"...offering a serendipity engine for the internet."/50

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FOLLOWING GENERATION Z

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We've all been there. You're standing with a group of friends, trying to decide where to go for dinner, when everyone pulls out their phone to start reading reviews. The more you discuss it, the more complicated it gets; one of you doesn't like Thai food, another is vegan, and because there's only one car between six of you, you can't go far. How do you find a restaurant that makes everyone happy?

This is the type of everyday problem that software can help to solve, but it's

Google researcher Ed Chi reveals how the next generation of web users will behave very differently from today's.

not easy. It requires us to take multiple factors like location, diet, and transport into account when providing search information. In fact, these new demands encourage us to think about the search engine as more of an 'insight' engine, and that's why Google is so interested in the social layer. While search is about navigating to a particular place, it is social data that enables people to make informed choices.

I'm just one of several hundred research scientists on Google's ➡

in-house research team, which stretches across everything from Gmail to Google+. My particular focus is on identifying key developments and trends in user behavior and designing systems to support them – backed up with big data analytics and a comprehensive understanding of how social systems function. But Google had been thinking about the evolution of search long before I joined earlier this year: Its roots in the PageRank algorithm demonstrate how some forms of social signal – such as who is connecting with whom – have been used to inform the search process since the beginning.

Aggregating relevant opinion is now a key part of the web experience, from shopping to restaurant reviews. As consumers, we now triangulate our decisions based on the recommendations of friends and family alongside general public opinion. But there's still a need to contextualize some of this information. One person might leave a bad review for a Japanese restaurant because they don't like Japanese food, rather than because of a bad experience at that venue. How do you weigh all these factors to help facilitate a decision in the shortest possible time?

There are business-critical implications for marketers and advertisers, too. Whereas it used to be sufficient just to make yourself visible online (so that when people searched, you were there), now that so many businesses are visible, the challenge is to make yourself stand out in some other way – through your reputation, consumer trust or customer service. That means making sure that opinions on all these aspects of your business are displayed to potential customers. And as it's no longer individuals brow-

sing but groups making joint decisions, tools like Huddle in Google+ are geared towards helping users resolve the issues that arise from those group situations.

The Information Flea Market

Filtering – helping users deal with only the most important and relevant information – is a big priority in this era of rapid development. Our information consumption is increasingly driven through social news, with friends,

family, and colleagues recommending things they think are important or relevant to us. Throughout the day, you're likely to find yourself drip-fed information by friends in your social stream. And this is still a new behavior that people are experimenting with.

Algorithmic curation is another lens through which information like the news is filtered. But users assign different levels of trust to algorithmically determined news, professionally curated news, and news selected by their ➡ friends. Those trust profiles aren't entirely

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intuitive yet, and we've found that users are pretty demanding in their assessment of automated news curation if the results aren't what they expected. They will be more forgiving if it's personally curated, as if they can more easily rationalize an editor's decision or the judgment of a friend who recommended a story.

The way users relate to all these models is something we're looking at very closely. Understanding how users respond to and interact with information within these frameworks will also be essential for marketers.

As the very nature of information changes, the ability to grab news on the go means we squeeze these information transactions into tiny pockets of time, whether that's scanning a news story a colleague emails you at lunch, or an SMS a friend sends you while you're walking to the restroom. These are 'micro-waiting' moments – a flea market information experience. Where that experience used to be a dedicated, focused period of the day, it is now opportunistic, serendipitous, and targeted.

I have combined observations of these trends with my previous work exploring knowledge-building communities such as Wikipedia, the social structures behind tagging system Delicious, and social recommendation through Twitter. These frameworks can help us understand how to develop curation models, identity, and reputation systems, and how to encourage serendipity as well as engagement. It means there's a growing opportunity for businesses to explore the growth of this trend through the combination of tablets, mobiles, and social streams. For Google, it means offering a serendipity engine for the internet.

Many of us grew up in a pre-digital era – we made phone calls and wrote letters, while public information was distributed through broadcast media. But now there's a whole generation at college that has never known a world without the web. They bring with them a new way of engaging with the world, with information, and with each other.

From Google+, Facebook, and Twitter to SMS and corporate messaging, this generation is developing an instinctive set of behaviors and expectations around these tools. They are very savvy in understanding which medium is most appropriate for the message and for the recipient, whether it's a dinner invitation or asking someone out on a date. They know they have to find the appropriate interrupt signal, and that different channels send different signals, with numerous subtleties that we are only just starting to understand.

In three years, that generation will be in employment, and marketers will need an intricate understanding of all their behaviors.

Users Evolve to Suit Their Environments

None of this means that web users will lose the depth and concentration of detailed reading. In a previous incarnation as a reading researcher, I studied the book as an information science problem, and found that even without a desk, a good coffee, and a full afternoon of reflection, people are able to make meaningful conclusions about the information they're processing.

In reality, our brains have learned to absorb and make sense of information during downtime. There's a lot of evidence that social learning, engaging, and sharing with others is a far more effective way of learning than simply chasing citations or raw knowledge acquisition.

Ultimately, humans are incredibly adept at changing their behavior to suit their environment, and the light-speed changes we're witnessing are likely to prove more challenging for technologists and businesses to keep up with than for humans to evolve through Ⓖ