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PROFESSOR BIG DATA

## AN INTERVIEW WITH NYU'S ANINDYA GHOSE

NYU

Anindya Ghose spends a lot of time thinking about the intersection of digital marketing and economics. As a Professor of Information, Operations and Management Sciences and a Professor of Marketing at New York University's Leonard N. Stern School of Business, Anindya conducts numerous research projects that explore the impact of the Internet on markets transformed by its shared technology infrastructure, the economic value of social media, and the impact of digital and mobile marketing. Recently, Professor Ghose spoke with Ben Plomion, VP of Marketing at Chango, to discuss use of data and consumer preference in the age of digital advertising.

BEN: When it comes to digital advertising and marketing, you talk about the trade off between consumer privacy and marketer utility. What do you mean by that?

ANINDYA: Brands have a lot of data about consumers, which enables them to personalize their interactions with their audience. They can, based on what they know about the consumer, customize the product and price offered in interactions. The tradeoff is that in order for this to be meaningful, consumers must actively or passively disclose substantial information about themselves to the brand. That's a decision consumers must make.

BEN: What do you mean by "passively disclosing" information? How does a consumer passively disclose information?

ANINYDA: Many retailers now have beacons that can recognize when a consumer with an iPhone or smartphone enters the store. Retailers can use that information to target the consumer with messages. Or a store can offer you free access to their WiFi, and if you accept, it will be a source of data about you. These are examples of passive disclosure. To prevent such disclosure, the consumer would need to shut down his or her phone completely, or disable its GPS. The fact is, the devices we carry with us disclose information to marketers who are set up to retrieve it. This is happening already today.
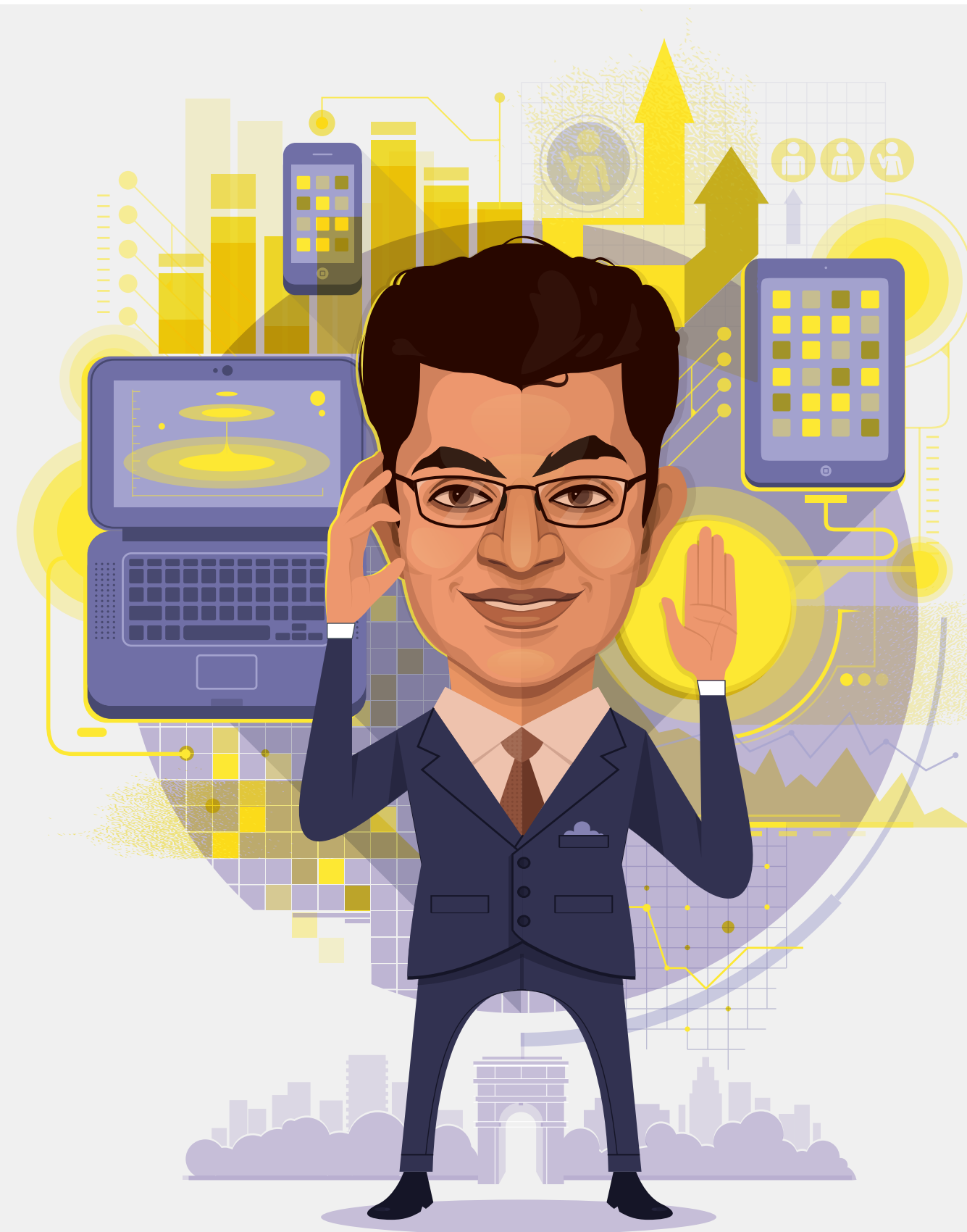
BEN: Why do consumers want to disclose information about themselves to brands?

