>> TOM KANE: Good morning, everyone. Morning. Thank you very much for coming. My name is Tom Kane. I'm an attorney in the Division of Financial Practices at Federal Trade Commission. And before David Vladeck delivers his introductory remarks, I want to cover a few administrative topics. That's my job. First -- perhaps most important -- the bathrooms are across from the entrance to the conference center. Past the security desk and to the left, out there. Second, for those joining us via Webcast, if you want to submit a question, please e-mail ftcmobile@ftc.gov. And if you're on Twitter and tweeting about the workshop, please use the hashtag #FTCmobile. Finally, if you want to submit a question card, which are in your folders, anytime during a panel, just raise your card, and a member of the workshop team in the back... Where is our workshop team member who's collecting cards? Somebody back there will collect one. A member of the workshop team will collect it and pass it up to the moderator, so they'll try to work the question in. So now it's my pleasure to turn this over to the director of the FTC's Bureau of Consumer Protection, David Vladeck. David? [Applause]

>> DAVID VLADECK: Good morning, everyone. This must be the hard core. It's 8:30 on a rainy morning, and already we have most of the seats filled here. I'm the director of the FTC's Bureau of Consumer Protection. I want to welcome all of you, both here in Washington and those of you who are watching online, to our workshop, "Paper, Plastic...Mobile? An FTC Workshop on Mobile Payments." Now, for many years, the FTC has monitored payment systems. For example, prior workshops have examine consumer-protection issues associated with payments made via mobile phone, privacy and security issues associated with near-field communication technology, and disclosure issues in mobile commerce. But today we follow this tradition and take a big step forward. We have a great day of presentations and panel discussions lined up, and I'm sure we'll all learn a lot. For a long time, the way we paid for things was relatively simple. You paid cash, you wrote a check, and I still remember the days in which credit cards and debit cards were introduced. Now and again, someone might give you a gift certificate. But for the past few years, there's been a quiet buzz about a new way to pay. We keep hearing that people were using their phones -- their phones -- to pay for things in Europe in Japan. We heard that the widespread use in mobile payments in the United States was just around the corner. Sure enough, we started to see things

like a Starbucks app that allowed you to scan a code on your phone instead of pulling out cash or credit card. We also found that you could donate money to victims of natural disasters simply by sending a text message and having the donation amount added to your phone bill. But I think the real sign that mobile payments were on the way is the line of food trucks out on Massachusetts Avenue -- a great place to get lunch, by the way -- started taking credit cards through readers attached by mobile phones. Once again, entrepreneurs are leading the way with technology. So it's clear that the buzz that surrounded mobile payments is growing into a roar. In a Pew Research Center report released just last week, 65% of those surveyed believe that by 2020, most people will have embraced and fully adopted using mobile payments, eliminating the need for cash or credit cards. Indeed, we'll all be using mobile phones as our wallet. And analysts project that the volume of mobile payments will nearly triple in the next three years, rising from $240 billion in 2011 to $670 billion by 2015. Just around the corner. So mobile payments have arrived. They're here today. And today we will learn a lot more about the different types of mobile-payment technologies in the marketplace. But we will also think about how consumers are affected by the use of mobile payments and how they can protect themselves when they're using these new technologies. Now, given the enormous potential, it's no surprise that in the last few years, we've seen some of the country's biggest and best-known companies -- like Google, Intuit, AT&T, Verizon, T-Mobile, Visa, MasterCard, and mobile VeriFone -- joining the mobile parade. But in the great tradition of American ingenuity and creativity, we've also seen smaller start-ups -- like BOKU, Dwolla, and LevelUp -- vying for a seat at the table. I am pleased that representatives of all of these companies are here today to share their thoughts about mobile systems. We're also fortunate to have several leading academics, consumer advocates, and other mobile-payment experts here to contribute their knowledge. And last, but certainly not least, we want to welcome several of our friends from the international community here to share their perspectives about their countries' experience with mobile payments and what we may be able to learn from them. I want to thank our panelists for being here today. We've truly assembled an all-star team, and I'm sure we'll all benefit from their knowledge. So we will kick off today with an overview of the different mobile-payment technologies that are out there. And some of the benefits they provide, I think, are pretty damn cool. We're also intrigued by the notion that we won't need to remember to fish out those flimsy paper punch cards to get credit toward that 10th cup of coffee that Starbucks offered free. And given the hour, I'm sure we could all use an additional cup of coffee. Or that we can get coupons for things that we actually may want to buy, just by walking into a store. But like any new technology, consumers may not fully understand the implications of using mobile payments. For instance, what do I do if an unauthorized charge appears? How I know that identify thieves can't intercept my personal, sensitive information? What kind of data are companies collecting about me, and what are they doing with that data? Who is holding my money, and is it safe? Today we will explore these questions and many more. As that nation's foremost consumer-protection agency, the FTC is committed to staying ahead of the curve, to understand and identify issues that may arise in mobile payments before they become widespread. After all, nothing kills a good idea quicker than poor implementation. I hope that, after today, we will have a better idea of the best practices that those in the mobile-payment industry should adopt to ensure that consumers are protected when using these new technologies. Also, we're gonna take a look at what, if anything, government should do in this space to safeguard consumers. There's no doubt that all of us want to see that the promised benefits of mobile payments are actually achieved, and nobody wants to stifle information. But innovation cannot come at the expense of consumers. So I want to welcome you again to this conference. I want to get off the podium so we can get to our experts. But I do want to thank all of you for coming. I also want to take a moment to thank our mobile team, most of which is assembled in this first row over here, led by the peerless Patty Poss and some of the other folks from our Division of Financial Practices. They've done a terrific job in setting up this panel -- this set of panels -- and you'll hear from each of them today. Thank you very much. [Applause]

