Episode 6, featuring Pradeep Chintagunta of the University of Chicago

Gopi Vikranth:

Hello and welcome. This is Gopi Vikranth and I lead personalization and customer experience analytics at ZS.

Arun Shastri:

And I'm Arun Shastri. I lead the artificial intelligence practice at ZS.

Gopi Vikranth:

We both work at ZS where we use our industry expertise, cutting-edge analytics and technology to create real-world solutions for our clients. And in this executive series, we'll be talking to leaders about how they are reimagining customer experiences at their organizations and the role personalization plays to drive customer loyalty. Arun and I are quite passionate about this topic, as it is one that our clients often wrestle with. And as consumers, we are constantly reimagining how businesses can do a better job of engaging us.

Joining us today is Professor Pradeep Chintagunta. Pradeep is the Joseph T. and Bernice S. Louis Distinguished Service Professor of Marketing at the University of Chicago Booth School of Business. Pradeep is interested in empirically studying consumer, agent and firm behavior. And he has studied multiple industries like packaged goods, pharmaceuticals, technology and online markets to answer questions related to pricing, advertising, customer behavior and channels of distribution.

Arun Shastri:

It's a pleasure to talk to you Pradeep. I have known and admired Pradeep's smarts and intellect for over 30 years now. I should add that Pradeep's work has been cited close to 16,000 times, which is simply stunning. An interesting fact about Pradeep, he has acted in a Bollywood movie. Pradeep, welcome.

Pradeep Chintagunta:

Thank you, Gopi. And thank you, Arun.

It's a great pleasure for me to be here on this executive series. It's always good for a marketing academic to talk about marketing-related issues. I also feel a very strong connection to ZS, having studied both with Andy and Prabha during my Ph.D. Also, Andy was my thesis advisor. So, I think there's another connection there. And as Arun just mentioned, I think I've known him since the late 1980s, although I think he has aged much less than I have. So that's something I'd probably hold against him.

Arun Shastri:

Oh, you're too kind! Pradeep, I know, I'm noticing your recent research interests and your passion. I'm seeing that you are spending a lot of time thinking about leveraging marketing principles to drive impact on small and medium businesses and entrepreneurs in emerging economies. Can you talk a little bit about that? I found that quite fascinating.

Pradeep Chintagunta:

That's right. I think as my research has evolved over time, I have obviously visited a number of different topics. But the most recent topic that I've been interested in is working with mainly small businesses, although there are a few medium-sized businesses, as well. Most of this work is happening in Africa.

And in terms of the work that is directly related, I think, to today's topic is a project that we did where we designed an Android-based app that could actually be used by these small businesses, and which is also related to analytics. The kinds of businesses that we have focused on typically earn, say less than about $1,500 a year, which is somewhere in the second quintile, or just below the second quintile in the income distribution in Rwanda. This is not for companies that are very large.

So what does the app allow these businesses to do? It allows them to collect data, essentially, on their own business. So, what their sales were every day, what prices they charged, what their costs are for these products? What were the profits? Any promotions they ran? The different types of customer segments they had—all of this very, very basic stuff. The useful feature of the app is what we, as researchers following terminology from folks like Tom Davenport, refer to as analytics 1.0. Analytics 1.0 is what these firms then get access to. So in other words, what does this mean? Basically, the app collects the information that these folks are inputting and presents it back to them in a manner that they could potentially use for decision-making. So for example, when they input the sales over time, what the app will then give them is a sales or a profit trend over time. It will also tell them what their profits are for individual products over time. And this type of information, we then study whether or not having access to it changes the decision-making of these businesses. That's essentially what we tried to do.

And to try and make the measurement, we ran a randomized control field experiment with about 250 firms in the treated group that actually got access to the app and about 250 firms in what we call a comparison group or a control group that didn't get access to the app. So the idea is that we wanted to study the performance of the treatment and the comparison group before and after the treatment group adopted the app. So what we found, which I think we found quite interesting, was that six months after the adoption of the app, the companies in the treated group had grown their sales by between 35% and 40%. And their profits had increased by about 30%, relative to the companies in the control group.

