

Case study

Nikko Asset Management develops BQuant app to visualize carbon pricing impact



Leveraging quants for ESG investing

Nikko Asset Management's Carbon Pricing Impact on Portfolio App wins Most Popular App award at BQuant ESG Hackathon 4

With global ESG investment expanding, Bloomberg held its fourth BQuant ESG Hackathon on March 5, 2021, with the theme of Quants in ESG Investing. Teams from various companies competed to develop and present analytical functions using Bloomberg's Python tool, BQuant, with the Nikko Asset Management team winning Most Popular App, as voted by participants.

Nikko Asset Management's app – Carbon Pricing Impact on Portfolio – analyzes carbon impact in a user-friendly way to help managers, analysts and ESG personnel perform corporate value assessments. Integrated into Bloomberg's order management system and asset management tools, the app enables users to seamlessly analyze portfolio-linked ESG data as well as providing total GHG emissions forecasts.

We interviewed the Investment Support & Planning Department's team development leader Kohei Kasaoka, ESG Specialist Kozue Saito, and Chief Investment Officer Hiroki Tsujimura, to find out what they learned from the Hackathon. We also discussed the challenges they face in daily ESG analysis, the kind of apps they want to develop, and the future of ESG investment.

The app developer's perspective

"You can create whatever you want all on one platform."

Kohei Kasaoka, Investment Support & Planning Department



Mr. Kasaoka, who led the development, talks about participating in the hackathon.

You can create whatever you want to make

Q: How did you enjoy the Hackathon? What are your thoughts on ESG?

Kohei Kasaoka: I've always thought that BQuant is a fascinating feature, but I shied away from it because it seemed expensive to learn a proprietary code that could only be used with Bloomberg systems. I wanted to try studying or using it someday, but never thought that I would actually be able to.

I learned how to use BQuant and practical code samples that fit our app ideas, and BQuant became more familiar to me.

When I actually tried using it, I found that there was almost no proprietary BQuant code and that we could create apps just with basic Python knowledge + x, so it is really very inexpensive to learn. Once you get your head around it, you can create anything you want to, so it was very fun using it to develop an app.

From analysis to visualization on one platform

As for ESG, given the large number of data vendors it'd be difficult to use something that has no unified data location or layout. In addition to the extensive ESG data on Bloomberg, it was easy to get data from BQuant and combine it with financial information and market data on a single platform that covers everything from analysis to visualization.

Sharing interactive apps with management personnel

Q: What did you think of the fusion between ESG and BQuant? How was using BQuant to develop your app?

Kasaoka: The question of how to share developed programs and analysis results with users has always been a source of trouble. I think BQuant solves this. It's very attractive in that you don't need to be aware of the server or PC environment when sharing, and you can easily share output created in Python with users as an interactive app. I want to use BQuant extensively in the future.

AIM/PORT - BQNT coordination

Q: You said that you aimed for a helpful and easy-to-use app for management, analysts and ESG personnel. What did you try to achieve by linking Bloomberg's AIM and PORT functions with the hackathon app?

Kasaoka: If I was going to create an app in the hackathon, I wanted to make it an app that would attract fund managers and could only be done with BQuant. BQuant can not only retrieve data at the securities level, but also link with account information in AIM/PORT, so fund managers can select the portfolio that they manage, link it to ESG data and analyze it. For example, you can visually check the impact of carbon costs by linking it to your own portfolio information.

Q: What kind of functions are you thinking of expanding to from here? What results do you think you'll be able to achieve?

Kasaoka: Since there are not many companies that publish ESG data, I want to make it possible to visually understand whether these data are published values or estimated values generated by the app. There are many other things I want to do, such as making it possible to understand the proportion of public companies that publish data, and to do peer comparisons of individual assets. ESG personnel and teams participated in this hackathon, but it was exciting to collaborate with people I don't have much contact with normally. I want to continue developing BQuant apps by collaborating with a diverse range of people who can provide ideas for new functions.

Bloomberg

Hackathon

#Top_of_the_Quants

ビデオ

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REQUEST A DEMO

It's a highly manipulable and flexible app that allows you to select both the sector and the X- and Y-axis. Being able to include past and projected GHG emissions when comparing the carbon costs of each fund was extremely useful – and likely to be essential in the future.

-Takumi Matsuo, Senior Officer, Corporate Strategy, Japan Exchange Group

The ESG specialist's perspective

"Get large quantities of comparable ESG data and link it to corporate value assessment."