>> TOM KANE: Thank you, David. Next, we'll hear from Carol Coye Benson. Carol is a founding partner of Glenbrook Partners, a payments-industry strategy consulting firm. Her practice at Glenbrook focuses on mobile payments, consumer-payment behavior, bill payment, business-to-business payments. In addition to her work as a consultant, Carol is the partner in charge of Glenbrook's industry-education program, which provides executive training for professionals in the payment industry. We're delighted to have Carol here to set the stage for the rest of the day. She's going to explain the state of mobile payments today and some of the directions mobile payments are likely to take in the future. Welcome, Carol. [Applause] Have to switch the label here.

>> CAROL COYE BENSON: Okay.

>> TOM KANE: You are not David Vladeck.

>> CAROL COYE BENSON: Okay. Thanks. So, good morning. I'm delighted to be here today and looking forward to a full day of all things mobile payments. Those of us in the payments industry have been pretty much thinking and breathing mobile for the last three to five years. And we find ourselves today at an interesting point in time, where, really, the fruits of that work are starting to blossom, to mix my metaphors a little bit. And we're seeing really an astonishing array of different mobile-payment solutions of all types. And we'll talk about what some of those are in a minute. I know that I'm particularly interested in hearing from all the panelists but particularly the payment-solutions providers that are represented on the panels. And I think you'll see what an incredible diversity of offerings there are. Just as a note of disclaimer before I get started, Glenbrook is a payment-strategy consultancy, and so some of these firms are firms that we advise. But we really have no particular dog in this race, as the expression goes. Our goal is to provide people in the payments industry with insight into what's happening in the industry and what might happen in the future. Let me see if I got this right. So, isn't that a pretty landscape. People ask me to talk about the landscape of mobile payments and sort of thought that that's what it might look like. I'm afraid that the reality is a little bit more like this. It is really, really hard to see what's going to happen and how this stuff is gonna sort out over the next several years. And I don't have the answers to these. But, in a way, this is the flip side of that creativity and diversity that I mentioned earlier. A little bit of background on the payments industry. If you look back, say, 20 years, we've had a really well-organized industry. As David mentioned, there's a well-known set of -- there's cash, there's checks, there's credit cards, debit cards, prepaid cards. You know, the industry has not been without its problems. But, generally speaking, people have understood what these products are and how to use them and what they do. There's a fairly well-established regulatory environment around them. It's been a stable industry. And, I would argue -- and I'm sure some people would object to this -- but I'd argue we've had relatively little innovation in this industry. There have been pockets of innovation. On the online domain, PayPal and its competitors have done innovative things in bringing new payment solutions for e-commerce. But, you know, that's a small domain. Depending on what you count, definitely less than 10% of retail purchases. We've had some innovation in the prepaid-card arena, with specialized cards for one purpose or another. And we've had some limited success with the sort of tap-and-wave contactless-