So that's essentially what we found. There are several mechanisms behind this, that I think, are worth learning and understanding about, but at least the top-line results of what we find is there's an increase in both sales and profits. So the idea of I think generalizing beyond just these small firms in Rwanda, is that if you could give access to analytics, even very basic analytics to these small businesses, they might actually benefit quite a bit from having such access.

Arun Shastri:

So data-driven decision-making at work, so to speak, and here's the proof.

Pradeep Chintagunta:

Our idea was to essentially make this accessible to businesses that typically don't have such kind of access.

Arun Shastri:

You've been studying consumer behavior for many years, Pradeep. And as you reflect back through your academic career, on what dimensions do you think consumer behavior has evolved? Let's say focus on the last decade, in what ways do you think consumer behavior has evolved over the last decade?

Pradeep Chintagunta:

Yeah, so that's a very interesting question. And having to reflect back on 30 years is not always easy. But I must say, by far, the biggest evolution that I think I have observed, is that people have, and consumers are generally evolved from being passive consumers of firms' actions to becoming more actively engaged in facilitating the firm's actions. Let me try and explain that a little bit. So one can think of this perhaps most easily in the context of the four Ps of marketing that we're all familiar with, which is the product, price, promotion and place, or channels.

So let's focus for the time being on the product or service. There was a time that one had to choose, for example, while driving in our cars, from a small menu of radio stations that were available on the FM on the AM band. And essentially, whatever was being offered, we had to make a choice. And then we would go off listening to these songs. Today, Spotify can create a customized radio station based on the songs that you typically listen to. And as your tastes change, the offerings can change accordingly, as well. So the company is able to keep up. And the reason why the company is able to keep up with this changing pace is because consumers by virtue of being on the service, end up sharing the data on their preferences with Spotify. So it is this exchange of information in one direction. And then the customization or the personalization on the other side, which I think is really one of the big features in how consumer behavior has evolved.

I mean, I can sort of give more examples about this. But one other dimension, and then perhaps, you know, if you want to talk a little bit more, we can talk about it. One other dimension, that I think things have changed quite a bit in is in the aspect of providing real-time feedback to companies that has significantly empowered consumers. So in the old days, you had to look at the packaging of a product and hunt for the 1-800 number to then call up the company to try and complain to them about some problem you might have with the product.

And that was a somewhat onerous process and so consumers were not very willing or likely to do that. Today, however, all the consumer has to do is to send out a tweet. And that will basically elicit an expeditious response from the company because the company is very eager to avoid any public fallout from an unhappy customer. So I think both these things where I think the firm and the consumer are now jointly creating what the consumer eventually ends up consuming. And then the ability of the consumer to actually make his or her displeasure felt to the company. I think these are perhaps the two big dimensions that we have seen an evolution on.

Arun Shastri:

Pradeep, just to add to that point that you are reflecting. This idea of making personalized recommendations or customized recommendations for you as an individual customer, and then giving you an opportunity to react and tell me, did you like it? Did you not like it? Thumbs up? Thumbs down? That's another very quick way of you being able to give me feedback. And I suppose that's also something that you're mentioning in your comments.

Pradeep Chintagunta:

Absolutely. I think the ability to then take that information and think of ways in which perhaps you can either improve your product, or perhaps think of your other customers who might not have such a problem with your product. These are all things that I think that firms can do. And you see this in many other contexts, as well. You have seen this in the context of messaging or promotions. I mean, we are all familiar with what happened with Cambridge Analytica and the Trump campaign in 2016, where the idea was to somehow use the information from these consumers to try and tailor not just who you actually target, but the kind of information you provide in the ads that you target to different people. And so I think there are many, many different contexts within which you see this interplay between the firm and the consumer.

Arun Shastri:

Let me tackle one other aspect of this notion of customization and meeting the customer where they are. You know, we've talked to several executives on this podcast from Walmart, Citi, sweetgreen. And one common theme that kept coming up is this whole idea of rewiring their business to meet the customers where they are. So it could be I'm going to deliver to your home or your office, if you are food and beverage. It could be that you purchase something online and you pick it up in-store. In whatever ways, people at these businesses are reorganizing. Any hints that you saw, even before the pandemic, that this is something that was shaping up to happen? And where do we go from here?

