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Singapore Management University

HOW CAN BANKS USE BIG DATA?

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Banks can recommend better use of money for customers, but data security is crucial

The story about retail giant Target correctly guessing a teenage girl in Minnesota to be pregnant based on her purchasing data, and then sending her coupons for baby gear in 2012, has led to valuable lessons for consumers. Mainly, if you do not want businesses to bombard you with marketing material, do not use a credit card when buying the following items: unscented lotion, mineral supplements, and cotton balls.

While that story made popular knowledge of the products that pregnant women typically purchase, what had made it possible for Target to identify its customers for focused marketing is lots of data. Specifically: structured and unstructured data, which together constitutes Big Data.

“Big Data is data as you know it plus unstructured data,” says **Mario Domingo**, Customer Operations Group Head at cognitive solutions firm DANATEQ. “An example of structured data is the cells of an Excel spreadsheet. Big Data also captures unstructured data, which includes videos, images, and music.”

Using Big Data

Domingo, who was the speaker at the recent UOB Leadership Academy Webinar: *What’s the Big Deal about Big Data*, explains how the banking industry can leverage the power of Big Data to improve business performance.

“Suppose I need to go to the bank, and I’m deciding which branch to go to. I could open up the bank’s app and look at the CCTV feed for the branches within a 200 metre radius of where I am at. I can then choose to go to the branch with the shortest queues.

“As a bank, I can then capture that data and analyse the correlation between mobile apps, the location of my customers, and the customer traffic coming to the branch.”

While that is useful, it is only a small part of what makes a “cognitive solution” that DANATEQ specialises in. Domingo explains how his company's software “learns” from the gigantic pool of data to produce useable solutions.

“We have technology that allows us to use parse data. Parsing data means we connect to ATMs, accounting systems, and anything with data that is moving, or not moving. Non-moving data is data that is stored. Moving data is a transaction that’s life. For example, if I went to an ATM and inserted my card to make a balance enquiry, that is moving data.

“Danateq soaks all that in – the word is ‘ingest’ – and we parse them according to attributes such as time of day and transaction amount. We then run algorithms that do probability and prediction.

"So, it’s machine learning: we know the outcome, we have the dataset, we create a formula, and we go and predict a result. As we continue reliably predicting that result, we apply it to a process, and it becomes a recommendation.”

Such a recommendation, Domingo says, could be advice for a customer to use credit instead of cash based on his banking records. In effect, it is enhanced customer service based on understanding each customer’s unique situation.

Misusing Big Data

Such personalised and targeted services are possible only via the availability of a huge amount of data about an individual customer. The fear that such data might be compromised is a real one, and one that was brought up by a webinar participant.

“You can perform all customer-sensitive information processing on premise instead of outsourcing it,” Domingo suggests, addressing a main source of data leaks. “Another way to prevent breaches is through the anonymisation of data. You do that by assigning tags to account numbers, names, and transactions so that you are processing tags instead of actual customer data.”

Combined with scouring social media, a concerted Big Data strategy could lead to concrete action to increase revenue like Target’s sending of coupons to encourage further purchases. But with humankind generating as much data every two days as it did from the dawn of civilisation up to 2003, one might think of introducing Big Data into decision-making as an information technology (I.T.) problem. Domingo said that would also be wrong.

“When inducting new technology and solutions, it should never only be an I.T. initiative; it should always be a business initiative. The first thing to do is understand what business problem can benefit from a large dataset.

“Big Data investment is always in the millions of dollars. Once the investment is made, business managers come to the I.T. guys and ask, ‘What can we use it for?’ That’s the biggest pitfall of having Big Data capability. Business should always drive the use of Big Data, not the other way around.”

The UOB Leadership Academy Webinar: What’s the Big Deal about Big Data was conducted by Michael Netzley, Academic Director of Executive Development at Singapore Management University on Aug 11, 2014.