card technology. But really not that much innovation. But when you look forward to the next 10 years, hang on. It's gonna be a bumpy ride. We're gonna see lots and lots of different kinds of payments offerings, and that's what I'll be describing to you. This is one way of looking at it. If this has been the payments world, this is what we're going to. So it's something that we have seen in many other consumer products -- this proliferation of choices. And so just keep that in mind as we go forward. I want to start by showing... I'm gonna show several videos. Most of them focus on the consumer-payments experience. And here's one. This is from a company Isis, which is a consortium of the three largest mobile carriers in the U.S. market offering a mobile-payment solution. It's being piloted this year.

>> MALE SPEAKER: How it works. So, you're ready to use your Isis mobile wallet. Here's how it works. First, make sure you are in an Isis-ready merchant. You'll recognize it by this icon. When you're ready to check out, open the wallet app and enter your PIN. You can select a payment card to use or skip this step to use your default card. Next, check to see if you have any offers from the merchant and activate those you'd like to use. Then, just tap your phone to the terminal, and your payment, loyalty info, and offers are all sent in a single transaction. You'll get a confirmation message after every tap, and a record will also be sent to your Isis Feed. That's it. Get out there and get shopping. [Music plays] [Music fades]

>> CAROL COYE BENSON: So, nice and simple, nice and straightforward, right? It seems like that would be. You can easily imagine that starting to happen. And this is an example, by the way, of what the industry calls NFC payments, and I'll define that and explain it a bit more in a few minutes. But until relatively recently, most people in the industry would have said, "That's what's gonna happen." But as we'll see, I think it's gonna be more complicated than that. Let me see how I... In truth, we're gonna have many different kinds of mobile-payment solutions hitting the market. What we just saw is one example. That'll be there. But there's gonna be multiple technologies, multiple business cases and business models. And that's an important point, because you have to ask, "Who is it that is offering the mobile-payment solution and why?" There's gonna be a lot of use cases. You know, in what situations will who use it to do what? Multiple providers. We are not talking about just banks here. And the good news in this array is, there's gonna be lots of consumer choice. And you know, I think that's a good thing, generally speaking. There's definitely