Pradeep Chintagunta:

In my mind, I think the main job of the marketer is to try and ensure that the customers that the marketer has does not have to make a compromise when using their product or service. So breaking the compromise, I think is a big role of the marketer. So let's think about this. Let's think about this in the context of, say, grocery products.

Let's say you run out of detergent. You can either buy a bottle or package of Tide. Now you can either buy that at your local convenience store or drugstore, which is right next door. Or you can drive 10 miles to a Walmart to buy the same product. Now what is the trade-off that you're forcing the customer to make in this case? If you want to save time, then you're better off going to the convenience store or the drugstore. Because that way, you don't have to drive the 10 miles, you can just go next door. But the compromise you make as a result of that is that you might have to pay a higher price. Whereas the trade-off with going to Walmart is that you might be able to get a lower price, but then you will have to travel 10 miles.

Now, what companies like Amazon have taught the consumer is that you don't have to make that compromise—that you could potentially get the product at a lower price. And it's also delivered conveniently to your house. You don't have to wait until next week. The product will actually show up the next day. So as long as you're willing to make that short-term trade-off, you're able to get the product with both the convenience as well as the low price. And this notion of breaking compromises, I think, is sort of central to a lot of things that marketers are constantly thinking about.

Pradeep Chintagunta:

Another example that I really like—and this was a case I used to teach several years ago—is in the context of pizza. I mean, most of us, we love pizza. The thing, of course, is that you could in the old days, you could either order piping hot pizza, which is delivered to your home. The pizza tasted great, but if you lived far away from the pizzeria, it was less convenient because you had to wait till the pizza actually got delivered. The alternative was that you could buy frozen pizza. Frozen pizza was very convenient because it is always in your refrigerator. But the downside is that the product often tasted like the cardboard in which it was packaged. And so the kind of compromise that the customer had to make was either the great taste or the convenience.

Now, along comes a company like DiGiorno. And what DiGiorno essentially did was they said, "Look, we're going to try to break that compromise, where we'll give you a great tasting pizza but that is also convenient." And so, my sense going forward, in terms of thinking about where we might be going, is that the marketers are better able to identify compromises that consumers are making when they are buying their products or services and looking for ways to break this compromise. Those are the marketers which I think will be much more successful than those that force consumers to constantly be making a compromise. At least that's my general takeaway on this particular idea.

Gopi Vikranth:

That's, that's very interesting, Pradeep. When the pandemic hit, we saw industries scramble to establish direct channels with the customer. It could be sneakers, it could be apparel. In most cases, these were in addition to whatever they were doing as a traditional retailer-based distribution. How do you see this trend evolve with firms and consumers? And, maybe as a counterpoint, what happens if the firms don't do this? What happens to the firms who don't do this particular direct-to-consumer relationship?

Pradeep Chintagunta:

Yeah, that's an excellent question. I think the way, at least, I try to consider this issue is to try and distinguish between the two imperatives that drive the need for direct connection with the customer. The first is the need for what I would call transaction access, which is the ability to transact with the customer. And the second is the need for data and insights into behavior. These, to me, are the two main imperatives.

With the pandemic, these two drivers got somewhat conflated, right? Take the example of, say luxury goods players. These folks, prior to the pandemic, had their own exclusive showrooms under their own brand. If you were a company like Coach, you had close to 1,000 stores, and each of these stores represented a contact point for you both to transact with the customer, as well as to get a better understanding of what the customer wanted. What the pandemic did is that it cut off this access to the stores, so the customers couldn't go into the stores anymore. The motivation for these players to go direct, especially via the online channel, was the immediate imperative of trying to facilitate the access— provide a channel by which the customer could now transact with the company. Because without that, they were not going to get any sales.

But I think the other motivation, which is also really critical to keep in mind, especially when we think about moving beyond the pandemic, is this need to develop a direct relationship with the customer so as to better understand the customer. And then draw insights from the data that you get from the customer that you can you can leverage via this direct connection.

Pradeep Chintagunta:

The other benefit, obviously, to the firm from doing something like this is that they don't have to depend upon the intermediary to get the data. Because oftentimes, a lot of companies have to depend upon intermediate market research firms to gather that information. My sense is that, even after the pandemic or in the absence of the pandemic, the imperative for data and insight and useful information will persist. Firms who are interested in continuing this flow of information, they will continue to try and go direct to the consumer. Even if they're not interested in the transactional part of the channel, I think it's important to have this direct connection to ensure that the information aspect of the channel is still preserved.

