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Update on digitalization in Corporate Japan based on NRI survey data

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Executive Summary



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Japanese companies' CIOs and IT staff have a keen interest in utilizing AI and/or the IoT, albeit mainly to increase operating efficiency. Japanese companies should broaden their digitalization activities to include discovering new knowledge or adding more value to their goods and services.

From computerization to digitalization: Evolving role of IT

Computerization through the 1990s improved companies' operating efficiency on various fronts. Paper forms and accounting ledgers were supplanted by electronic data, throughput increased and business processes were rationalized. Management gained the ability to swiftly and accurately derive actionable insights from data aggregated from various sources. In the 21st century, however, IT utilization has evolved away from electronifying in-house business processes and increasing their efficiency. The digitalization wave is transforming the value of companies' products and services as digital technologies have become integral to the customer experience of shopping for, purchasing and consuming those goods and services.

Since 2003, NRI has been surveying (by mail) the CIOs or CIO-equivalent executives of some 3,000 of the largest Japanese companies by revenue. Following is an update on the state of digitalization in Corporate Japan based on data from our latest survey (507 respondents), conducted in November 2017.

Growing interest in AI and objectives of AI use

Among the respondent companies, 44.3% plan to increase IT investment in FY2018 relative to FY2017. Only 10.0% reported that they plan to reduce IT investment. While IT investment itself is holding up well, the breakdown of IT budgets by investment objective remains largely unchanged from past years, with 51.8% allocated to "operating efficiency objectives," 27.2% to "information utilization objectives" and 21.0% to "strategic objectives." Based on survey data from recent years, many companies seem to be adjusting their IT budgets up or down in response to their earnings instead of strategically increasing IT

investment.

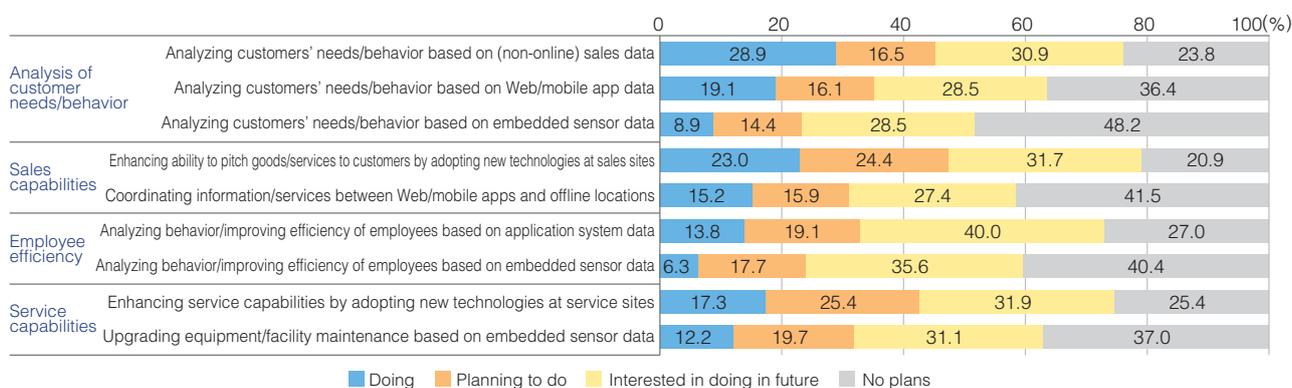
Meanwhile, survey responses to questions on companies' adoption of or interest in adopting certain technologies reveal a clear trend. In most cases, the percentage of companies planning to adopt or interested in eventually adopting a given technology has been decreasing as actual adoption of the technology has increased. One exception, however, is AI/machine learning. Although the percentage of companies that have adopted AI/machine learning increased from 2.8% to 8.9% between 2015 and 2017, the percentage planning to adopt or interested in adopting AI/machine learning rose from 35.6% to 58.0% over the same timeframe. Not only are companies increasingly adopting AI/machine learning, companies newly interested in doing so have increased substantially.

Our latest survey did not inquire in detail about how companies are using AI or why they started using it, but free responses to a question about themes of interest to respondents sheds light on preferred use cases. The most common objectives of respondents' AI use was to upgrade operating efficiency and automate manual processes. Specific responses included "improve operating efficiency with AI and RPA [robotic process automation]" and "robotically automate simple workflows." The burgeoning interest in AI/machine learning technologies appears to be driven more by a desire to make processes more efficient by replacing human labor with machines than by objectives such as glean new insights from data or offering more value to customers.

Companies increasingly focusing on staff efficiency

Another question asked respondents where they stand with respect to nine activities grouped into four categories (see graph). The two activities being done

Digitalization activities (percentages of companies doing, planning to do or interested in doing)



Source: NRI, Survey of Corporate IT Use (November 2017)

most widely were “analyzing customer needs and behavior based on (non-online) sales data” (28.9% of respondents reported they are doing so) and “enhancing ability to pitch goods/services to customers by adopting new technologies at sales sites” (23.0%).

The most notable change from the previous survey was a significant increase in the percentage of respondents “planning to” or “interested in” using data from sensors embedded in equipment to analyze employees’ behavior and/or increase their efficiency (the total percentage of respondents interested in, planning to or already doing so increased to 59.6% from 52.0% in 2016). Companies are apparently becoming more interested in using IoT technologies to increase staff efficiency. Pursuit of greater operating efficiency is a key driver of the trend toward adoption of digital technologies in Corporate Japan.

While Japanese companies are focused on increasing operating efficiency with digital technologies according to our latest survey results, they do not seem very committed to new value creation initiatives, though it is important to keep in mind that the survey respondents are mostly CIOs and other IT professionals.

Bolder management leadership needed

Improvements in operating efficiency involve a relatively simple cost-benefit calculus. Indeed, they are essentially risk-free gains. In contrast, business reforms that provide more value to customers entail uncertainty. Prospectively risky reforms typically need to be approved by top management. However, our survey respondents reported that on average a mere 5.5% of executive committee meeting time is devoted to digitalization. At leading European and US companies, digitalization’s share of executive committee meeting time is a much higher 28% according to a 2015 Massachusetts Institute of Technology survey¹⁾.

It is assumed that a lack of leadership by top management is a big reason why digital technology usage in Corporate Japan is mostly confined to improvements that can be implemented on the front lines of the organization. Business reforms involve resistance and opposition. Overcoming such forces to change a company’s front-line mission is a role that only top management can fulfill. Japanese companies should challenge to create new value by broadening the scope of their digitalization efforts.

NOTE

- 1) P. Weill and S. L. Woerner, “Workshop on Digital Leadership,” June 16, 2016, MIT CISR Summer Session

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