Episode 34: Instacart's Take on Online Grocery: Is the US at a Tipping Point?

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Speaker 1: Please listen carefully.

Keith Anderson: Hello, and welcome to another episode of The Profitero Podcast. I'm Keith Anderson, Head of Strategy and Insight for Profitero. It's been a little while, but I'm really excited to be back with just an incredible conversation with Nilam Ganenthiran of Instacart. Instacart, as you know, is the leading online grocery platform in the US, a venture backed company that works with dozens of grocery partners to offer local delivery and click and collect grocery. Nilam and I get into all kinds of interesting topics about the state of online grocery in the US and how that compares to other markets, some of the economic realities and challenges of online grocery overall, and the distinctions between delivery and click and collect, some of the leading practices from the retailer point of view, from the supplier point of view, what's on the horizon. It's just a rich and really detailed conversation. I learned a lot, as I always do when I speak with Nilam, and I'm certain you will too.

We always invite you to share your feedback on these episodes, what you want to hear more of or less of. You can always reach us at Insights@Profitero.com. We also would love it, if you're enjoying the series, to leave us a rating or review over on iTunes or wherever you discover podcasts. Just as on Amazon, it helps people find us and it's the very best compliment you can pay. Without any further ado, let's introduce Nilam Ganenthiran of Instacart.

Well, I'm joined today by Nilam Ganenthiran of Instacart. Nilam, thanks so much for joining us.

Nilam Ganenthiran: Thanks for having me, Keith. Very excited to be chatting with you today.

Keith Anderson: Me too. You and I catch up at all kinds of industry events. It's always an interesting discussion, so I'm glad we can finally record some of what we talk about and let people listen in.

Nilam Ganenthiran: Absolutely.

Keith Anderson: I imagine most of our audience knows of Instacart, but for those that may not, would you mind just telling us a bit about you and your role at Instacart and what Instacart is for those that may not be familiar?

Nilam Ganenthiran: Yeah, absolutely, would be happy to. I'll start with what Instacart is. At the highest level, Instacart lets consumers go online or use an app and press a button and get the groceries they want from the retailers they love delivered to their house, same day, one hour, in 45 markets today across the United States. Digging a little bit deeper, Instacart basically is a marketplace where over 160 retailers today, grocery retailers across the country, we enable them to come online, offer their entire catalog online on Instacart to their customers. We facilitate the picking, packing, delivery, e-commerce, customer service, the end to end flow for them, all without any cap backs or incremental SGNA. Then, my role at Instacart, I'm our Chief Business Officer. My teams look after our relationships with our retailer partners, our CPG manufacturers, and our growth partners. I've been with the company just under four years now.

Keith Anderson: Awesome, what's a growth partner?

Nilam Ganenthiran: A growth partner is folks we work with to drive more users to the site, drive more awareness for Instacart, and just get the word out. An example would be our relationships with the various credit card processors, our relationships with AirBnB and VRBO and all of those types of companies.

Keith Anderson: I thought you were going to say I was a growth partner. Here we are raising the profile. I won't take it personally. I think from our point of view at Profitero, I've been following retail 15 years and e-commerce and online grocery specifically about 10 years. It feels very clearly to me that in the US we're at an inflection point. What do you think from a maturity point of view, where is online grocery in this country and how do you think it compares to markets many consider to be more mature, like France or the UK?

Nilam Ganenthiran: Great question, Keith. I think the best way to describe where we are in the US related to grocery e-commerce is I think we're still in the first inning, but we definitely are at a tipping point. I would say when Instacart started, when our founder and CEO, Apoorva, started the company in 2012 in San Francisco, it was the first at bat of grocery e-commerce, despite grocery e-commerce having existed for 12 to 15 years at that point. It was very much the first at bat. It was something that was very niche, very expensive, very focused on very large cities, but what we've seen happen over the last four to five years is a few dramatic shifts, some of which we've helped drive for the industry, but a lot of it has also been driven quite frankly by Amazon.