So if we think about, again, my example of Tide detergent, P&G may not necessarily want to sell directly to consumers their detergent products—although I think through some of the newer technologies, they are trying to do that. But nevertheless, they need to have that direct connection with the consumer. So this could be either in the form of the Tide laundromats that they now have, which are offline stores where you can actually go do your laundry, by which they can actually gather a lot of information about the fabric and needs of consumers. Or other things, other properties like that P&G has, for example, I think they have this website called "BeingGirl," which is dedicated mainly to the young girls so they could engage and learn about various aspects that that young girls and young women go through.

And by that same idea, P&G can learn about demand, for example, for products like Always and Tampax and things like that. And so having these direct connections provides the insight aspect. But I think the pandemic also provided this transaction aspect.

Pradeep Chintagunta:

There is one other reason which I think companies have to think about this direct connection with consumers more. And that is coming about because of online advertising and privacy. I think these two are very important things to keep in mind. For example, if you follow the moves of companies like Google and Apple toward being more privacy conscious and doing away with advertising associated with third-party cookie tracking, now the advertiser has to depend on things that are more like like-minded consumer pools that Google has been talking about. Or they have to be able to generate first-party data, which is data that are actually being generated on their website. And for that, having this ability to form this direct connection and get insights from the consumer behavior, I think is going to be going to be important. So those to me, perhaps, are some of the drivers of this need for the direct connection between the consumer and the firm.

Gopi Vikranth:

Yeah, yeah. So switching gears a little bit, Pradeep. When we look at APAC markets like India and China, we see that they're largely mobile and digital markets now. And businesses are forging relationships with consumers in ways that are fundamentally different than how they go direct in the U.S. For example, let's take social commerce, which is completely different in how it's operating in some of these markets. Do you see any early indications from your research on how social commerce or other digital commerce activities can change consumer behavior in the U.S.? And are there any examples that you have recently seen?

Pradeep Chintagunta:

Let me talk more generally about social commerce. I have done some work on sites like TaoBao, which I can talk about, although they may not be centrally related to this issue. But let me first talk a little bit about social commerce. Obviously, social commerce has many different definitions. If we tried to look up the meaning of social commerce, you're going to get a ton of different definitions. But you can think about social commerce in perhaps a more narrow way as the subset of electronic commerce that involves using

some social media to assist in the online buying and selling of products and services. That's one way in which you might want to think about social commerce, which is that it is the intersection of social media and e-commerce.

And essentially, what you're doing is that you're leveraging these social interactions as a way perhaps of engendering and furthering the objective of the firm, which is the commerce aspect of it. That's sort of the broad way that I like to think about social commerce.

Now, the interesting thing is in APAC countries, specifically countries like China and India as well, it turns out that social media platforms are much more multifunctional than they are in the U.S. If you think about the most popular e-commerce platforms in China, they tend to be very heavily integrated with the most popular social networks. In effect, what we have are apps within apps. In other words, you have an app to buy products within your social media app. And I think this integration simplifies the entire e-commerce process, making it much easier for consumers to purchase products and interact directly with the brands. I think this has basically caused this big increase in social commerce in countries like China, and I think it accounts for some significant chunk now—maybe 12% or 13% of all e-commerce in China happens to be in the domain of social commerce.

Pradeep Chintagunta:

Closer to the U.S., I think Instagram has a checkout feature that allows you now to sell select products from the shoppable posts that get created on Instagram. And so they can now make their purchases without leaving the app. However, I think most observers view this as being not at the same level of integration perhaps as it is with various sites that are available in China.

And I think also during the pandemic, Facebook set up something called Facebook Shops, which allows businesses to open storefronts for free on the Facebook site. The important thing you want to draw from all this is, why is this happening? We see this happen as a phenomenon. But why is this thing happening in the first place? And I think the answer to this is to look at what I would call the customer journey. And the customer journey is a fairly well-known concept. But if you look at the customer journey today, it usually makes a social media stop in the course of the customer journey. The increasing intersection between the customer journey and the social network means that when you integrate these two, in the words of my answer to the previous statement, you're breaking a compromise that you don't have to leave, say, the social media app to do your shopping, or to leave the shopping app to go onto social media. And again, I think what companies are trying to do is that they're trying to leverage this idea that these two are much closer together. And social media being part of the customer journey today means that you need to take that into account.

