

(Tokyo – 16th June, 2023)

## **Nomura Research Institute, Ltd.**

### **Q&A from Small Meeting for sell-side analysts**

#### **Part 2**

##### **(Questioner No.1)**

Q1: This question is about the domestic business environment. Until now, you have been capturing demand from DX first-mover companies (Tier 1), but is there any upside to DX demand from these companies going forward? Or, have you finished working on demand from aggressive clients? Also, what is the state of demand from clients behind them in Tier 2 and lower?

A1: This mainly pertains to clients in industrial, but Tier 1 clients who had been investing in e-commerce and social distancing-related non-contact around 2019-2020 have entered a readjustment phase after these last three years. There are also clients who are undergoing partial makeovers over the course of this year and next year. Since around last year, some Tier 2 clients who had been keeping their distance from e-commerce have begun making full-scale investments. Also, in addition to investments in front-end systems, investments in core systems have also emerged as we have been mentioning since last year. Therefore, DX projects are moving forward unimpeded.

Q2: Around how much is the difference in margin between core systems projects and front-end systems projects? And for which are you prioritizing your resources?

A2: Since we have set standard profit margins internally and make proposals according to those, there is no major difference in the margins. There is no difference in the margins. Although our resources are currently strained, we do not have a priority policy as a company. We do tend to prioritize existing clients over new ones, but those decisions are fundamentally made at the worksites.

##### **(Questioner No.2)**

Q1: The numerical plan for operating margin in 2025 disclosed in your Medium-Term Plan seems insufficient. Since profitability at NRI is increasing, would there be potential to reach a domestic operating margin of around 19% in 2025?

A1: I believe there is sufficient potential for that. The targets set in our Medium-Term Plans

have always been the numbers we absolutely need to reach, so I believe there is potential upside. We set targets that are certain to be achievable.

Q2: Is your domestic profit margin increasing because you can charge higher rates due to inquiries being plentiful? Or is it attributable to productivity improvements?

A2: The answer is both. To improve the efficiency of our internal processes, we are working to reduce the scale of shared online services systems in finance. Demand is strong, and there is nothing slowing our top-line growth domestically. We have also had large numbers of inquiries related to ChatGPT recently. Internally we have also set up a task force, and in addition to applying ChatGPT for improving back office work efficiency and for system development processes, we are considering ways to leverage it for top-line growth. Since there are limitations to what clients can produce in-house, we believe there is considerable potential for us. ChatGPT has the potential to be a revenue driver unlike any before.

Q3: In what areas can ChatGPT be monetized from NRI's perspective? And can it also be applied in the type of large-scale systems architecture that NRI handles?

A3: Aside from business geared toward clients, we could apply it in processes for systems development, and for reforming operations in our corporate departments. There are two schemes it can be used for in business for our clients. One possibility is to use a cutting-edge engine such as GPT-4 as-is, and provide services that only generate script with the generator. The potential exists and we have inquiries, but we believe that clients can do this in-house since it does not require high-level technological capabilities. Where NRI's capabilities can be utilized is in a scheme to create a search engine that contains an essence of a task—called a retriever—before ChatGPT, and then enter that into ChatGPT. For example, the helpdesk for THE STAR has vast amounts of documents and FAQs. If script can be generated by entering these into ChatGPT through a search engine, it could be used for the helpdesk. This type of search engine architecture does require high technological capabilities. In some cases it can be built using open source tools, and in some cases it is built from scratch. The retrieved data must be cleansed, and clients cannot handle all of that internally. That is where the technological skills of NRI engineers come into play.

Also, using ChatGPT produces effects in some cases, but in some cases it does not. It is not suited for tasks requiring answers that are 100% correct. On the other hand, it is suited for tasks where high volumes of human workload can be saved because vagueness is acceptable. In other words, you need to understand the tasks where you

want to apply ChatGPT and be able to discern whether it can be applied. Startup companies are also using ChatGPT to start on various things, but systems integrators that handle business applications have an overwhelming advantage since they immediately understand the tasks to be automated. Since the return on investment can be calculated, it is easy to make proposals to management. NRI consultants can also harness their capabilities when using it on the business side. I think ChatGPT has tremendous potential for NRI.