The dynamic shifts that we're seeing and why I think we're at a tipping point is first and foremost, grocery e-commerce is a top three strategic priority of every grocer in the country. I'm not talking just about the large kind of supermarket news top 75 grocers. I'm talking about even the local mom and pops. If you go and talk to them about what's important to them in 2017, e-commerce will be on the top three list that they say. I will tell you, Keith, when we started this journey, we were first met with chuckles from brick and mortar retailers related to grocery e-commerce and a lot of hey, didn't people try that 10 years ago and didn't it fail. Then we were met with that this will never work with my economics and my business model. Today, it's very different. It's very much how do we make it work. How do we reach our consumers who are clearly online? I think from a state of maturity perspective, US groceries, we're in the first inning. We've got a lot further to go relative to other categories, but also just relative to delivering on what the customer needs, no pun intended.

I would say in comparison to other markets, everyone talks about the UK being a highly developed grocery e-commerce market. That's true from a share perspective, but I think what's interesting is in the United States, the models that are developing and largely what we're trying to develop for the industry is something that's more economically sustainable than what has happened in the UK. We believe channel pricing strategy should be at the sole hands of the grocery retailer. We believe that in cases you don't need to erode margin to offer this to your customer.

Keith Anderson: Got it. Yeah, I totally agree with the maturity topic. There's so much contextually that's different today than five years ago or 15 years ago. I mean, I hear the same thing, although thankfully less often than I used to about didn't Webvan try this or what about Cozmo, which I basically lived on for a few years. I mean, there was no broadband access. Smartphones didn't exist. Digital native consumers weren't in their peak earning and consumption years. Maybe the biggest motivator, I think, is competition.

Nilam Ganenthiran: [crosstalk 00:08:19]

Keith Anderson: There certainly is demand from consumers, and some profiles more than others, but to your point about Amazon, I think Amazon set the bar for availability and experience in a handful of markets. That prompted a lot of brick and mortar retailers and other peer players to respond. With growing availability comes growing awareness and trial and ultimately a better experience for consumers, but there's no question almost every grocer we see, if they're not already in competition, they're trying to figure out how to compete.

Nilam Ganenthiran: I think one of the most interesting aspects of this journey, and frankly one that was very surprising to us at Instacart, if I were being completely candid, is the customer demand for a service like ours is not constrained to the big cities in the US. I think when we first started we thought this model was viable in maybe 10 US cities, then maybe 25. The year later we thought 50. Today, I mean last week, we launched cities like Evansville, Indiana and Rockford, Illinois, Brownsville, Texas. These were places that were not on our hit list when we started the company, let alone over the last three years, but I will tell you the customers there, sometimes even at a greater proportion on a kind of population adjusted basis, than the large urban metros. That has been a big surprise and almost a real eye opener for us at Instacart.

Keith Anderson: Well, you jumped right in on some of the topics that I know people are so interested in, one of which is I think economics of the model from the perspective of the operator, and I'd love to drill in a little bit on that discussion. You had some comments about some guiding principles for your retail partners. I think you're also hinting at the economic viability of this model in general and where it is viable and maybe where it's not viable. If you don't mind, why don't we drill in a bit on first some of those guard rails around where this is viable and what drives viability. Then we can talk a bit about the guiding principles for operators.

Nilam Ganenthiran: Yeah, that sounds great. I think first and foremost, the factors that drive, and I'm going to say broadly e-commerce, but I'm going to focus the discussion on delivery because the click and collect portion is going to be a subset of what I mention. The factors that drive the economics on same day grocery delivery are largely as follows. First and foremost, how long does it take for one of our shoppers, and we call them shoppers, they're the folks that complete the order for us, to pick an order in a store environment? The second big factor is how long it takes and how many orders they are able to complete and batch on the drive side, how many orders they're able to bring home to various customers' stores within a one hour period? Then, the final factor is on the technology end, operational overhead side, how many orders were able to amortize our cost over? Three factors, how long it takes to pick in store, how much we're able to batch and how long people are driving between store and home, and then finally how much volume there is to amortize the kind of fix cost over.