Pradeep Chintagunta:

But the one dimension though, which I think perhaps we don't talk as much when we talk about social commerce, is to think about the B2B aspect of this. And specifically, I'm thinking about a site like LinkedIn and B2B sales, because LinkedIn can actually be a very useful platform for generating leads and promoting B2B business. Today, it perhaps generates more leads than companies like Facebook or Twitter or maybe even the corporate blogs. The fact that LinkedIn has such global scale and it taps into the B2B world, I think, is really a very useful thing to think about going forward in potentially the role of social commerce in this broad arena of e-commerce.

To me, I think if one is paying attention, it would be to the B2B side besides just the B2C side.

Gopi Vikranth:

Right. So, Pradeep, another theme that we heard from United Airlines, Walmart and others is their focus on personalization. What do consumers look for in personalization today? What's going right, and what's not working, according to you, as companies try to do this?

Pradeep Chintagunta:

Clearly, this is something that I think companies have recognized. It's not that they haven't recognized it in the past, but I think they're increasingly recognizing it now. Because I think of the availability of the tools and the technologies that help them to do that. The companies that perhaps tend to be more successful here are those that I think have a better understanding of the entire customer journey.

If you think about what a lot of organizations end up doing, they tend to divvy up the customer journey under different areas within the organization. So, one part of the organization doesn't necessarily look at the entire customer journey. Perhaps someone's focused on the booking aspect of the travel journey, and someone else is focused on what happens as a consequence of the actual travel—what is the satisfaction with the travel, etc.

Companies that start thinking of this as one single customer journey are perhaps more likely to be successful than those that are not. You take the example, again, of a flyer's customer journey with an airline: The journey usually begins by recognizing the need for travel, and it ends perhaps with post-travel advocacy, or potential booking of subsequent flights, etc. That would be the customer journey. What I would think the airline should be doing is essentially understanding and responding to each stage, but sharing the information across these different stages, rather than doing them separately or step by step. Because by doing that, sometimes you might miss the bigger picture that might be actually driving the behavior of the consumer.

So, I would say personalization is great. But personalization, which essentially breaks up the customer journey is perhaps not such a great idea. I think the extreme of personalization is that you have to be careful that it doesn't get too creepy for the customer. You know, an extreme level of personalization could basically end up creeping out the customer. An example of that is the whole retargeting that you see happen online, right? You see a pair of shoes on Zappos or Amazon, then you go to other websites, and then you see these pair of shoes following you. Right, and they just don't give up, they keep following you till perhaps you basically shut down your browser or you succumb and buy the shoes.

Pradeep Chintagunta:

Now, some people I think might enjoy being chased around by a pair of shoes, but others might find it totally creepy. I think when you're thinking about personalization, you have to be careful as an organization not to overstep your bounds—not to get to the point where you end up creeping out the customer.

Arun Shastri:

So, Pradeep, I was just reflecting on your comment about breaking up the journey. You know, this is, from my experience, fairly true in the B2B world. If you're a large enterprise calling on small and medium businesses, if you break up the journey as you go generate the leads, somebody else calls on the leads to try to qualify them, somebody else converts the leads, somebody else notices the relationships, somebody else, somebody else, somebody else. And you always leave inefficiencies. And that's where conflicts arise, too, and accountability issues arise. We are increasingly seeing firms think of these concepts like demand centers—neither sales or marketing. It's sort of like bringing sales expertise with a marketing mindset, somehow bringing these things together. As you were talking about that customer and

how, you don't break up the journey—you think of this as one seamless thing. I couldn't help but think of that parallel in the in the B2B world.

Pradeep Chintagunta:

Absolutely. I think internal conflict within companies, I think it's something that you definitely want to minimize, right? That's not something that is ever good for the organization. And I think describing it the way that you just described, I think is really is going to be a very important thing for firms to be cognizant about as they move forward with some personalization, at least.

