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Special Edition

The key to digital transformation is taking the first step

- Interview with Akio Shinno by Shiro Tanikawa -

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Executive Summary

Digitalization is integral to creating new businesses and revolutionizing existing ones. Shiro Tanikawa spoke with Akio Shinno, Industrial Internet Commercialization Leader at GE Digital, about what digital transformation entails. GE Digital was launched in 2015 by GE, which has been reforming its own business model as an early embracer of the digital transformation trend.



Akio Shinno

Industrial Internet Commercialization Leader, GE Digital

Joined Mitsubishi Heavy Industries in 1987 as design engineer for steam/gas turbine development. Hired by GE International in 1994, assigned to Power Systems. Appointed Power Generation Sales Leader at GE International in 2000 after spending 1997-99 at GE Power Systems' US headquarters. Appointed General Manager of GE Fuji Meter's Market Development Department in 2011. Promoted to current position in 2015. Member of Ministry of Economy, Trade and Industry's Smart Meter System Planning Conference since 2010.

Shiro Tanikawa

Chief Counselor, Nomura Research Institute

Joined NRI in 1980. Appointed Managing Director and head of Consulting Division II in 2002 after heading Business Strategy Consulting Department. Promoted to Senior Corporate Managing Director of Consulting and head of Systems Consulting Division in 2010. Promoted to Senior Executive Managing Director of Consulting and head of Center for Strategic Management and Innovation in 2012. Appointed to current position in 2014. Author of numerous books, including *The Last Career* (Toyo Keizai).



Taking first step toward digital transformation

Shiro Tanikawa: GE is globally at the forefront of both innovation and the Internet of Things (IoT). I imagine GE Digital is at the center of GE's initiatives in these areas. How does GE Digital fit within GE?



Akio Shinno: Unlike GE's many vertically integrated businesses, GE Digital is an independent organization with access to many different resources. Being independent, we have opportunities to pursue digital business alliances even with companies that would normally be GE's competitors.

Tanikawa: When I visited GE Digital last year, I met your CEO, Bill Ruh. He told me, "Digital transformation is a sort of battle. At GE Digital, we do our jobs with a do-or-die mentality. Even within GE, some business units are a bit hostile toward GE Digital." His words made quite an impression on me. In Japan, I doubt many companies have such a hardcore commitment to digital transformation. I'm curious how Japanese and US companies differ in their attitude toward digital transformation.

Shinno: I don't think Japan is much behind the US, but I feel that many Japanese companies equate digital transformation with mere digitalization. In the West, more and more companies, particularly large ones, are appointing chief digital officers (CDOs).

Tanikawa: Does the CDO typically take the place of the CIO or is it a completely different role?

Shinno: The latter. CDOs often don't have a high-level IT background but are knowledgeable about front-line business processes and have enough IT skills to get the job done.

Tanikawa: Does just appointing a CDO have a positive impact on a company's digital culture?

Shinno: First, appointing a CDO signals to employees and markets that management is digitally committed. Such a commitment is a driving force behind digital

transformation. More companies are making such changes in their corporate cultures in the West than in Japan. Japanese have a deeply ingrained tendency to refrain from taking action until they have sufficient confidence in its outcome and cost-effectiveness. Japanese companies consequently seem cautious about making forward-looking investments in the digital realm or other areas where the future is unknown and prospects of success are uncertain.

Tanikawa: Why are Western companies willing to invest based on nothing more than forecasts?

Shinno: I'm not sure. Perhaps because many Western CEOs have the attitude that by taking a first step, even a small one, they will at least change their corporate



culture and such change would suffice as a worst-case outcome. A top-down approach only gets you so far, but bold action can instill a sense of crisis in employees by signaling that the company must evolve to survive. Many Western companies seem to have the attitude, "Let's take a first step even at the risk of failure. Once we do, we should be able to figure out our next step."

Tanikawa: What prompted GE to take the first step?

Shinno: Alarm about the threat posed by IT's relentless advancement. We were worried that if we stuck with the status quo, IT vendors would eat into our profits as a manufacturer. We have since boldly pivoted under CEO Jeff Immelt's leadership. Our service model revolves around 10- or 15-year maintenance agreements that we enter into with manufacturers when we sell them equipment. For certain equipment, IT vendors were pitching a new service model. They promised to predict when equipment was about to break down and perform the needed maintenance before it did. Upon further investigation, we were alarmed to find that their service model definitely had broader applicability and could eventually become pervasive throughout the entire manufacturing sector.

Tanikawa: So you had a sort of existential scare that led to your first step toward digital transformation. In Japan, I think many CEOs are more keen on the IoT than on IT in general but they seem to be in no hurry to take action. I can't help but feel that

Japanese companies are waiting for others to make the first move before deciding how to proceed.



Shinno: If you invest today, you have no idea how much the payoff will be. Westerners may have a penchant for acting fast, taking the first step even without sufficient visibility.

Tanikawa: The CEO of a global company once asked me to name all the management resources I know of. I replied, “People, physical assets, money and information.” He told me, “You missed one: time. Global companies consider time to be resource but Japanese companies don’t.”

Shinno: In the digital world, hardware and network performance is increasing exponentially. Once you have entertained the idea of launching your business on an exponential growth curve, linear growth is slow. Companies that fall even a little behind may wind up slipping tens or hundreds of times farther behind. If your mentality is that you can afford to temporarily fall behind because you’ve always caught up in the past, you’ll fall far behind.

Robust IoT migration process

Tanikawa: In the course of its own digital transformation, GE has developed Predix, a cloud platform for industrial software. How did Predix come about?