Let me dig into each to talk a little bit about it in more specificity. We at Instacart are obviously obsessed with all three. Our fundamental premise and why we're different than a lot of the folks who tried this before and why we're different than a grocery retailer who might try to build something themselves is we're able to drive intense localized density, because by working with multiple retailers within a geography. What does that mean? That means within a specific zip code in a city, we might have anywhere between two to 10 different grocers, depending on share and their store footprint, with whom we work with and with whom we are able to pull volume and kind of spread out those fixed costs. That has benefits on two sides.

It has benefits on the fixed overhead side because we're able to amortize our R&D and photography and all of this stuff, operational overhead, over a bigger volume base than any grocery can do themselves, but it also has a lot of benefits on the driving side because our drivers are able to pick up orders from multiple stores. We're able to batch more efficiently. We're able to make sure our drivers are paid a high hourly wage on any given hour because the lumpiness of the order profile for any one grocer gets spread out over multiple grocers so it's not a lumpy experience for a driver. It has huge benefits there.

Now on the picking side, there's less benefits there, but what we are able to do is develop deep relationships that will allow us to integrate with these 160 grocers I mentioned up front where we're working with them to not only understand what their inventory position is and what happens to be in stock on any given day, which as your listeners will know is no easy feat, but also able to work with them to reduce the time it takes our folks to pick in a store environment by doing things like developing aisle mapping so that our folks can know exactly where on the planogram the Double Stuffed Oreos are, developing ways to bypass the checkout lane because the checkout lane is anywhere between two to seven minutes on average in a grocery store depending on the day and depending on the store, developing ways for our folks to pick multiple orders using our proprietary technology at any given point, that way when they're walking down the soup aisle they're able to get Mrs. Smith's, Campbell's, and Mr. Thompson's, Progresso on the same walk down that aisle. All of this ends up saving seconds and minutes off of the total pick experience, and that drives the cost base down. Those are really the types of factors we look at to drive down picking cost, delivery cost, and spread our overhead over as big a volume base as possible.

Keith Anderson: Makes a ton of sense. Am I correct, as time has gone on, I'm thinking of my own local market here in Boston and Cambridge and what I've read about other markets, has the thinking evolved at all about whether you offer order picking in multiple stores in an area, within the same chain that is ...

Nilam Ganenthiran: Yep.

Keith Anderson: ... or whether you try to consolidate and batch the picking into a single store? I ask because I think a lot of traditional grocers that have invested in online grocery and fulfill orders from their stores struggle with that type of decision.

Nilam Ganenthiran: Yep.

Keith Anderson: What have you learned?

Nilam Ganenthiran: That's a great insight, Keith, because our learning on this topic has continuously evolved. I would say there isn't a blanket answer. Our data science team and our logistics engineering folks are constantly optimizing this, not at a network level, not at a city level, but frankly at, not even at a zip code level, but at a nine digit zip code level, at a pretty granular point. The answer will vary based on what the demand profile looks like in any given micro-geography. Let me dig a little bit deeper. In some cases where a city is less developed in terms of overall volume, it's actually better for us to have multiple pick points. If a store has, let me give you an example, in St. Louis, Schnucks has like 100 stores in the St. Louis MSA. When we started in St. Louis, and we do work with Schnucks along with Shop N Save, Whole Foods, Costco, Petco, and Straub's in St. Louis, when we started in St. Louis, we wanted to because the demand profile, we didn't know first of all where the demand was going to come from and two, would be thinner than later on obviously as we become more developed.

When we start, we want to have multiple pick points. We want to have multiple pick points so that we can reduce the drive time from store to customer's home because we don't know where the demand's coming from and at what time in the day, and we want to have multiple pick points because even if we consolidated, the volume wouldn't be enough to drive in-store batching efficiencies. That's when you start. As time goes on and as markets and micro-geographies come up to true scale, it makes a lot more sense for us to consolidate volume into a few stores, but what ends up happening is it's not consolidating volume into a few stores. We consolidate volume into a lot of stores because we're churning through a lot of sales for these retailers, anywhere between 2% and 15% of a store sales. Why does it economically make sense to consolidate at that point? At that point, we're able to predict where demand's going to come from. We're able to predict at what times of days demand's going to come from at a very precise level. Then we're able to have our folks batch picking, have our drivers show up and pick up not one or two orders, but five orders at a time when they show up at a store location.