Kozue Saito, Active Ownership Group, Equity Fund Management Department



Ms. Saito, the team's ESG expert, discusses the challenges involved in ESG analysis and her experiences using Bloomberg's ESG dataset.

The challenge is getting large quantities of comparable data based on unified standards

Q: What are the most common issues in ESG analysis? Why did you choose this theme for the hackathon?

Kozue Saito: As the first step in analysis, the challenge is to get large amounts of data that can be compared based on unified standards. Although disclosure from individual companies is increasing, the fact that each company has its own disclosure format remains a challenge to data collection. Bloomberg delivers a wealth of data in variety of formats, so we want to continue using this.

Linking ESG to corporate value assessment

Saito: Another important challenge is how to link ESG analysis to support the selection of individual securities. I chose carbon as a theme because it should be easy to see the impact on finance as discussions proceed toward the introduction of carbon pricing. Going forward, we'll use trial and error to figure out how to link ESG-related risks and opportunities to corporate value assessment.

Bloomberg has a wide variety of ESG data

Q: Tell us about your experience using Bloomberg's ESG dataset. What do you expect to see in our ESG data in the future?

Saito: The hackathon enabled me to recognize the abundance of ESG data types Bloomberg provides. I'm sure Bloomberg

will keep striving to improve the quality and quantity of its data. Using estimates is an effective tool to secure data volume, so I hope Bloomberg provides opportunities for study, such as seminars on machine learning.

Growing interest in the company

Q: What did you think of BQuant Hackathon 4? How did your colleagues feel when watching on?

Saito: I learned a lot. I was able to collaborate with colleagues that I usually don't have much contact with. I also recognized that it's not only the efforts of developers that are important for promoting DX, but also user savvy. I received a lot of positive comments from colleagues and feel that interest in ESG and programming is growing.

BQuant's strength: its ability to link with data sources, high processing capability, and rich expressiveness

Q: In your presentation, you said that you came to understand BQuant's expressive power and potential. What caused that? What kind of ESG applications do you want to create?

Saito: BQuant is attractive for its ability to link not only with ESG information, but also with various Bloomberg data sources, such as financial data and stock price indices, as well as its high processing capability and rich expressiveness through graphing. I want to do carbon analysis by individual company as well as develop applications in the S (social) area of ESG.

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Hackathon

#Top_of_the_Quants

ビデオ

ESG分析アプリ: Nikko AM

銘柄: TESTFLUND01

セクター分類: BICS

レベル: 3

指標: GHGCO2排出量(トン)

指標: EBITDA

カラー: 高性

サイズ: PER

目的:

- Advertising & Marketing
- Automotive
- Beverages
- Biotech & Pharma
- Chemicals
- Commercial Support Services
- Construction Materials
- Consumer Services
- Diversified Industrials
- Electrical Equipment
- Engineering & Construction
- Entertainment Content

業種:

- Machinery
- Semiconductors
- Telecommunications
- Chemicals
- Steel
- Technology Hardware
- Beverages
- Construction Materials
- Wholesale - Consumer Staples
- Diversified Industrials
- Transportation Equipment
- Automotives
- Technology Services
- Food
- Medical Equipment

4T

3T

2T

1T

0

EBITDA

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It's timely to focus on how carbon pricing directly connects to corporate value assessment. This is a highly versatile app that can easily create scatter diagrams and comparisons of historical data corresponding to a diverse range of ESG factors, depending on industry characteristics. Arbitrarily setting carbon pricing levels also makes sensitivity analysis easy, so I think it can be used in transition risk analysis and other TCFD framework-related tasks.

-Keisuke Takegahara, Executive Officer, Deputy Chief Research Officer, Chief Manager of Sustainability Management Office, Corporate Planning & Coordination Department, Development Bank of Japan Inc.

The CIO's perspective

Anticipating BQuant's continuing expansion

Hiroki Tsujimura, Executive Corporate Officer, Global Head of Investment and CIO



Hiroki Tsujimura joined Nikko Asset Management in 2004. After working as CIO of Nikko Asset Management America, Global Head of Alternative Investments, and Head of Active Investments, he was appointed CIO of Japan in January 2013, and to his current position in June 2019. He oversees all of Nikko Asset Management's investment management activities globally. Mr. Tsujimura spoke about his experience of watching the hackathon live.

You can create new value depending on your idea - inspired by other companies' efforts

Q: What was your impression of the hackathon and the reaction in your company? What was the benefit of participating in BQuant Hackathons as an asset management company?

