwhile, the CER is pursuing R&D in the fields

of quantum computing, regenerative medicine, and the environment. We have split up our organization based on the different ways of going about innovation, giving each group a clear mission.

O'Reilly: That certainly sounds like ambidexterity to me. Also, innovation is not just technology. It is business models as well. Experimenting with different business models is interesting, and technology can allow for a business model change. So, it is not just making new refrigerators, but also selling me the service that allows my refrigerator to automatically order and refill whatever I need.

Suzuki: Pairing technology development with the right business model is crucial to the exploration of new businesses. At Hitachi, we have tools for business model development and for ideation, including our NEXPERIENCE* methodology for co-creation with customers and our vision design practice for generating future scenarios by identifying *kizashi* (indicators) that shed light on the future and on market trends. We are able to conduct proof-of-concept (PoC) exercises in cyberspace prior to real-world PoC trials, using simulation to assess whether particular business models will function in practice. Together with the use of Lumada for extracting value from customer data and accelerating digital innovation, co-creation with customers is a strength of Hitachi when it comes to seeking out new

* An abbreviation of "Next Experience." Based on design thinking and service engineering, the NEXPERIENCE methodology is the product of R&D by Hitachi's Global Center for Social Innovation – Tokyo. It was first announced in 2015.





businesses in the digital marketplace. We believe that the key to future growth will lie in how we go about exploring user experience (UX) as well as business-to-customer (B2C) and business-to-business (B2B) business models.

Advice to Japanese Companies on How to Achieve Ongoing Growth

Suzuki: Do you have any comments or advice to Japanese companies, specifically, about the challenge of driving innovation for sustainable development?

O'Reilly: My experience is that Japanese companies and the leaders of Japanese companies have a longer-term perspective. Hitachi recently celebrated its 110th anniversary. It is only those companies that continue to change that can survive in the long term. I think that gives you an advantage. “*Ryōkiki*” is probably not easier for Japanese companies, but it is more acceptable to them than it is to many US companies.

My wife, a Japan scholar, tells me that open innovation in Japan is really focused on corporate venture capital,

ideation, and incubation. So, I hope that Japanese companies will worry a lot about the scaling issue that we talked about. That is where it gets very difficult. It is easy to come up with new ideas and test them; we know how to do that. It is harder for leaders to actually grow these new businesses. I think that Japanese companies probably will be better at this than US companies. That is my hope for Japanese companies, and I hope this material is useful for them. I'm also looking forward to seeing what Hitachi does with its new Mid-term Management Plan.

Suzuki: I hope that our activity will be in your book as a good example. I look forward to reading it.

Hitachi collaborates with global customers, partners, and educational institutions to create social innovation solutions to accelerate the resolution of issues facing society and organizations. These conversations provide opportunities to hear from experts and thought leaders about exciting advances happening today and demonstrate how Hitachi is POWERING GOOD for a brighter future.