At the same time, we are also experimenting to see whether it can be applied in systems development processes. Aside from that, we are experimenting with automatic code generation, but probably cannot get it to the point of replacing existing business applications. Rather than using it in systems development itself, it can more likely be used in the associated tasks such as preparing materials for review meetings. Since our corporate departments also have many tasks that are formulaic, it can probably be used there as well.

We have set up a task force and are considering how much effect can be achieved, and how many resources to allocate toward working on it. This is potential upside that was not known when we created the Medium-Term Plan.

Q4: The applicable fields seem legitimate. I also remember NRI having an AI solution called TRAINA.

A4: TRAINA is a machine learning model dedicated to helpdesk operations. However, various open source tools were released since then, and it devolved into a red ocean competition. ChatGPT might end up heading down the same path. Currently Azure is the only option for a cloud environment for using ChatGPT, but if various types of generative AI come out and the options expand going forward, the business possibilities will also likely expand even further. Eventually ChatGPT itself will probably become a red ocean, but the business applications that use it are an area where NRI can create value. Thus, we believe that we have a fascinating technology to work with.

**(Questioner No.3)**

Q1: Other companies are announcing large investments and shifts of personnel toward generative AI. What is your view of this situation? And how do you think NRI can differentiate itself in ChatGPT? Please share the specifics such as the areas where NRI is investing.

A1: When using generative AI, there are some clients who need to use it on-premises as

opposed to through the cloud, so we are also conducting R&D on other language models. However, it would be a struggle to get it up to the level of GPT-4, and that would not be efficient. We will utilize various types of generative AI through multiple vendors and focus on creating business applications. When NRI is there as the main vendor, we can make assessments about applying ChatGPT, which enables us to make proposals to clients ahead of the competition. Switching vendors is difficult when search engines and data require constant tuning, so this can likely turn into enduring business. I think that we just have to discuss the effects with managers, make proposals ahead of the competition, and get the work.

Q2: What is your thinking in terms of a roadmap after setting up the task force? What will be decided by when, and with around what scale of investment?

A2: We are currently considering strategy for NRI as a whole. However, since this is a technology that changes and advances at a rapid pace, we need worksites to be operating at full speed before drawing up a plan. We have a group with directive in the consulting segment, and in the platforms segment we have data scientists. They deal with clients in teams of four or five comprised of consultants, overall coordinators, and engineers. Teams that handle basic research are the ones who pursue ChatGPT technology updates. The potential for NRI will likely come into clearer view around the time of the first half financial results briefing.

Q3: Around how many personnel do you have who can use ChatGPT?

A3: At our in-house online workshop there were between 1,000 and 2,000 people who showed interest. In terms of personnel actually working on it, we have around 100.

**(Questioner No.4)**

Q1: Some clients also want to produce a portion in-house with low-code. Will consulting for that turn into business?

A1: It should become typical to write code for the applications of user departments using ChatGPT. Many startup companies are more suitable than NRI in that area, so it will likely be their work to handle.

Q2: I understand that NRI does not consider handling everything itself, but are you considering the use of third-party startup companies? Also, if other companies in Japan develop any good large language models (LLMs), would you use them?

A2: Currently, the only realistic option is Azure OpenAI. We tried alternatives made by other vendors in Japan, but they were no match for Azure OpenAI. However, even that loses its flexibility when security constraints are applied to the search engine. If a competing language model were to emerge, it would probably be easier to work with.

Q3: Roughly how many man-hours of labor per employee could you reduce if higher efficiency in associated tasks were to be applied throughout the company?

A3: In systems development projects, we have Systems Development Committee meetings at crucial points in order to thoroughly control risk, and a vast amount of work goes into preparing the materials. If we can reduce some of that work, we could save considerable man-hours. We could create very high-accuracy materials if all the past materials are retrieved, so I think GPT-4 would be sufficiently feasible if used for in-house meetings.

Q4: This question is about the recent hiring environment. I have heard that some competitor consulting companies have stopped hiring. Does that have a positive effect on NRI?

A4: At this point in time there is no effect. We are constantly engaged in both new graduate and mid-career hiring in line with our plan. We also seem to be getting high-level applicants.