gonna be cool functionality that people are gonna respond to. And one thing I think is very important is, the phone is an information-rich device. So you're gonna have a device that, at the same time, allows the consumer to effect a payment in some way and is also a means to deliver to the consumer information about how to use that, who to call when something goes wrong, things like that. There's a lot to be said in favor of this world that we're sailing into. The downside is that, with complexity and with this proliferation of choices, there is gonna be confusion -- you know, confusion for everybody -- consumers, merchants, regulators, the whole ecosystem of payment. But we at Glenbrook see a lot of new payment companies. We hear about new payment ideas from established companies. And I've just been amazed at the different combinations of variables that are out there in the marketplace. So one way to look at it is, if you remember the old board game Clue, and say, "Let's play Payments Clue" -- you know, Mrs. Peacock in the library with a knife -- you can assemble these different parts of the payments equation. So, what are we talking about here? First of all, there are various options on the technology which is used to authenticate the phone to the terminal or other device that is accepting payment. The one that we just showed you used a technology called NFC. That stands for Near-Field Communication. Think of it as a communications technology like Bluetooth. It allows two devices to exchange information with each other. It is not a payment-specific technology. It is something that is not in very many phones at all today in the U.S. market, but people widely expect it to be part of new smartphones entering the market in the next several years. But there are other technologies. The bar codes, QR codes very popular. There's a bunch of variations on how that might work. There are systems where audio signals are being sent from the phone to another device. You can send a text message -- an SMS message -- from your phone to a device. And there are others. There are lots and lots of different technologies. They all have their pros and cons, their cost and risk variations in them. The next question is, when you're looking at a mobile-payment solution, where is it supposed to be used? Is it designed to be used at multiple merchants? Is it designed to be used just at a single merchant? Is it designed to be used at the point of sale? That means, a physical-world purchase, as opposed to an e-commerce online purchase. Is it designed to be used for remote purchases or for both? Or is it designed primarily to do person-to-person transfers and is somehow kind of leaking up to person-to-small-business transfers. So, we're seeing all sorts of combinations of that in the market. So, how does the money move? What is the underlying payment transaction that makes the money move? And we're seeing many different variations here. One is that you're having a card on file that, by the way, is something that's quite common today in the online domain. I would bet that most of you in the audience have a card on file at an airline or a rent-a-car or at amazon.com or iTunes or any number of places where you regularly buy. You may have a card on file with a mobile-payment provider in the same way. Or if may be your bank-account information on file for an ACH transaction. It may be a solution that's designed to allow you to put multiple cards into the wallet of the solution, and you're gonna choose one. Or there are a few companies out there that are saying, "Let's not use the conventional payment methods. Let's not ride the rails," which is what, again, the payments industry calls it. "Let's instead do direct transfers between participants in one way or another." So, lots of variations there. What kind of security is gonna be used for the consumer to identify themselves to the phone? Is there gonna be a PIN or a password or a biometric? Or is there not gonna be anything, and instead the fraud management will be behind the scenes? Now, this next one, you have to bear with me, and I'm gonna get all payments geeky for a minute. But this is a very, very important issue in the payments industry. Where is the payment data held? We all know that on a typical credit or debit card, payment data is held on the mag-stripe of that card. And if it's exposed or stolen, there are risks. So there is one model that says, "Let's take that data and put it on a special chip on the phone, called a secure element." And that secure element is like a vault with a key, and it'll be superduper safe on that secure element. So, that's one vision. Another vision says, "You know, why do that? Why not just have the phone point to a server somewhere and have that payment data held in the cloud?" And then, just to make it worse, there's a third variation, which says, "Well, no, let's have that payment data be on the phone but not on the secure element. Let's just have it be on the phone in an encrypted file that perhaps the consumer themselves could self-provision onto the phone." So, that's a big debate in the industry. David talked about coupons -- so, the whole issue of mobile commerce. How does the payments application relate to, if at all, coupons and offers and things like that? It's a tremendous amount of the industry energy right now, is on the coupons-and-offers direction. I would remind people that, right now, only 3% of Americans clip paper coupons. So you have to sort of say, "I don't know, how big is that world gonna be?" If you make it super easy for the consumer, maybe it's a lot. Maybe not. Are the devices location-aware? You know, is the payment service location-aware, is a piece of that. And then, finally, who gives you this mobile-payment product? Is it your bank, your current credit-card company, your mobile carrier? Is it a merchant who is giving it to your directly, or is it someone else -- a third party -- who has a payment solution that they're providing to you? So, as we go through some of the examples, you'll see that there are almost endless combinations of this. And if there's any entrepreneurs in the audience, you see a combination that has not yet been put together, maybe that's a business opportunity. But let's start with NFC payments. That's what we saw with that Isis video. And this was -- is? -- the expected and accepted way forward by industry incumbents -- major banks, card networks, card acquirers. They've been working on this for 15 years globally. There's been standards work between the telcos and the payment-card networks, detailed protocols on how it all works worked out, especially that critical bit of how you get that mag-stripe data physically onto the chip of the phone. And so lots and lots of global testing, commercial launches are really just starting around the world. One thing I've noticed -- there's been very favorable consumer response to this. And there are, in our market today, two major declared players -- Isis and Google Wallet -- both of whom are hoping that existing credit- and debit-card issuers will provision their cards onto the mobile wallets that they are offering. If you looked at our gameboard, you'd see that they're using NFC technology to use at multiple merchants at the point of sale, designed for multiple cards, with PIN security. This is the "secure element on the phone" approach. And by the way, it's the carrier who owns the key to that vault. They both have embedded coupons, and it's given to you by your bank and/or credit-card company, working with your mobile company. So, that's the vision. I'm gonna show you a short video on Google Wallet. And this video shows Google employees in a store, offering to help a consumer pay for part of their purchases if they'll test this out, which is always appealing, of course. But look at the consumer's reactions. [Music plays]

>> MALE SPEAKER #1: I'm here with Google Wallet today, and we'd like to help pay for your purchase.

>> MALE SPEAKER #2: Yeah.

>> MALE SPEAKER #1: All you have to do is just tap it right where the paypad is.

>> FEMALE SPEAKER #1: Wow.

>> MALE SPEAKER #1: Look at that.

>> FEMALE SPEAKER #2: You can do whatever you want. [Inaudible]

>> FEMALE SPEAKER #1: Thank you.