The answer to your question unfortunately is not precise. It really just matters on the specific geography as well as the demand patterns in that geography at any given point in time.

Keith Anderson: If 2% to 15% of a given participating store's sales come from Instacart, two questions spring to mind. One is is there an upper bound beyond which you're actually starting to become disruptive? I look at the dark store phenomenon in Europe, which I think in part was a consequence of when we have uniformed order pickers racing through the aisles during peak customer traffic periods, we may be better served by repurposing locations that were originally zoned for customer use, but really are just going to be converted to essentially store sized fulfillment centers. Then the second question is, do you have a point of view, do you have any insight on what percentage of that volume is incremental? That is if a store had never pursued online grocery or partnered with Instacart, would that store's overall productivity be the same or are you expanding their store-level volume?

Nilam Ganenthiran: Yeah, both great questions. On the first one, Keith, is there an upper bound? There probably is, but that's something else that's been moving over time as we've learned to apply technology to be more efficient in the store environment. What do I mean there? First and foremost, we believe we want to get the most asset productivity as possible for our retailer partners so that they're not having to invest a lot of net new cap backs to offer e-commerce to customers. We actually think that the best advantage of brick and mortar retailer has against someone like Amazon is the large install base of stores, and not only a large install base of stores, but install base of stores with the exact merchandising profile that's relevant to that catchment area. Guess what? We're delivering to folks in that catchment area, both from a pricing and merchandising perspective, stores have figured it out. We're not merchants. They know the inventory that makes sense for that micro-geography.

We have been able to apply technology to keep bumping up that 15% market in terms of trying to be un-intrusive to the store environment. This includes things like technology that allows us to bypass the checkout lane, so scan and go. That means we're not clogging up the check out lanes. We've been able to size our footprint on the staging area, so places where orders are placed before our drivers come and pick them up. We've been able to get more out of any given fixed footprint of staging areas by using technology so that the pick happens just before ... because we know precisely how long it takes to pick 17 items at an H-E-B in Houston on a Saturday. Because we have that knowledge, we're able to use our algorithms so that the order is picked just before, in many cases as possible, just before the driver shows up. We reduce the amount of time it sits in the staging area, which means we can crank through a lot more orders out of a very small staging area.

It ends up being a pretty complicated math problem as you can imagine. There's a lot of factors there. You don't want to be late so your driver is hanging around and you're late to the customer. You don't want to be too early. It's actually pretty complicated. Is there an upper bound? There probably is, but we're constantly working with our retailer partners to get more out of their asset base and be as un-intrusive as possible. We don't yet know what that upper bound is, to be quite candid.

Then in terms of store productivity, what we're seeing is we are absolutely driving same store sales growth for our partners and incrementality. Incrementality comes in two ways. It can come from folks that otherwise would have been shopping from a store closer to their home and for whom delivery makes that grocery relevant ... some other ready to eat meal, we're keeping them in the grocery store. Does that make sense?

Keith Anderson: It does make sense. I may have lost your audio for a second on your second point about ... The first thing we heard you say was you might be relevant to a shopper that due to distance wouldn't have otherwise shopped with you.

Nilam Ganenthiran: Exactly.

Keith Anderson: What was the second point?

Nilam Ganenthiran: The second point was I was just saying we also are able to drive incrementality from customers and occasions when they otherwise would be ordering Chinese take out or ordering a pizza to be delivered. We're pulling back dollars that otherwise would be leaking to frankly fast food and fast casual.

Keith Anderson: Makes sense. You mentioned some principles and who should hold what decision rights for things like pricing to the shopper. Can you talk a bit more about some of those guard rails?

Nilam Ganenthiran: Yeah, absolutely, thank you for that. This is something we're actually quite passionate about at Instacart because one of the biggest knocks on us and one of the biggest fears that retailers first have when they think about a service like Instacart is is this going to be, am I going to get this intermediated and is this going to be what happened to Borders and Toys R Us, etc. in the late '90s. As a philosophy, we are building a company that does not want to be a retailer ourselves. We're building a company that wants to be a software and logistics layer to enable brick and mortar retailers to compete in an increasingly Amazon world.