Gopi Vikranth:

So Pradeep, just to double click on that thought. So what happens to the firms who don't invest in building the direct-to-consumer relationship? Or think through this as a unified journey and personalized? What's the downside of this?

Pradeep Chintagunta:

I think one of the challenges that people are going to face, especially the firms involved in these businesses, is the fact that if someone else is doing a better job of this and you're not. There's got to be this whole competitive landscape, which I think you should be very cognizant about. Now, why do you have to worry about the competitor? You have to worry about the competitor because you're really not taking into account what it is that this particular customer group is looking for, and maybe your competitor is doing a better job. So I think it gets tied in both to the fact that you're going to have customers who are perhaps not going to be as happy as they could have been. You're going to have competitors are probably going to be happy. And all of this is going to essentially end up with the company's metrics, its bottom line, perhaps not looking as good.

It's important for firms to essentially keep focusing on this element of personalization, while at the same time making sure that they don't violate privacy.

And I think the other reason why this is going to be increasingly important is also the fact that a lot of the mass media that companies typically sort of fell back on, like television advertising and the like, increasingly that's becoming an issue. Because first of all, on the one hand, they're becoming more expensive. But on the other hand, trying to pitch something to the average consumer is not going to work as successfully as trying to make sure that each consumer gets what he or she is looking for. I think both this inability to use the traditional tools one had available, as well as the fact that the way the consumers are thinking has evolved as we talked about earlier, as well as the firms getting savvier and your competitors getting savvier—all of these things suggest that it's going to be important for firms to do it. And if you don't, then potentially you're going to pay the price in the marketplace.

Arun Shastri:

Advertising—we've talked about advertising. We've touched on it on a couple occasions. Let me come back to that. One of the things we heard from Walmart is that they have a quest to, in fact, personalize and make relevant the ads that they deliver to you on Walmart.com. What are some insights from that you can give us or share with our audience on how consumer brands are changing advertising? And what does this mean, for the advertising industry overall—not just creepy shoes following you everywhere, but things coming to life for you on Walmart.com. Are we looking at some big shifts to come in the industry in the next few years?

Pradeep Chintagunta:

I think there are obviously many, many forces at play here. In the past, your TV advertising has played a very, very important role in the marketing mix, especially for packaged goods companies. But that model with the primacy of TV advertising, I think, is increasingly coming under pressure. I don't know whether you've seen this, but there's a recent paper by two of my colleagues, Brad Shapiro and Gunter Hitsch, along with Anna Tuchman from Kellogg, where they looked at hundreds of brands and tried to measure the television advertising elasticities for these brands. And what they found was that these ad elasticities were actually much smaller than what had previously been measured. So this, I think, for the advertising industry is a very sobering finding. And I think this also stands somewhat in contrast with what people are seeing and finding online. There, you see the smallest separation between exposure to advertising and the actual action that might happen online.

And so I think marketers are increasingly under the belief that you just have this better ability to measure these artifacts. And as a consequence, I think they have moved budgets in that direction. But CPG brands, I think, still have to make the trade-off between mass media and mass exposure on TV, because for things like awareness at the top of the funnel, those things are still going to be important. Whereas as you keep going further and further down the funnel, I think this is where some of these other ways of communicating with the customer is going to become more important. The challenge for the marketer then, is things like attribution and measurement, because with all these multiple touchpoints, it's becoming more and more difficult to say, attribute a given action to either the fact that they became aware due to advertising or because they saw the coupon just before they made a purchase. And I think that is going to be the challenge

Now, where Walmart can actually play, I think, a fairly big and a significant role is that it has the benefit of both online as well as offline presence, largely because I think it's got say, 10,000 stores or more. And so they have the ability to track purchase behavior, both in the online context as well as in the offline context. And they clearly also can look at the offline exposures, or sorry, the online exposure that these consumers are getting prior to purchase. If they can strategically leverage this dual exposure to online and offline advertising, and the dual purchase online and offline, I think they're going to become an increasingly important platform for CPG players to be present on.