>> FEMALE SPEAKER #2: Yeah.

>> MALE SPEAKER #1: The best part about it is, it lets you put your credit cards on your phone and pay with your phone.

>> MALE SPEAKER #2: That's really cool. I love it.

>> MALE SPEAKER #1: Thank you. You just paid for it.

>> MALE SPEAKER #2: Oh, wow.

>> FEMALE SPEAKER #2: It's your last purchase -- $38.06 at the container store.

>> FEMALE SPEAKER #1: Oh, my gosh! It's so cool! [Music stops]

>> CAROL COYE BENSON: That last one in particular, I hear a lot of people in the industry saying, "I don't get it. You know, the cards work perfectly fine. There's no problem here. Why do we need all this new way to pay?" I say, "You know, it doesn't necessarily have to solve a problem if it's just very, very attractive." So it's something to keep in mind. So, as I said, this is the sort of expected way forward in the developed world, by the way. And when you look at these NFC-payment scenarios, there are a good news. They're a very cool user experience. You have these integrated coupons at purchase. And once it's all set up, it should work anywhere at any merchant that is also set up. Okay? So it has a lot of the benefits of the way you use a credit or debit card today. I mean, once we get there. There are significant challenges to this, though. It's an extremely complicated value chain. So, from a business-model point of view, there's a lot of mouths to feed, a lot of new companies involved in making this happen. It depends on new phones,

new business relationships, and new terminals, all of which can be complicated, expensive, and time-consuming to get into place. So, even though this had been... Again, about three years ago, everybody was saying it was just a question of time before this way the way of mobile payments happening, now what we're seeing is that it is not the only game in town, that there are a lot of other mobile-payment offerings out there that present different combinations on that gameboard. So, again, David mentioned Starbucks. I used it this morning when I bought my cup of coffee. This is an example of a single-merchant application. It's a prepaid card that you've enabled onto your phone -- downloaded a Starbucks app. And it displays a QR code that the merchant's scanner -- the same scanner that's scanning your package of madeleines or whatever you're buying -- can scan that QR code, and the prepaid card is decremented. And they have it set up with auto-top-off from a credit-card or bank-account information. So, frankly, from my point of view, it works just like a debit card, but it's very convenient. So, the chairman of Starbucks said that he thought they were the biggest single mobile-payments company in the world. Based on their volume, it's been extremely successful for them. Another player is LevelUp. And LevelUp, who's gonna be with us today, I understand, is also designed for multiple merchants. But, like many of these multiple-merchants plays I'll be talking about, they're gonna have to sign up individually each merchant to participate. And here you see, they're using bar codes also, but the idea is, the merchant also has a phone or an iPad, and so there's a device-to-device scan. And this is keeping a credit or debit card in the cloud, which is charged once the authentication happens. So, let's see their video here. [Music plays]

>> FEMALE SPEAKER: With LevelUp, I can just pay with my phone.

>> MALE SPEAKER: And save money whenever I do.

>> FEMALE SPEAKER: Plus, it rewards me whenever I come back. I simply scan my phone. [Tone plays]

>> MALE SPEAKER: And a couple seconds later, I get my digital receipt, which tells me how much I saved.

>> FEMALE SPEAKER: The more I come back, the closer I get to unlocking rewards. [Music stops]

>> CAROL COYE BENSON: So, you can see, a lot of these companies very heavily pushing the rewards element -- something that both consumers like and merchants like, from the loyalty aspect of it. Pay with Square -- we'll mention Square later on mobile-card acceptance. But here is a new product that Square has introduced, called Pay with Square. Also designed for multiple merchants. And here, there's an in-store alert to the merchant that a Pay with Square customer that they're dealt with has walked into the store. And a picture of the customer pops up on the merchant's iPad, so the merchant can say, "Hi, Carol, how are you?" Frankly, that would appeal to me. I love that part of it. And this... Well, sorry. Technology. [Light laughter] Aah. So, let's see their video here. [Music plays] [Horn honks]

>> MALE SPEAKER: Can you put in will?