What does that mean in terms of guiding principles on economics? The first guiding principle is merchandising is at the control of the retailer. We do not believe in models where we can go price up whatever we want on the retailer's products and we're jut offering a concierge service. Pricing with Instacart is in the sole discretion of our retailer partners. How it works is they sign a contract with us with clear economic rates. They price the product on the platform any way they want. They can apply micro-merchandising strategies down again to the zip code level or store level to basically have channel pricing strategies. Many apply a strategy of having the same price online as in store. Many others apply various things in between, in terms of honoring in store specials, in terms of pricing slightly higher than in store to cover our fees. There's a variety of strategies depending on what the retailer's own overarching channel strategy is. We think that's really important because we don't want to be merchants. We don't want to be the one setting price. We think that's a key guiding principle.

The second guiding principle we have is we want to enable our grocers to interact with their customers any way the customer wants to interact with them. I know we'll likely get into this later in the conversation, but what that means is we want to enable our grocers with e-commerce services that are not just same day delivery, but also things like click and collect that we're powering for more and more retailers every day, and we want to enable our retailers to interact with customers on their own front end. If you go to something like a delivery.publix.com or schnucksdelivers.com or delivery.wholefoodsmarket.com, those are all properties that Instacart powers on behalf of the grocer, allowing the grocer to have the same fantastic UI and technical capability that they have on the Instacart marketplace, but on their own domain. You'll see us doing more and more of that as well, Keith.

Keith Anderson: You mention click and collect. I think as an industry, there's a lot of wistful admiration of markets like France where click and collect is the dominant model. My thesis has always been it's the dominant model because delivery isn't widely available. I think, generally speaking, where delivery is available and affordable, with exceptions, I acknowledge entirely there are scenarios where a more precise pick up window or the burden of having to be at home for an intended delivery might lead one who can afford either option to select click and collect, but my general thesis is the retailers prefer click and collect more than the average online grocery shopper does. What is your point of view of where one or the other is more effective? Is the answer both? What do you make of some of the experimentation Amazon seems to be doing with their pick up model?

Nilam Ganenthiran: Yeah, this has been an area of, to be honest, fierce debate internally at Instacart. It's an area where our point of view has sharpened over time as we've developed more data from working with our partners on one service or the other or both. At a macro level, the answer is it depends. In general, what you're saying, Keith, is actually what we're seeing through in the data. Where a customer is able to have same day delivery or click and collect offered to them, the majority of customers are choosing same day, but there's a proportion, a non-significant portion, that will choose click and collect. It varies greatly by market.

What's interesting is market to market, this looks very different. There's parts of the country where driving is just more prevalent, where the ratio might not be 90:10, it might be 70:30 or 60:40 delivery: click and collect. Economics are a part of it, so obviously it's more expensive to pick and deliver something than just pick and stage something, so it's more expensive to the customer as a result, but we also think there's something around behavior. Click and collect is something that we've not been able to have work in any sort of dominant fashion in a city like San Francisco where not only is delivery so prevalent, but also people don't have cars and it isn't a driving culture to drive and pick something up. In more rural communities, obviously that ratio looks a little bit better for click and collect, but we think it's a mix.

Where it fits long term, I think you're right, Keith, I think the industry wants the answer to be ... I think the industry at one point wanted the answer to be just click and collect. I think today, the industry wants the answer to be both. That is actually what we think the right answer for the customer is, but only time will tell. I think the customer's expectations are actually changing by the month, by the week, by the hour here. As someone launches new services that are offering them a new level of convenience, they seem to be voting for that convenience. I think we'll all be learning as time goes.

Then on your question on Amazon, I think what they're offering is actually a natural extension and natural next step for them as they look to solve the $800 billion to trillion part of the retail landscape that they currently have not solved. That is groceries. I think they are taking a novel and thoughtful approach of basically trying a lot of different things and tailoring things for different markets. Prime now in some cases with groceries, Fresh as a core offering, and many others, click and collect in some places, and they're basically trying a lot of things. I think that's what the overall industry can learn, in my opinion, from Amazon is how nimble they are, how open to experimentation and how innovative they are. They'll try any way to offer something to the customer that's relevant. We have a high degree of respect for them. We believe it's important for us to be a way for brick and mortar retailers to be able to offer a lot of those capabilities and more to compete with Amazon quite frankly.