ANINDYA: Because they expect to get something valuable in return, specifically highly personalized interactions, which could be a price, product or customer service experience that's specific to the consumer. A lot of consumers – particularly Gen Y, Gen Z and to a certain extent Gen X – are quite open to marketing. They know that in order to use a free app, or to use a particular service, they'll be exposed to ads. They accept this as a fact of life. But they want those ads to be relevant to them, and they're willing to disclose information about themselves to ensure that happens.

BEN: You've said that mobile customers actually expect marketers to know everything about them.

ANINDYA: That's true, especially when you look at the rate of mobile adoption and the demographics that have adopted it. Gen Z and Gen Y consumers are quite comfortable with using their mobile devices for things other than making phone calls, whereas baby boomers view it as a mobile phone only. The younger generations have this expectation: If my device is streaming out all of this data about myself, my location and preferences, please put it to good use; tell me what kind of products I should by, which restaurants I should go to, and which app I should use.

BEN: So willingness to disclose data is tightly correlated to age?

ANINDYA: That's true. The Gen Z and Gen Y populations have grown up with social media, they're accustomed to
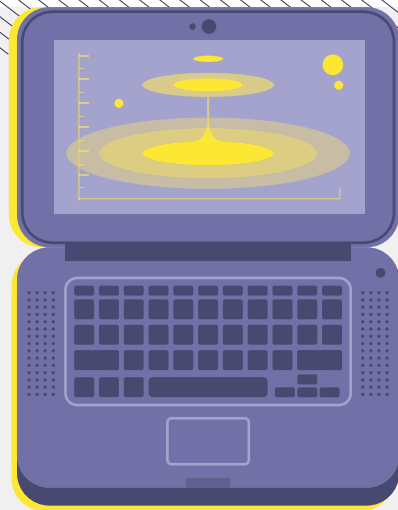
the photos and videos of them being shared. They're very comfortable with this tradeoff of privacy and personalization. But some of the older people who didn't grow up with technological capabilities of these devices are disturbed by the possibilities of data that originates from mobile devices. And when you consider that Gen Z and Gen Y people are the future business leaders, and wield consider buying power, it's easy to see how data-driven marketing will be very prevalent.

BEN: How can consumers better understand the 'power' they have with their data and the tradeoff involved, for example, utility versus privacy?

ANINDYA: There are many instances. In the world of mobile devices, one of the more fascinating developments is real-time in-store promotions based on the aisle you're in. In other words, it's technically possible to determine a consumer's exact location in a store – say hair care – and offer an incentive. Let's say a consumer is lingering in the high-end shampoo shelf. The brand may determine that the shopper is price sensitive, and send a mobile coupon offering 20% off of any of its shampoos. These things are already beginning to happen in China and

South Korea, and it's only a matter of time before they happen here. Going forward, the more the brand knows about you, the better able it is to send you offers that you will truly value. That's where the consumer's power lies. You will be bombarded with ads, but you can ensure those ads are relevant to you.

BEN: How can marketers determine the value of a consumer's data, and how does it vary by device?

ANINDYA: They can make those assessments through one of my favorite methodological tools, randomized experiments. I like randomized trials or experiments because they deliver causal interpretations rather than correlations. Correlations are valuable, to be sure, but causal understanding of data is more valuable because it provides actionable insight. When I work with marketers, I'll recommend doing a few of these randomized experiments so they can understand the value of consumer data. And based on these experiments I can figure out what's causing consumers to behave in a certain way, which marketers can then use to tweak strategy. In absence of randomized experiments, there's still a lot of value in archival or historical data, assuming you have a good data science team to build statistical models.

