Elephants pave way for new intel on Australian shoppers

June 16 2014

A Sri Lankan elephant tracking model has inspired IT researchers at QUT to take a new approach to analysing the behaviour of "digitally connected" Australian shoppers.

Associate Professor Darshana Sedera said companies had been able to track their customers through "digital footprints" for some time, thanks to tracks left by shoppers as they used their retail mobile apps, store cards, GPS and EFPOS.

His new research takes that tracking further by combining it with contextual factors - a technique used by a University of Sri Lanka study developing a path prediction for elephants.

Professor Sedera, who served as an external advisor on the Sri Lankan project, said the elephant tracking model analysed how elephants behaved within contextual factors like changes in season, harvesting time, density, family orientation and environment.

"This research looked at the implications of knowing elephant tracks and predicting their path and how this affected other stakeholders, such as farmers, agricultural and wild-life departments, and thought that a similar scenario could be developed for consumers," he said.

"Our mobile phones and the use of mobile apps act like the electronic tags on the elephants, in that they have the potential to track our every move - and provide keys to our future paths."

The three-year QUT study by Professor Sedera's Enterprise Systems Research Group began their conceptualisation with the Sri Lankan elephants and then moved on to Australian grocery shoppers.

"Our study specifically looked at how companies are trying to create and then increase digital connectivity with the company using mobile apps, changes to consumer behavior and firm capabilities," Professor Sedera said.

He said QUT researchers had already surveyed about 500 Australian supermarket shoppers and found that most people assumed that supermarkets were tracking their shopping behaviours.

"It's actually created a double-edged sword," he said. "Customers know that retailers collect a lot of information about them and their shopping patterns ...so they are demanding more tailored marketing and more offers that are specific to their shopping behaviour. Things like: You can see I buy nappies, give me specials on nappies.

"But we also found there is a saturation point on this heightened digital connectedness, after which increased marketing will not have any impact.

"The use of mobile apps allows companies to track customer behaviour by collecting data on our shopping habits, shopping lists, and preferred store locations.

"How complete this information is depends on how we are using our phones, store discount cards and digital wallets at the time ... what are we looking up, what apps do we have open, are our GPS, even how are we paying.

"Companies love their shopping apps because it's a relatively cheaper

way of obtaining a huge amount of data on our shopping habits and what we browse and buy. For example, both our main retailers have launched mobile apps, connected to their respective store / fuel discount cards that allow them to collect this kind of data.

"The value of this data is huge... last year Woolworths made a strategic acquisition by laying out at least $20 million for a 50 per cent stake non-controlling stake in data analytics company Quantium from employee shareholders. This shows that retailers are quite serious about big data and business intelligence."

Professor Sedera said being able to accurately predict even a small percentage of customer behaviour could add to big savings for retailers through more accurate stock purchasing and maintenance.

"Sensing information may have become an easier thing now, but the most important thing is that the company must have the capability to deliver increasing customer expectations.

"We found 70 per cent of our sample said there were not very satisfied with how companies recognised or responded to their unique needs.

"Our second phase of the study is on this inadequacy. We want to see firm capacity to respond to digital innovations and we welcome any partnerships and collaborations."

The research team from QUT's Enterprise Systems Research Group, which includes PhD student Maura Atapattu, is also colloborating with Prof. Ravichandran from the New York's Lally School of Management on this three-year research project. An analysis of the Australian supermarket survey has just been published in the Australasian Journal of Information Systems.