And obviously, a lot depends upon how well they can harness all these data. Because they're still way behind Amazon. I think Amazon's advertising business is an order of magnitude, maybe $12–$13 billion. I think Walmart is perhaps closer to a billion dollars. I think they still have a long way to go. But I think they have the potential of harnessing this. So this combination of dual exposure and dual purchase online and offline, I think is where perhaps Walmart and companies like that are going to play a bigger role. And I think CPG companies are going to benefit as a consequence of the data and information they can get through the platforms like Walmart Media Group and such.

Gopi Vikranth:

Pradeep, you have been studying consumer behavior for the last 25 years. If you were to flash forward and imagine the consumer industry five years from now. And let's say there are no constraints on technology and data. What are your top three predictions about how customer experience and personalization will change?

Pradeep Chintagunta:

Yeah, I can talk a little bit about what will likely happen on the firm side. I mean, to try and predict what consumers will do? That's the multibillion-dollar question. So perhaps we look at one side of the equation, and then try and project what might happen on the other side? This is, I think, a tough question, but an important question.

One thing I think we can be sure of is that there's going to be this continued churn in the landscape. On the one hand, on one side, the data are becoming more abundant. And technologies are becoming more sophisticated to do things like personalization. But on the other side, I think there's an increasing concern about issues like privacy. And so unless there are some specific global standards around this, that everyone can coalesce around, I think consumers and firms might have to make some tough decisions going forward as firms try and figure out how much they're going to leverage the data and customers how much they're going to—I'm not sure if I'm using the word correctly—but patronize firms that actually use this information. I think this is going to be an issue that both firms, as well as consumers, are going to face.

I think the second and perhaps more important issue for marketers is about how they're going to be able to leverage big data in conjunction with small data. And this small data can be things like surveys, ethnographic research, etc. And by doing this jointly, what I hope they can develop are what I call smart data platforms.

Pradeep Chintagunta:

Let me give you an example. The insight that the soda that we are selling is too heavy to carry out in, say, a 24-pack crate when it's packaged in glass bottles, that can only be obtained if you're sitting in the store and observing the consumer trying to lift the crate of 24 bottles of soda. I don't think any observational data will help you with that kind of an insight. And we know that Pepsi actually benefited from an insight like that, where they had an executive in the store, observing a customer trying to lift a very heavy crate of glass bottles, and then realized that one of the things limiting the amount of soda being bought was simply the weight of the soda. And so by reducing the weight, you're now going to increase the sales of your product. And I think the ability to combine that kind of insight, which I refer to as small data, along with the large databases of observational information that they are getting, I think companies that are able to do that—I'm really looking forward to how they're going to be able to leverage this to better meet the needs of customers at the end.

Pradeep Chintagunta:

I think my third prediction on this is more of a hope, really. I hope that technology and data can and will address bigger problems that society faces today—poverty, hunger, inequality, healthcare, etc. Ultimately unless all of us prosper, none of us really does.

But I'm hopeful that as these techniques get better and better, and we are able to able to personalize and meet the needs of consumers, we will be able to meet the needs of all types of consumers. And through that, we will all prosper. So that's my hope. I'm not sure whether it necessarily answers your question. But those are some thoughts that I had on that.

Gopi Vikranth:

Thanks, Pradeep. Just to summarize for the audience, some other key themes that came out today is real-time feedback from customers and the need for firms to react to it is driving a lot of change in how consumers and businesses are interacting. This notion of breaking compromises about how customers are buying or purchasing different items, that is pushing businesses to make sure that customers are not having a trade-off to make the purchase at one location versus a different location and that's pushing them to make sure that their services are available wherever the customer wants them.

And also, this concept of a connected and unified journey, versus siloed journeys that enterprises used to have previously is also going to play a big role. And that's where personalization and personalized advertising across different platforms is also coming up. And some of your predictions around the leveraging of both big data and small data and triangulating specific customer-level insights to offer up new products and services. That's also going to be key as consumer behavior changes and evolves as

we look into the next few years. Is this a good summary of the different things that we touched upon today?

Pradeep Chintagunta:

Absolutely. It sounds much better coming from you that it comes from me.

Arun Shastri:

Well, Pradeep, thank you so much. Every conversation with you is enlightening and this was no different. Thank you so much for taking time to share your wisdom and insights with our audience and really appreciate it.

Pradeep Chintagunta:

Not at all. Anytime. You're most welcome.