>> FEMALE SPEAKER: You're all set. [Music stops]

>> CAROL COYE BENSON: You notice how all these videos are young, happy shoppers. [Laughter] I'm waiting to see the one with the, you know, cranky, old mom with a screaming toddler on her hip, because I think there's a use case there also. [Chuckles] But sometimes I think it's all the same actors. But, interesting, you saw the social-network connection there, so that's another interesting piece that several players are showing. We have BOKU with us today. BOKU recently announced a new product called BOKU Accounts. And this is a prepaid-account model with multiple funding methods. And they're looking to have it introduced to consumers by their mobile carriers -- sort of a white-label mobile-carrier product. And so they're gonna be talking to carriers around the world about that. An application that we're fond of citing... Do they have Chipotles in Washington? Yeah? I'm sorry. I'm showing a West Coast bias here. But this is typical of many restaurants, now have an ordering app. And so this app is all about getting your business, getting you to order, and configure what it is you want that you will then drive by and pick up. And the payment is simply a means of making that happen. So this is an example of that card-on-file concept that I talked about. And from one of our partners who's a big user of this --

and he says it works like a dream for him -- I'm sure it makes Chipotle happy, as well. Another amusing case is Tabbedout. This is designed for the bar industry to allow a consumer to open a tab at the bar and charge their drinks throughout the evening. And they have all sorts. This is an important point before I get to the funny point. The important point is, they're working on integration with the systems that bar owners use to run their bars. So they've done the back-end integration. Then, they have all kinds of features, like the ability of the bartender to close out the tab and get payment even if the consumer has wandered off and not been quite able to complete that transaction, with a tip calculator and all sorts of things like that. We have with us today Dwolla -- also a multiple-payment solution, designed for multiple merchants, but they're gonna have to sign each merchant up. And it's really modeled on an account-to-account transfer. This is one of the companies that is experimenting with an alternative to riding the existing credit-card and debit-card rails. So, take a look at their video. [Music plays] More happy consumers.

>> MALE SPEAKER: Remember when cash was king or paying by card was convenient? You know, the old days, when a misplaced wallet or checkbook meant you were financially stranded. Introducing Dwolla. Dwolla will find your location and pinpoint exactly where you can make a purchase without your wallet. To make a transaction, simply select the retailer, enter your PIN, enter the amount, and send money. Vendors receive payment in a flash, and you're on your way. The same Dwolla app lets you send and receive money using Facebook and Twitter. Let's say you owe someone for dinner. Find them on your friends or contact list and transfer funds to their account, and your friend gets a message letting them know the money's been sent. It's fast, it's easy. It's a new app by Dwolla. No hidden fees, no gimmicks, just a quick and easy way to send secure payments. The new way to use cash from Dwolla. Simplifying your life, one transaction at a time.

>> CAROL COYE BENSON: Again, not the social-network tie-in there. Too many devices here. The thing that really reverberated through the payments industry about six months ago was when it became clear that PayPal, the major player in online commerce, with an online wallet, with well over 100 million consumer users, was entering the point-of-sale market with what PayPal calls "in-store checkout." So, it's gonna be for multiple merchants, but, again, they're gonna have to sign up, merchant at a time. The payment is made to the same online digital wallet that you use for PayPal,

for buying things at the point of sale, with multiple funding options. And what's particularly interesting about this is they're basically authentication-neutral. Their lead customer, which is Home Depot, they're offering two ways of authenticating the consumer to the terminal. One is with a mag-stripe card that PayPal issues. This is a not a Visa or MasterCard. It's just an authentication card. Or what they call empty hands, which is simply entering your phone number and a PIN into the merchant's terminal. I did that at Home Depot in California. Piece of cake. Very, very easy. So it's interesting. They're always talked about as a mobile-payment application, but that actually isn't a mobile. But they've also indicated that, "Hey, when NFC technology is there in the market, of course we'll used NFC technology also." Not with that secure-element thing, because their digital wallet is in the cloud. But they're saying, "We don't care so much about the authentication." So a lot of established incumbents in the point-of-sale business looking very nervously at what's gonna happen with PayPal and how successful they'll be there. So, when we look particularly at the point of sale, this huge market, unlike the online, relatively small market. And we ask ourselves which of these kinds of payment solutions will succeed at the point of sale. These are some of the things that we think about at Glenbrook. What is the ease of consumer adoption? Consumers are getting very, very used to self-provisioning themselves on an instant to do whatever they want to do. So that's one factor. We also firmly believe that if you look at what has worked and not worked with consumer behavior, in payments, that convenience and financial rewards are the two biggest motivators of consumer-payments behavior. What are the merchant-participation requirements? How expensive is it? How difficult is it for the merchant to participate? What is the business case of the provider? How much money are they gonna make, either from the mobile-payment solution or, in the Chipotle case, by increasing orders in the underlying business? How attractive are these integrated offers gonna be? How large a market will they find? How attractive will they be to merchants? To what extent will "offer fatigue" play a role for both consumers and merchants? And what about consumer confidence and security? Consumers generally have a very high level of confidence in payment systems in the United States, and that's one of the reasons why we don't see that as being a primary determinant of their behaviors, because there's a lot of trust. We enter in complicated, new models. Will that change? When we at Glenbrook look at this, we say we think the odds are that there will be multiple solutions, that in the future, we're not gonna have this tidy, organized market. We're gonna have a proliferation of different payment types all being used. That's just at the point of sale. Just to make it worse, mobile payments aren't just about the point of sale. And I'll just quickly touch on some of the other use cases. One is when the phone is used to accept payment instead of making payment. So, I mentioned Square, which is one of the providers of this service. Intuit, who's here with us today, also has a product called GoPayment. That's just reading the mag-stripe of a conventional card in a little device that's plugged into the audio jack of the computer. I mean, of the phone. Excuse me. What did I say? [Music plays]