BEN: Can you give an example?

ANINDYA: Absolutely. Right now I'm interested in omni-channel marketing, specifically looking at synergies in omni-channel marketing. How does an ad seen in Facebook, in search, or on a mobile device influence the consumer to the point that he or she buys a product. Brands are also keen on this topic because it closely relates to attribution. They want to know how

to allocate proper credit to a channel. To answer these questions, I started working with companies to design randomized experiments to causally tease out the value of these omni-channel synergies. We tested the impact of seeing multiple ads from a brand in one channel versus multiple channels. My goal was to qualify the increase in propensity to convert via single and multi-channel campaigns. So that's an example of using randomized experiment to causally ascertain the magnitude of these multi-channel synergies, which in turn helps me unravel the overall value of the consumer's data.

BEN: Is omni-channel more efficient?

ANINDYA: The evidence is very strong that it is, and that the synergy applies across all channels, including paid and organic search. The interesting next step is to quantify that synergy. How much synergy does each channel provide, and how can you use that insight to design proper attribution model?

BEN: How would a marketer act on this short of hiring you?

ANINDYA: To be honest, randomized experiments aren't rocket science. If you put the infrastructure in place, it's not that hard to do. You'll just need to figure out how to turn off ads in one channel and turn on ads in another and measure at consumer reaction.

BEN: Are there key data points that help determine a consumer's affinity towards a particular brand?

ANINDYA: Yes, and they're specific to the platform. In the social channels you can measure affinity based on

specific actions, such as how many times a consumer Tweets about your brand, or retweets your messages, or by number of comments added to your Facebook page. Mobile has different metrics. In my research I've found that the act of downloading a brand's mobile app is a proxy for loyalty. Up until that point, a consumer may like a store or brand, but interact with it on the mobile web. Once the app is downloaded, the consumer has turned loyal. These days it's also possible to track down a user's search patterns on the Internet, so if consumers are performing search queries for a particular brand, it's fair to say they're showing affinity for that brand. And there are lots of other actions or data points that tell us when a consumer has an affinity for a brand.

BEN: Are there some cases where a consumer affinity towards a brand can be different based on the device they use to engage with the brand?

ANINDYA: Sure, this shows up in mobile. Consumers are far more inclined to interact with local brands from their mobile devices than they are from their desktops and laptops. Moreover, 90% of all local searches performed on a mobile device convert within two hours. So at a very high level we see differences in how consumers interact with brands based on device type.

BEN: How can knowing a customer's affinity to your brand modify the context of ads they see by device? Here's a scenario: an avid sports fan uses his mobile device to engage with ESPN content. What data does Nike need to have and how do they use it?

ANINDYA: That's an interesting scenario, but I'm not convinced that

pitching a product at that point is going to work. Nike would do better by supplementing that conversation in some way, perhaps providing historical information about individual basketball players. We've seen this tactic used quite successfully in the insurance industry; for instance, GEICO uses its Facebook page to inform consumers what to do when a tornado hits. These are really meaningful conversations and they originate organically, and ultimately leads to longer engagement.

BEN: In terms of data, what do consumers have that marketers want?
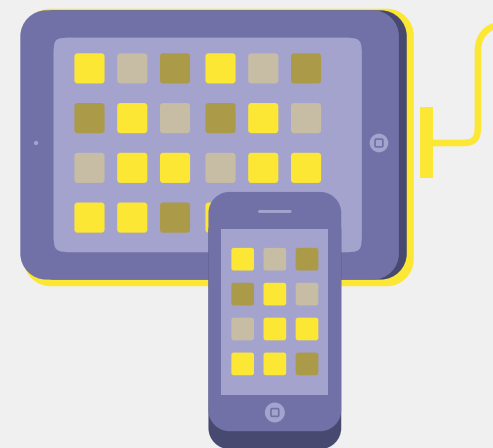
ANINDYA: That's easy: Information about their preferences. The more granular it is, the more valuable it is to the marketer.

BEN: In terms of content, what do marketers have that consumers want?

ANINDYA: They key word here is relevance. Consumers want highly relevant products and highly personalized products. If you're a marketer and you're going to target me with numerous ads, please make them about products that I intend to buy; not products that I already bought.