Keith Anderson: Competing with Amazon is obviously the perennial question in the industry. I think every retailer is asking can I out-Amazon Amazon and if I can't, do I build, buy, or partner? What's your point of view on how a retailer might navigate that decision? As you say, they all know they need to do something, but there are different paths to offering something. How should they think about the trade offs?

Nilam Ganenthiran: Yeah, really interesting question. I would say because this is such a strategic priority, every grocer of scale starts with the presumption that this is something they need to build and own in-house. That's the starting point of any conversation that we have. Then what ends up happening is either they go and try it themselves or they gain an appreciation for the benefits of partnership that causes them to re-look at that decision. Let me talk a little bit about what I think that means. I think from a capital perspective, any retailer that matters is able to throw a lot of capital at this problem to try to solve it themselves. It isn't about capital. What I think it is about is about culture and about capabilities and about focus, so culture, capabilities, focus.

What Instacart is able to deliver to our grocery partners is a culture that is anchored on technology driven innovation and consistent experimentation. If you think about why Amazon has been able to win in other categories, it's because they are the largest company that still operates like a start up. We are able to infuse our grocery partners with that culture by nature of working with us. We are still a start up. They're able to benefit from all of that, the experimentation, the innovation, the speed to market aspects that come from that.

Next, capabilities. What Instacart's able to deliver from a capabilities perspective because of the culture but also by nature of only focusing, and that's going to be my last point, on a few segments, is a greater set of capabilities than we think most, if not any grocery, can replicate around the key things that it takes to be successful in grocery e-commerce. Data science, logistics, store to home fulfillment, customer facing UI, personalization, all of these things take a lot of expertise that are very different than the expertise required to build and manage and operate physical grocery stores.

That's a segue to my last point, focus. We think the long term winning outcome to solve a problem, what I think is a truly existential threat that is Amazon, is for folks to focus on what they're really good at. This goes back to my earlier principles point. We think grocers are really good at running stores, are really good at marketing to customers, are really good at merchandising their items, figuring out exactly the assortment that makes sense for that catchment area, figuring out the right pricing by channel, by store, figuring out how to develop those deep customer relationships, and we think we're pretty good at the software and logistics side. The most expedient, most capital light, but also the long term winning outcome we think is for grocers to work with a best in class partner. I, obviously selfishly, believe that Instacart is the best in class partner on this. Those are the trade offs, Keith.

Keith Anderson: Very helpful. We've spent almost our entire conversation talking about the market from the retailer's point of view, but as you know, I think suppliers are increasingly mindful that Instacart is a force in online grocery. Yet, most suppliers, particularly large suppliers are optimized around engaging with retailers who directly buy inventory from them and jointly collaborate on marketing campaigns and supply chain efficiency and so many other aspects of joint business planning and operating, but there are certainly some commonalities to how they might think of a marketplace or a platform like Instacart, but obviously some distinctions. What can and what should a supplier in the industry be doing about or with Instacart?

Nilam Ganenthiran: This is a conversation that I've been having more and more of over the last, I would say, year to year and half. It's actually quite interesting. I would say this is by no means disparaging to any CPG company, but I would say I believe that CPG has been a little bit late to the party on this topic, even in relation to brick and mortar retailers. This is actually an area where I feel brick and mortar knew what was coming a little bit before CPG. I'll tell you why. I think the reason why is because CPGs have built these machines, these internal highly efficient, highly effective machines on how to work with retailers. The conversation I constantly have with CPGs is we don't know how to think about you. We don't ship cases to you, yet we know how many cases you influence us to ship to our brick and mortar customers. They've got machines, they've developed these teams and machines on how to deal with folks to whom they ship cases, but they're still very much figuring out how to work with folks like us who more powerfully than any existing influence platform, be it Facebook, Google, TV advertising, magazines, etc. are able to influence a purchased decision.

