70,000 questions a year, satellite imagery, and dismantling electric cars: How UBS is trying to change the face of financial research

Author: Will Martin
Jun. 14, 2018, 4:16 AM

• UBS employs experts in fields like hydrology, climate science and data analytics to gain an edge on its competition.

• Last year, analysts and a team of engineers dismantled an electric car to work out how much it was actually worth.

• The bank gathers between 60,000 and 70,000 questions per year from clients.

For analysts at UBS, everything starts with a question.

The bank gathers between 60,000 and 70,000 questions per year from clients. These range from the macro — such as "how will a trade war impact the global economy?" — all the way to minutely detailed questions about the price of components in computers and cars.

Questions are then put into a database which the bank's staff can look to when trying to analyse the state of the thousands companies it covers. UBS has coverage on between 85% and 88% of stocks on the MSCI World Index.

"Some of those questions are actively being thought about by the investors, some of those are in anticipation of what the markets should be thinking about in the near term," Barry Hurewitz, global chief operating officer of UBS Group Research told Business Insider.

One thing that links all the questions, Juan Luis Perez, UBS' global head of research told Business Insider in a separate conversation, is that they "matter."

Question gathering is part of UBS' long term plan to differentiate its research capability from that of other banks by taking an approach that is heavily focused on data, and applies the principles of scientific research to the world of high finance.

"A big part" of UBS' research, Hurewitz told BI, is that scientific approach.

"[We have] a research methodology that is somewhat aligned with the scientific method," he said.

"We want the analysts to really start with 'What are the uncertainties and questions that are on minds of our investors?'"
The question bank, however, is "just a starting point," Hurewitz says.

Once there's a question in mind, UBS looks to find an answer, often using its Evidence Lab—a specialist research facility that employs experts in particular fields to identify trends and provide evidence for the questions clients and analysts are asking.

"The goal is to gather evidence and to conduct analysis that will make you feel more confident that what you know is different from the market, and is more likely to be right."

UBS wants to exploit data to find opportunities for investors that other financial institutions are not seeing.

Traditionally this was the job of the analyst alone, but the huge increases in the amount of available data means that they are now hard pressed to cope with it all.

"The amount of data that was available 15 years ago is dramatically different to today," Hurewitz said.

"To think that an analyst with Excel, two associates, and a CFA is going to be able cope with all that data, that's not realistic."

Not only is the amount of data available to banks drastically different to just a few years ago, so are the tools available to explore and exploit that data.

"There are tools you have today that didn't exist before," Perez said.

With these tools you have three choices. You can ignore, you can train analysts [in using them], or you can do what we did, which is build a second research department. That's the Evidence Lab.

As a result, UBS employs specialists in a whole range of subjects from hydrology — the science of water — to experts in shipping, all the way to climatologists.

In Hurewitz’s words, the aim of the Evidence Lab is to create a team "that's organised around specialists who know how to use specific types of data very well, as well as unique types of analysis."

"The whole idea is to turn the analyst’s view into a hypothesis," and to "validate" their ideas.
The evidence suggests UBS' data-heavy approach is working. The bank was recently voted as the number three bank in the world for its overall research by Institutional Investor magazine, and came top of the pile in the equity research category. There's also evidence that other institutions are following their lead, with Barclays recently hiring a data scientist to bolster its research department.

**Stripping down a car to prove a point**

UBS' approach to research may be heavily couched in data analytics, but there is a practical element as well, with the bank carrying out a number of striking experiments in recent years to validate the hypotheses of its analysts.

Last year analysts at the bank bought a Chevrolet Bolt — the US auto giant's mass market electric car.

UBS' Evidence then teamed up with a group of engineers to dismantle the car, with the aim of working out exactly how much it costs General Motors — Chevrolet's parent company — to manufacture the Bolt.

This, in turn, formed the basis of a paper by the bank looking at how electric vehicles like the Bolt could disrupt the automotive industry in the future. The answer to that question was, as it turns out, quite a lot.

During the takedown, which you can see below, UBS found that the Bolt has a total of just 35 parts that are either moving or are subject to wear and tear during every day use. By comparison, a standard, every day car — UBS used the example of a Volkswagen Golf — has around 150 moving or wearable parts.
The difference is particularly striking in the engine. A regular car has more than 110 moving parts in its engine, a Bolt, just three.

The Bolt's lack of moving parts means that it requires very little maintenance. Car dealerships make a significant proportion of their profit from charging customers for repairs and general maintenance, so the fact electric cars tend not to need much maintenance poses a problem for their profitability.

"On our analysis, the after-sales revenue pool could drop by ~60% or >$400 per vehicle per year. This should pose a major challenge for dealerships, which typically generate >40% of their gross profit pool in service and maintenance," said UBS.

The teardown also found, among other things that the car is $4,600 cheaper per unit to produce than had been expected, which led UBS' analysts to reevaluate the profit margins on electric vehicles.

**Analyzing the The Happiest Place On Earth**

Another example came after the much hyped opening of Disneyland Shanghai, the $5.5 billion amusement park, which was the first of its kind in China.

In the early stages of the park — which opened to great fanfare in 2016 — there was no data to show how many people were visiting on a daily basis. That made it hard for analysts to work out how much money the park was making.

To get round this issue, UBS commissioned satellite photography of the parking lots at the park, which was then analysed and allowed the bank to estimate passenger numbers. Similar technology is used to work out how much oil is being stored at refineries in the Middle East, as Business Insider reported in January.

UBS encountered a problem with this method. As you can see in the picture above, Disneyland Shanghai is susceptible to cloud and smog, often making satellite imaging impossible. So the bank needed a new way of working out visitor numbers.

They found this by analysing wait times on rides for amusement parks all over the world, and comparing them to those at Disneyland Shanghai, which allowed analysts to estimate how busy the park was.

UBS also used text mining software to analyse online comments about the park on websites like TripAdvisor, searching for words like queues, queueing, and line lengths to find out sentiment around wait times at the park. If there is a high level of negative sentiment around queues, that could be a bad sign for visitor numbers.

Like all UBS research, all this analysis boils down to a question.

In this case, that question was: "How well is Disneyland Shanghai going to do relative to expectations?"
One of the biggest changes in the banking research industry right now is the implementation of the new Markets in Financial Instruments Directive II (better known as MiFID II)—a set of regulations from the EU intended to heighten transparency and root out conflicts of interest.

The regulations are partly concerned with the distribution of research by banks, and mandates that research is uncoupled from other products. Previously banks tended to give away their research as part of client services packages, but are no longer allowed to do so.

Banks are scrambling to comply with the regulations, but UBS' senior research staff haven't seen any big differences since the legislation came into place in January 2018.

"We keep the same plans we had before and what we have to be trying to do is to navigate the relationships under the terms of the new regulations." Perez told Business Insider.

"Honestly speaking, the changes are not that deep."

"To assess the depth of the change you will have to wait for another year and a half or thereabouts, to see how this is going to play out. At this point in time everybody is trying to play poker."