(Tokyo – 3rd June, 2019)

Nomura Research Institute, Ltd.

Q & A from Small Meeting for sell-side analysts

Part2

- In order to make it easier to understand, the contents of the question and answer are partially revised and modified.
- Glossary：
  - ・　DX：An abbreviation meaning Digital Transformation, which refers to initiatives that utilize digital technologies to reform business models and processes
  - ・　D2C：An abbreviation for Direct to Consumer, which refers to a mechanism that bypasses distributors and sells company's products and services directly to consumers
  - ・　BiT（Business IT）：IT that contributes directly to the expansion of client businesses

（Questioner No.1）

Q: What type of business in particular has had the most growth in DX until now? Also, how will the content of DX business change in the future?

A: Over the last few years industrial has been driving DX business. DX 2.0 is an initiative for co-creating new business models together with clients. Technium, the joint venture that we launched with DMG Mori Seiki, is a textbook example. It may not contribute to profitability for a while, but it is one area where we want to bolster our efforts. DX 1.0 reforms existing business and operations, and it can be divided into back-office and front-office. In front office we are getting more projects for D2C which bolsters direct contact points with customers in a broad range of fields, including mass retailers and airline companies. We expect those needs to remain strong. For back office transformations, the typical project involves using RPA to make processes more efficient and save labor. While we get a relatively large number of inquiries from financial institutions, it is hard to achieve differentiation, and the contribution level to profitability is low. Other than that, there are cases where we have done things such as analyzing data on the buying and selling cycle of cars and using the analysis to improve operational efficiency, and NRI has strength in being able to support client business process transformations in combination with

productivity improvements. In the future we also think there will be increasing needs for IT structural reforms such as migrating core systems to the cloud environment.

Q: Is it possible that the profitability of DX projects could be improved even more?

A: Since we had no expertise at all in agile development three years ago, we struggled with several projects back then. However, with more and more project experience we gained proficiency at managing Agile development, and we are now able to ensure a sufficient level of profitability. To boost profitability even more, we would like to make shared components out of pretrained models that utilize AI.

（**Questioner No.2**）

Q: Roughly how many data scientists capable of leading DX projects do you have, and what are you doing to secure more of them?

A: We operate our own internal certification system for advanced business skills, which is not limited to data scientists. There are around 20 staff who have obtained the highest level of certification, and they are the ones who can propose project plans. We believe that we can sufficiently fulfill our staffing needs for leaders such as these by promoting internal personnel with the right background.

Q: Developing leaders seems like something that takes time. Will you be able to sufficiently do so during the course of this medium-term plan?

A: We can shorten the development period by hiring and developing human resources who already have a good background. As for internal training, we believe that trainees can learn the basics through about three or four months of AI and analytics courses. However, the important thing is to experience actual projects. If our human resources can accumulate practical experience with algorithms using data, we will be able to develop sufficient numbers of them.

Q: What is the competition like in DX overseas?

A: Our overseas DX business is manly in Australia. Our acquisition there ASG has strength in migrations to the cloud environment. Of course, there is competition, but it is not as fierce as in the US and other places.

（**Questioner No.3**）

Q: Over the last few years, NRI has given the impression of being more focused on the quality of its business and on improving profit margins rather than expanding the size of its

business. However, this medium-term plan seems to shift a bit toward expanding your business size without changing the organization or the way you do business. Is that right?

A: Until about three years ago our top line was not growing as much as we had anticipated, so we had to go out and get projects knowing that we were taking on risk and ultimately all we could do was control our budget. Then, starting around 2017 things changed, and the business climate became more favorable. We no longer needed to take on high-risk projects, and the quality and profit margin of our projects improved. The next four years will be a transition period for systems development, and after those four years the landscape throughout the world will probably be completely different as well. For example, the traditional waterfall model of systems development will gradually disappear, and we will be able to construct systems by combining different components on the cloud. Value will also shift away from systems architecture and toward business design. The deciding factor in our current medium-term plan is whether or not we can think about investments for the period after the completion of the plan. Making components out of pretrained models is one element of that. It may appear that our business and organizational format may not have changed compared to the past, but the business we do will be gradually changing over the next four years.

Q: The typical model in the IT industry has been to charge according to prices per employee and man-hours. Will this change, or will it become more ingrained over the next four years?

A: Value in IT services will likely shift to being based on components. For example, if we earn the reputation that "implementing NRI CRM components changes performance," our brand will go that direction too. It is difficult to predict how far this will progress in four years, but we intend to go all-in with pretrained model components.

Q: I have heard that three to four executives from Japan will be assigned to Australia. If you are serious about advancing your overseas business, don't you think that is not enough?