I think what am I seeing best in class CPGs do and what are kind of the broad implications, I think many CPGs are very much putting a lot of focus and putting some great horse power behind this problem and are moving quickly now on this topic. The best in class folks are we have JBPs with. You mentioned the concept of a JBP. We work very closely with a small handful of top tier CPGs to help us develop our product and our digital product to help them. These include things like last year we rolled out a click to clip coupon platform across Instacart. It's been a huge success in terms of driving return on ad spend for our CPGs, driving incremental sales and bigger baskets for our retailers, and driving value to our consumers.

We developed a stock up and save program, which is building bigger baskets for our retailers and building and driving pantry loading behavior for our CPGs and driving greater share of wallet for our CPGs. We developed best in class direct sampling platform where CPGs no longer need to trust that samples got out and are able to actually track post-sampling what percentage of folks are re-ordering and how sampling is affecting things like share change down at a customer level and a targeted basis. This is another area where we're just scratching the surface. We're working these leading partners and ourselves and our [inaudible 00:39:47] teams to develop a variety of other ways for CPGs to interact with customers on Instacart so that it's not intrusive to our customers. It remains as friction free as possible, but also allows CPGs to do things like drive impulse.

One of the big topics I talked about, I talked about actually with an executive at a large CPG this week was they said a lot of impulse goods, how do we drive impulse in a digital platform? I don't think anyone's really cracked that nut, but it's something that Instacart's working heavily on. Similar to the problem of how do we drive awareness of new items, that's another big topic in digital because the dynamic with customers with CPG products and digital is first and foremost they're buying less CPG products. They're indexing more towards fresh. Secondly, they're buying off the list. If they bought it before, once you get on that digital shopping list, it's hard to get off. Similarly, if you are not on that list and you're in a category with a competitor and if the competitor's on the list, it's hard to break in. CPGs are grappling with a lot of changing dynamics because it's not the store where the end cap can convince the customer to switch from one laundry detergent to the other. Digital doesn't function that way. It's an interesting time for CPGs.

Keith Anderson: No doubt, yeah, I think your comment about optimization around retailers to whom you're shipping cases is instructive. Some of the leading practices we see come from CPGs that are focusing more on that demand generation, prompting impulse purchases around planned purchases, maximizing findability or discoverability, whether through a pathway like general searches, so people who may be searching for a certain product benefit or attribute, positioning within the taxonomy. All those kinds of things are a top priority at the digital shelf. I think it makes a ton of sense based on what you've said.

Nilam Ganenthiran: Absolutely.

Keith Anderson: I sort of saved the wild cards for the end here, but it sounds like we agree we're at this inflection point where availability and awareness of online grocery just continues to grow exponentially, even in market profiles and geographies that I think historically many assumed couldn't sustain a model like this. On the horizon on both the demand chain and in the supply chain, I see a couple of emerging technologies that I think have the potential to change the demand profile among the shopper base and the operating model among retailers and marketplaces like Instacart.

I'm just curious to get your perspective on these and whether there are others we might be missing. The first on the demand side, you and I spoke about before we started recording. That's natural language or voice interfaces. I think I pretty openly was a cynic when I first heard of the Echo and Alexa and cynical in a sense that I thought it was going to be another sort of forced play to entrench households more deeply into Prime, but then I got one and I started using it. To your point about getting on the list makes it easy to stay on the list, in my household, we re-order the dog food and dog treats and diapers. It's as easy as saying I need more of it. I saw at the F8 Facebook conference this week, they're trying to let you post directly from your thoughts.

I told you this was wild cards, but it's pretty intriguing when you start to drill into the challenges and the limitations of the current paradigms for helping shoppers that either have a precise need or a vague desire for something, find, consider, select those products in a digital environment as opposed to a physical store environment. You see a lot of experimentation going on with VR, a little bit of experimentation going on with AR. I see more traction with voice interaction. I was not even contemplating directly accessing your thoughts until I saw this Facebook announcement this week. That's just the demand side. On the supply side, there's obviously a huge focus on automation, certainly inside the fulfillment center or distribution center and potentially in the store. I think we can agree labor is an asset, but it's also one of the key expense drivers. Then not so much for the click and collect model, but for delivery, fuel efficient vehicles and potentially autonomous vehicles, there's a lot of hype around air based drones, but I'm sure you've seen companies like Starship Technologies that are doing land based autonomous delivery of grocery products. I'm just curious from your point of view as you said sort of on the bleeding edge of online grocery on the demand side or the supply side, what do you think has the most potential?

