Computers can take social media data and make marketing personas

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Credit: George Hodan/Public Domain

Computers may be able to group consumers into marketing segments in real time just by observing how they respond to online videos and other social media data, according to a team of researchers.

In a study, computers used information from social media accounts to automatically build marketing personas, said James Jansen, professor of

[information sciences](#) and technology, Penn State. Marketing research professionals typically create these personas to help editors and marketers better understand the behaviors of specific consumer groups, he added.

"A lot of times we have to use numbers in decision making, whether that's using numbers in understanding a market segment or an audience base or demographics, for instance," said Jansen. "But it's hard to make a decision looking at a bunch of complex numbers that most people don't understand. One way that has been proposed and implemented in a wide number of domains to understand consumers is through personas. Researchers take a bunch of market data and condense it into a fictitious person."

Marketers, who create personas manually with data from focus groups, ethnography methods and surveys, can then hold conversations and make decisions based on these personas.

"The problem with that, though, is that, in addition to being time consuming and expensive, they can rapidly become obsolete," said Jansen.

Computer-drawn personas, on the other hand, not only can be created in [real time](#) and at relatively low costs, but they can be updated quickly as economic conditions and demographics continue to change.

The researchers developed algorithms to analyze data, such as [demographic information](#), topics of interest and customer interactions, from 188,000 subscribers of a news website. The data included the subscribers' YouTube profiles, which included demographic information such as gender, age and country location, and their interactions with videos on the site, such as the topics of videos watched by the users.

This site had posted approximately 2,807 videos to its YouTube channel that were viewed by 30 million users in 217 countries.

The algorithms then identified unique ways that groups of people were interacting with the information, in this case, news videos.

News site editors could use this information to better collect and target content to these audiences, said Jansen, who worked with Haewoon Kwak, research scientist and Jisun An, postdoctoral researcher, both of Qatar Computing Research Institute, Hamad Bin Khalifa University.

"Journalists want to have a better understanding of just who their actual users are," said Jansen. "They can use that information to reach readers with better titles, content and article framing."

While the researchers used news and information in this study, the technology could be applied to other types of consumer transactions, according to the researchers, who presented their findings on Dec. 2 at the Second International Workshop on Online Social Networks Technologies held in Agadir, Morocco.

"The method is transferrable to other domains," said Jansen. "It could work at any consumer touchpoint - any place where we can see what the consumers are buying or what they are viewing before they buy and then tie it back to some demographics."

Jansen said the technology is also scalable and could use other types of social media to analyze consumer behavior and create marketing personas.

"We're now scaling this up to millions of users," he said. "And we could use other types of [social media](link) data, from Facebook or Twitter, for example."