A: We had hardly done any business overseas before, and over the last three years it has already grown to comprise 10% of our total sales. Our first goal was to show both internally and externally how serious we were about engaging in overseas business. In terms of governance, we have also made gradual progress with PMI. However, there are still a lot of things left that need to be done, such as establishing our corporate brand, so we know it will take time. The founder of ASG retired in May of this year, and a new CEO was promoted internally. We intend to communicate closely with the new local management

and accelerate our efforts in PMI.

（Questioner No.4）

Q: If nearly all projects become Agile development I think it will be critical to have enough staff on hand capable of this type of development. Do you think you will be able to acquire sufficient headcount during the medium-term plan?

A: The traditional waterfall model of development is likely to gradually disappear, but if we just look a few years forward it will probably still be present to some degree in finance. We expect the majority of development in industrial to be Agile. Projects move forward differently in Agile than they do in waterfall. In Agile development, multiple projects move forward simultaneously, and you have to consistently be adjusting development requirements with the client. We will acquire human resources who have the skills to do that. However, rather than whether or not we will have enough human resources, the more critical concern will be how competitive our components are. For example, if we can offer shared components that improve operational efficiency through algorithms, that will give us an overwhelming competitive advantage.

（Questioner No.5）

Q: The IT budgets of companies are generally increasing, but do you expect that trend to continue?

A: IT investments to bolster the top line or improve operation efficiency will continue to increase. In what is being referred to as the "Amazon Effect," consumers are shifting toward online purchasing, and companies with brick-and-mortar stores face the challenge of preventing the outflow of clients. Operational efficiency improvements are also needed to deal with labor shortages. There have been significant needs for IT investments such as these in particular over the last two years. We believe that this trend will continue for the time being, but depending on economic circumstances, it is possible that IT investment could be more controlled in the two years covering the second half of the medium-term plan.

In the past there were many cases of companies being heavily impacted by the investment cycle for updating core systems and putting off investment when the economy takes a downturn. However, the projects that have been increasing recently have different needs. IT investments that we are seeing now involve management issues that are of high priority to companies, so these are not likely to be too heavily impacted by economic downturns.

Q: What are your criteria as to whether or not to enter an overseas market?

A: Since we are seeking IT market growth, we look at possibilities in North America, Asia, and Australia. Within Asia, China has significant political risk, so we do not really consider possibilities there. For the time being, our focus for overseas growth will be Australia, and after that we would like devote attention to North America. However, large M&A transactions are highly risky in North America where competition is so fierce. Our requirement for M&A targets is that they own intellectual property that can be monetized in Japan, as Brierley+Partners does. Europe is more advanced in terms of intellectual property for IoT, but that is not one of NRI's specialty areas, so it is low priority for us.

（Questioner No.6）

Q: You are planning to increase staff numbers at NRI by 1,000 on a non-consolidated basis over the course of the medium-term plan, but do you expect to continue increasing staff numbers at the same level afterwards?

A: Over the last few years new demand has emerged for BiT which contributes to the expansion of client businesses. We believe that this DX structural change will continue after the current medium-term plan has ended, so even if there are a few ups and downs we generally do expect to continue increasing staff numbers at a similar level. At the same time, the mobility of employment is increasing. The current medium-term plan has incorporated that into the mid-career hiring that we have planned, but we expect it to have an even stronger effect in the future.

（Questioner No.7）

Q: As the modernization of core systems progresses, will the waterfall model of development disappear entirely?

A: Currently full migration of core systems to the cloud involves tremendous cost, so it is something that only companies that are exceptionally strong can handle. However, the paradigm could change overnight if some new technology emerges that makes systems migration easier to handle. Of course, companies will continue to retain some core systems in-house, and there will probably still be some demand for updates. However, the large-scale waterfall model system updates we have seen in the past will likely be disappearing little by little.

Q: What is the possibility that companies will be producing more of their own systems in-house?

A: That depends on how much the mobility of human resources increases. If the environment changes to the point that companies can release in-house system engineers after set periods of systems development, they will be able to produce their systems in-house. However, with Japanese employment practices the way they are, this will at least not be happening immediately. The situation could change if it becomes possible for systems engineers to advance their careers by changing jobs, getting work experience at Company A and then selling that to Company B. If not, they will be better off joining IT companies to build experience.

（**Questioner No.8**）

Q: In terms of a potential investment target, NRI gives off the impression of being more geared toward company growth than shareholder returns. Would that be correct?

A: As explained in our financial results summary, our policy is to balance growth with shareholder returns. We will continue making the necessary investments in sustainable growth while maintaining a certain level of shareholder returns.

In businesses such as manufacturing for example, you have to decide whether or not to make large investments, and if things go well you can achieve a sudden turnaround. If not, the losses could be significant. The risk and return may not look good, and in that case, you hold off on the investment and prioritize shareholder returns. However, in our industry investments are made in people, and the model is to invest little by little while recovering returns from those investments quickly. We can turn quick cycles of investments and returns in short periods of time.

End