Nilam Ganenthiran: Great question, Keith. I think bleeding edge is the right way to describe how it feels sometimes. I think the one thing that more broadly as we look out in the landscape that I think everyone can agree with is the pace of change of both the customer expectation as well as the industry's ability to meet that customer expectation has never been higher. If you think about the last 100 years in grocery in the United States, full service to self service, self service to kind of deep discount and hard discount and EDLP pricing strategies, that to where we are today, these were like 20 year leaps in each leap. What's happening now is the pace of each new leap is measured in years and single digit years, and quite frankly I think it's actually getting to the point where it's months before the customer starts expecting some of these things from where they get groceries.

On the demand side, look, I have no idea what the winning proposition is going to be. However, we as a company and I personally am quite bullish on, and this has also evolved over time it sounds like similar to you, are quite bullish on voice as an ordering platform, are quite bullish and really it's because once the customers sets that they can forget it, it's really easy to re-order, exactly the dynamic you said. We're quite bullish on augmented reality within the grocery store environment, not only to help customers but quite frankly to help our personal shoppers be able to do what they need to do more effectively.

On the supply side, I think automation is great. I think the labor as an asset versus labor as a cost dynamic, the grocery store is probably due for a revolution that has happened in kind of every other place. We feel that there's an opportunity to unleash more productivity out of the labor base within a store environment to do things like be nutritional consultants for what's for dinner that day, to do things like help a customer with a specific kind of medication or need state or dietary restriction, etc., as opposed to doing frankly some lower value added tasks. We think technology is going to help a lot with that at things like the check out lane, at things like kind of monitoring inventory levels and doing the stock counts every evening.

On the last mile portion, we're experimenting with everything. You mentioned folks like Marble and Starship on the ground piece and autonomous vehicles. I obviously can't comment about specific experiments that are going on, but we're experimenting with everyone because obviously it behooves us to learn and stay on the leading edge of innovation. I think broadly this topic just to ladder it up a little bit from these specifics, this is exactly why we believe that partnering makes a lot more sense for a brick and mortar retailer because this is our obsession. Our obsession is trying to watch what the technology landscape is going to look like, not next year but next month, and trying to get out in front of that and recruit the best folks in AR and the best folks who are able to develop voice systems to integrate with out apps, etc.

It's very hard for any individual grocer to be able to focus on that while also needing to do everything else that's necessary to drive the other 90% of their business, which is out of the brick and mortar store. That's why we think we're uniquely positioned. We do things like hackathons where our folks are let loose every quarter to go work, or even more frequently than every quarter, but let loose to go and build the stuff for us.

Keith Anderson: Go ahead. It's okay. You're more than welcome to comment.

Nilam Ganenthiran: I would say your list is very much stuff that we are working on both in a structured way through R&D pipeline, but also very much an unstructured way where our folks just want to go work on things like this and go do it with some of their flexible hours. This entire list is very much top of mind. I think, again not to take it back to Amazon, but to take it back to Amazon, this is why they win. It's constant experimentation with different models. This is why we think Instacart will enable brick and mortar to win, because by working with Instacart, they're getting the benefit of that constant experimentation. I don't know if voice is going to work, but by working with us you'll get an opportunity to get that shot on goal without having to build that capability yourself. The landscape is moving really fast. That's why we think technology leadership matters.

Keith Anderson: I agree. Nilam, this has been awesome as always. It's a fun conversation and I learn something every time. Thank you for joining us.

Nilam Ganenthiran: Likewise, Keith. It's a pleasure to chat with you and I look forward to catching up again soon. Thanks for your time.

Keith Anderson: Nilam, if people want to reach you, what's the best way to connect?

Nilam Ganenthiran: Yeap, Nilam@Instacart.com, N-I-L-A-M@Instacart.com.

Keith Anderson: Perfect, all right, thank you again for joining us.

Nilam Ganenthiran: Okay, take care, Keith.