>> FEMALE SPEAKER: My husband and I started a business together. We wanted an easier way to accept credit cards, so we got GoPayment. I went to gopayment.com and got a free card reader that worked with my smartphone. We just attach it, swipe the customer's card, and let them sign with their finger. Then, we e-mail the receipt. Business was booming...during the summer, so we decided to open a second location. We grabbed our GoPayment and set out for ice cream weather. As the temperature rose, so did our sales. The free card reader worked with our tablet, too, and we quickly discovered we weren't the only ones using GoPayment. [Music stops]

>> CAROL COYE BENSON: By the way, the e-mail receipt is a very important feature of almost all of these mobile-payment applications and something that consumers are increasingly showing a preference for. So, that's mobile-card acceptance. By the way, PayPal's also a player there, with a newly announced product called PayPal Here. Another part of the mobile-payments landscape is what is known as bill-to-carrier or bill-to-mobile. This is when the phone statement is used to have an online purchase made either on a computer or on a phone, billed to the consumer's phone number. And BOKU is one of the lead providers of this. So, let's take a look at their video.

>> FEMALE SPEAKER: [British accent] Hi. I'd like to introduce you to BOKU, the easiest and safest way to pay online. I'm going to show you just how simple it is to pay for online goods using your mobile phone, using BOKU mobile payments. Let's say I want to buy some doubloons on "Puzzle Pirates" to captain my own ship or get back to Rama for the next battle in Aeria's "Twelve Sky 2" or buy reward points before my next visit with the Godfather in "Mafia Wars." BOKU provides a safe, easy way to pay with your mobile phone without download or long forms to fill out. Let's see how it works. I'm building my team on "Premier Football" in Facebook with some friends, and we need new uniforms for our next match. I'm going to buy some virtual pounds so I can get my team new gear. So, I've already got around £80,000, but I need more. Now all I have to

do is choose the "Pay by Mobile" tab or button and choose the amount. Okay, I know I'm going to need £30 million, and I see "Premier Football" charges $1 for that. Now all I have to do is enter my phone number. Entering my mobile, which I know from memory, is easier than entering my credit-card number, security code, and address. BOKU is available for customers in over 50 countries and works for monthly subscribers, as well as prepaid customers. [Tone plays] BOKU has already sent me a text message, and all I have to do is reply "Y." BOKU's payment engines does the rest, including running safety checks to make sure I'm not going over my mobile provider's limit. [Tone plays] BOKU...

>> CAROL COYE BENSON: All right, I'll stop there in the interest of time. But there's a lot of providers on that, so that's another use case, if you will. Finally, I want to mention that there are many players out there who are offering person-to-person mobile-payment solutions. Sometimes this is attached to another form of mobile payment. Sometimes it's stand-alone. Hot Money is a product provided by a company called Fiserv, which is one of the largest providers to banks of the software and services that banks use to run their business, including online banking. And so this is a very simple payment model, but this is also a player in the mobile-payments landscape. Uh-oh. Just a second. What did I do? Oh, no. Sorry. Drag it down. Not lunch. We're not at lunch yet, guys. Sorry. There. Now...