Shinno: GE first embarked on its digital transformation around 2011. Initially, our research unit’s software teams developed software for hardware we sold. In the process, they realized they could create a better service by using the cloud. We subsequently started to publicize that our platform could be used with non-GE products also. Since Predix was compatible with competitors’ products, we decided to offer it as a platform service.

Tanikawa: In the IoT space, do you have any competitors you regard as rivals?

Shinno: In the IoT world, the traditional supplier/customer relationship will become obsolete. Today’s competitor may become tomorrow’s partner.

Tanikawa: In that sense, your mission is to cultivate not only customers but partners

also.

Shinno: That's right. GE Digital's mission includes broadening our ecosystem. We have partners in a wide range of sectors, including software developers, communication device manufacturers and telecom carriers. They are focused on providing solutions to their respective customers by building a top-notch ecosystem.

Tanikawa: Is the number of Japanese companies in your ecosystem growing?

Shinno: Yes. We have an alliance with Softbank that has been widely reported on in the media. We have a recently announced alliance with NEC also. And our Wurdtech subsidiary is partnering with NRI Secure Technologies on security solutions for control systems and IoT systems.

Tanikawa: When partnering with other companies, how do you delineate each party's role in the collaboration?

Shinno: It varies by project. We team up with partners in various combinations. The first step is to consult with the customer about its business needs and how to best meet them. We conduct design thinking workshops to uncover any issues that the customer itself is not aware of. Customers differ from one another in terms of their markets, corporate cultures and the key performance indicators they use to measure success. Their problems also differ in subtle ways. So we customize our solutions to fit the customer. Through this process, we determine the extent of GE's involvement and our partners' involvement on a case-by-case basis.



Tanikawa: Do the workshops yield any interesting revelations?

Shinno: In the workshops, we bring together people who, despite working for the same company, usually don't talk to each other. For example, production line workers deal with different data on a day-to-day basis than equipment maintenance staff do. IT staff deal with data from yet another perspective. Our workshops are often the participants' first opportunity to learn about the data used by colleagues in other

departments. In this respect, the workshops are really a treasure trove of data. GE data scientists who sit in on the workshops advise the attendees on how they can benefit by, say, combining different data sets.

Tanikawa: Do customers resist changes to their processes?

Shinno: First of all, our approach isn't premised on drastically changing existing business processes. It's important to first eliminate any bottlenecks in those processes.

Tanikawa: That sounds like a relatively mild version of digital transformation. Is it watered down for Japan?



Shinno: No, GE Digital's activities begin with the question, What does the customer want to accomplish? Once we know the answer, we commit resources, conduct workshops and propose and implement solutions. We use this same approach in every country.

Tanikawa: Do you encounter much resistance to using the cloud from IT staff?

Shinno: Yes and not only from IT staff. Many companies still have concerns about storing their data in the cloud. I expect worries about cloud security breaches to subside over time, given that in today's world there's no assurance that data are more secure if stored internally than in the cloud. Regulatory restrictions against cloud data storage are of course an entirely different matter.

Don't make IoT an objective in itself

Tanikawa: Do customers ever approach you about reselling what they've developed in collaboration with GE Digital?

Shinno: GE's platform gives customers that option. The platform has a marketplace, like Apple's App Store, with apps available for sale. If a company develops an app and offers it on our marketplace, whenever others use that app, the platform can meter their usage and charge the users accordingly, enabling the developer to earn a return.

Tanikawa: How much activity is there on the marketplace?

Shinno: Activity has increased quite a bit over the past six months. The available apps are still mostly ones developed by GE, but third-party apps are also steadily popping up.

Tanikawa: Are many of the apps offered on the marketplace similar to each other?

Shinno: Not yet but it could happen. That said, GE does not allow just any app to be offered on its marketplace. It scrutinizes apps' quality and security before granting permission to sell them on the marketplace.

Tanikawa: Can you share any digital transformation success stories in which GE Digital has played a role?

Shinno: Exelon, a US electric utility, was among the first companies to launch an IoT initiative. It's partnering with GE in various pilot programs in the aim of externally selling IoT solutions. Another example is AirAsia, which I heard reduced its annual fuel costs by ¥1 billion in 2014 by using a service that analyzes flight routes.

Tanikawa: Do you have any advice for Japanese customers hoping to follow the lead of companies like Exelon or AirAsia?

Shinno: Actually, the hardest companies to help are those that say they want to gain a foothold in the IoT space and ask us what to do.

Tanikawa: I can imagine.

Shinno: That's not how you should approach the IoT. Instead of making the IoT an objective in itself, you should first decide what you want to do business-wise and identify any issues you need to resolve to do so. If you don't, you're liable to set out in the wrong direction. At first, small steps are advisable. If you start out small, missteps won't be as costly and they often prove to be valuable learning experiences. I believe that once you take the first step, you gain clarity on how to proceed with your next step.

Tanikawa: I assume not even GE has the resources to meet all customers' needs. I imagine you have to draw the line somewhere. Do you ever single out certain solutions

for, say, the Japanese market or transplant successful approaches from, say, the US to Japan?

Shinno: Given Japan's manufacturing prowess, we want to—and believe we can—come up with solutions that address even things like workmanship and kaizen (continuous improvement). If we can develop digital solutions that embody Japanese manufacturers' attention to detail, I believe we can use them overseas. And solutions originated overseas may of course be applicable to Japanese manufacturers also. We embrace such internationally versatile solutions. If we develop apps that encapsulate Japanese companies' know-how and commitment to quality, I believe they'd become core growth drivers for businesses.

Tanikawa: I hope such apps incorporate the management resource of time. Thank you for taking the time to speak with me today. I learned a lot.



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