Hiroki Tsujimura: I also saw presentations by other companies, and I was very inspired by their approaches. I saw how Bloomberg's data can create new value, depending on different idea. We've already started efforts to improve the ESG analysis app that we presented and we hope to expand it to other business areas as well.

Position management and investment decisions will be increasingly backed by statistics going forward

Q: Give us your perspective on how ESG investment will change in the future. What possibilities do you think will open up thanks to platforms such as BQuant?

Tsujimura: Corporate disclosure in the ESG area is progressing, as are efforts to digitize and visualize initiatives. With the increase of things that can be handled as data,

the accuracy of current-state analysis and future forecasts is improving. I expect that statistically backed position management and investment decisions will become increasingly common with the help of tools like BQuant and Python.

Creating an environment where diversity is incorporated and people enhance one another

Q: What's your vision for investment, future technology development, DX and human resource development that entails?

Tsujimura: I think that we'll need personnel with high IT skills who keep abreast of technology development and can incorporate this into investment management and investment decision-making.

We need those directly involved in fund management to improve their IT skills, and those with high IT skills to improve their understanding of fund management. Communication is key – it's vital to have an environment that embraces diversity and where people with different areas of expertise can enhance each other.



About Nikko Asset Management

Global Citizen with Asian DNA



Extensive global resources

- Japan
- New Zealand
- China
- Luxembourg
- Singapore
- United Kingdom
- Hong Kong
- Germany
- Australia
- Americas
- Malaysia

* As of 31 Mar 2021

Our Global Capabilities

Qualitative insight through a broad range of global investment capabilities

Total Assets Under Management (USD 283.2bn*)



Our Specialisations

- Equities**
Global, Asia Pacific ex Japan, Japan, Australia, China, New Zealand
- Fixed Income**
Global Bonds, Green Bonds, Asian Local Currency, Asian Credit, Australia, New Zealand
- Multi-Asset**
Global, Emerging Markets
- ETFs**
Equities, Bonds, REITs

Our People



60+ years in Asia



- 1st SRI Fund established in Japan*¹
- 1st investment in-kind ETF established in Japan*¹
- 1st Robotics Equity fund established in Japan*¹
- 1st Asia ex Japan REIT ETF established in Singapore*¹

*¹ Based on Nikko Asset Management's research



Nikko AM works with the UK-based international organisation Carbon Footprint Ltd. to offset carbon emissions through offset programmes, and has been certified as carbon neutral since 2018.

* As of 31 Mar 2021. Including overseas subsidiaries, affiliates and minority joint ventures. May not add up to Total AUM due to rounding. Consolidated assets under management and advice of Nikko AM, including subsidiaries but excluding minority affiliates and minority joint ventures.

With US\$284.4 billion* under management, Nikko Asset Management is one of Asia's largest asset managers, providing high-conviction, active fund management across a range of equity, fixed income, multi-asset and alternative strategies. In addition, its complementary range of passive strategies covers more than 20 indices and includes some of Asia's leading exchange-traded funds (ETFs).

Headquartered in Asia since 1959, the firm employs approximately 200** investment professionals, representing approximately 30 nationalities across 11 countries. More than 400 banks, brokers, financial advisors and life insurance companies around the world distribute the company's products.

The investment teams benefit from a unique global perspective complemented by the firm's historic Asian DNA, striving to deliver consistent excellence in performance. The firm also prides itself on its progressive, solution-driven approach, which has led to many innovative funds launched for its clients.

For more information about Nikko Asset Management and to access its investment insights, please visit en.nikkoam.com.

* Consolidated assets under management and sub-advisory of Nikko Asset Management and its subsidiaries as of 31 December 2020.
** As of 31 December 2020, including employees of Nikko Asset Management and its subsidiaries.

About BQuant

BQuant is an interactive development tool within a user-friendly Python environment that enables financial market participants on the buy-side to quickly build, test and share quantitative research. Integrated with the Bloomberg ecosystem and combining dedicated libraries with access to open-source libraries, BQuant enables you to perform powerful analysis across asset classes to generate investment ideas and easily share them with other Bloomberg users via Launchpad components.

For more information on BQuant, and examples of interactive applications such as those shown below, visit [BQIQ <GO>](#) on the Bloomberg Terminal.

BQuant Hackathon

Bloomberg organizes the BQuant Hackathons series to create a community where people can exchange opinions on data and technology and to contribute to the development of human talent for asset management. For more information about upcoming events, please contact your sales representative.

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+44 20 7330 7500

Mumbai
+91 22 6120 3600

New York
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San Francisco
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São Paulo
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Sydney
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