**(Questioner No.5)**

Q1: While I understand that your plan for this year is conservative since it accounts for instability in overseas financial systems, are there currently any factors that should be seen as risks?

A1: Financial markets are strong. Our revenues are also strong in pay-per-use shared online services, and financial IT is strong. In industrial IT as well, our order backlog was at a high level at the end of March, and demand has been robust since April. Industrial IT is also in a good situation since the business performance of domestic demand-oriented clients has begun to improve. If the situation remains this way, I think we could very likely surpass our announced forecast.

Q2: Could you break down your overseas circumstances by region and by industry?

A2: Australia is experiencing more inflation and rising interest rates than North America, and business sentiment there is not good. We have large numbers of public sector projects there, but financial policy is tightening due to the changing of the government last year, and government expenditures are being squeezed. The government's fiscal year ends

at the end of June, so we are unsure what to expect from July onward, but at this point in time public sector projects are sluggish. Business conditions are also unfavorable in Australia's finance industry, which is cutting costs and generally struggling. Our business itself has not been damaged, so it all depends on the market. In North America, the rebuild of Core BTS is in progress. While there are also problems on our side, clients have been restricting their IT investments in anticipation of a future recession, so the first quarter pipeline did not build up much. Strong economic conditions are expected to continue since the employment situation there is good, but we do not currently have much momentum in terms of orders.

Q3: My understanding is that banks in North America have taken a tight-fisted stance on lending. Although North American companies are not performing badly, is it true that they are reluctant to reduce their cash on hand?

A3: In the Core BTS Board of Directors, we have heard that client companies are restraining their investments. The engine is not revving yet in Australia or North America. Currently, brisk activity is only happening in Japan.

**(Questioner No.6)**

Q1: While there is a trend toward going in-house, my understanding is that vendor lock-in circumstances have not changed. In the trends of the industry overall, do you think vendor lock-in will not dissipate in the future either? And what changes do you anticipate going forward?

A1: Over these past few years, some companies shifted away from the trend of handling DX in-house, created subsidiaries or new departments, and actively hired personnel to staff them. However, there is a strong tendency to lack the capability to get everything done after bringing people on-board, and ultimately end up depending on external systems integrators. Many companies are struggling with how to utilize the IT personnel they have brought in. I think initiatives to do things in-house are highly challenging. At the same time, IT consulting companies are also increasing in number. At financial institutions for example, there is a trend in higher-difficulty projects such as migration away from host systems and shifting to open systems in which IT consultants led off the project, made the plan, and completed everything up to design, but the financial institution was unable to develop it and ultimately their previous vendor took over. They tried to dissipate their vendor lock-in, but it went poorly due to their lack of technological capabilities. In Japan, we expect a continuation of the situation where we work on high-

difficulty projects while making good use of outside systems integrators. If new automation technologies such as ChatGPT are used, some systems and new services are likely to be user-led.

**(Questioner No.7)**

Q1: After the financial results presentation it seemed like the shift in your approach to capital allocation was well-received. In what way did the reaction among investors differ?

A1: There was not much change in the reaction by Japanese investors. As for overseas investors, it seems there is a greater level of interest in Japanese companies than in the past. On the other hand, short-term orientation has grown stronger among our shareholders overseas, and it seems they are asking an increasing number of detailed questions about short-term performance.

Q2: Do you feel there is strong interest in Green Transformation (GX)?

A2: We serve as the administrative office for the GX League and also consider ourselves more understanding than any other company about what must be done by Japanese companies from the standpoint of clean energy. However, investors have not shown much interest. They ask many specific questions about topics such as Core BTS.

**(Questioner No.8)**

Q1: In recent years, it seems you have been pushing for government and public sector work such as linking various types of information through My Number. Do you expect public sector projects to take on more significant weight at NRI when thinking long-term?

A1: There is interest in platforms for cases in which My Number is used by private companies. We are not thinking about bidding for projects from the government directly related to Mynportal (online portal for government services). IT projects offered by the government are handled by vendors with strength and capacity. We would like to handle these when there are opportunities, but we are not intentionally trying to make them a bigger part of what we do.