>> TOM KANE: [Inaudible]

>> CAROL COYE BENSON: [Inaudible] Did that do it? I think that did it. No? No, you can go ahead and fiddle with it, if you want.

>> TOM KANE: It's good.

>> CAROL COYE BENSON: Okay. Just one other thing to think about while we're talking about this, is one of the buzz words in the industry today is "O-to-O," which stands for "online-to-offline or "offline-to-online," depending what your perspective is. We're all familiar with the sort of red laser. You know, here's a kid scanning a bar code at a toy store, maybe go home and ask his mom to buy it online. There are endless combinations of this. But in-aisle purchases are another piece of

this. You know, you're in Home Depot, and you're standing in the aisle. Maybe you buy something from Lowe's while you're standing in the aisle, or maybe you buy it from Home Depot. So, lots of alternatives there. So, these are the big questions that Glenbrook is asking ourselves. We don't have the answers to this. But with mobile payments in the United States market, how big, how soon? Is what's happening going to primarily bring in new players to the industry, or are they going to be solutions from established providers? What about this, "Where is the phone data?" question? Is it on the phone, or is it in the cloud? How integrated, how important will coupons and offers be with payments? And, finally, how many of these payment wallets are you gonna have and from whom? And I'll leave you with this thought. What is a mobile wallet? Is it one app on your phone in which you have neatly inserted all of your cards? Or is it one phone with multiple payment apps? This is a screen shot of my phone from a couple of weeks ago. And you know, you could have the same card on file on any number of those different payment apps. I would leave you with the thought that the mobile-wallet metaphor is a dangerous metaphor. We, most of us, have only one physical wallet. But, really, there's no reason in the world. You see the pace at which consumers are downloading apps. You could have multiple digital wallets. So, that's the landscape from our point of view. I'll be around all day, and look forward to talking and meeting with as many of you as I can. Thank you very much. [Applause]

>> TOM KANE: Thank you. We'll now have our first panel come up.

>> MALINI MITHAL: Good morning. We're starting Panel 1, which is titled "Opportunities and Challenges for Businesses and Consumers." I'm Malini Mithal, and this is Andy Hasty. We're both with the Federal Trade Commission, and we're gonna be your moderators for this panel. Now I'd like to briefly introduce the panelists. To my immediate left is James Anderson, senior vice president of mobile product development at MasterCard. Then, we have Kyle Enright, the head of business development for the payments group at Google. Then, Robin Leidenthal, a senior leader for payment solutions at Intuit, Inc. Next, we have Adam Levitin, a professor of law at Georgetown. Then, we have Lauren Saunders, managing attorney of the National Consumer Law Center. And, finally, we have John Valentine, the East Coast vice president of LevelUp. Some of Andy's and my questions will be directed at all the panelists. For other questions, we'll take volunteers. So if you'd like to answer a question, please put your name card sideways so we'll

know to call on you. That will keep you all from fighting with each other and trying to grab the mike from each other. Okay, so, I'm gonna start by asking a very basic background question. Can everyone speak for just a couple of minutes about their role or interest in the mobile-payment space? I'm gonna start with James.

>> JAMES ANDERSON: Okay. So, thank you very much. So, as mentioned, I run mobile product development for MasterCard. I've been doing that for about five years. MasterCard has been involved in mobile payments since 2001, and so we have been part of the history that Carol alluded to. And, of course, we are one of the incumbents in the payment business, so we have certain points of view. But I think, within the payment business, we've tried to be an innovator and tried to embrace what we think is the future, not just cling to the past. So we're excited to see some of this activity actually getting traction in the marketplace and pleased to be here to talk about our role in it.

>> MALINI MITHAL: Thank you.

>> KYLE ENRIGHT: Hi. Thanks for having me here today. I'm with Google, and I work in the GeoCommerce group at Google and focus primarily on Google Wallet. So, at Google, as folks may or may not know, we have two different initiatives in the area of payments -- one formerly called Google Checkout, now rebranded Google Wallet, which allows for online payments -- basically, e-commerce payments -- where we've partner with merchants to allow consumers to use their existing credit and debit cards for purchases online; and then our new initiative, that we launched back in September in partnership with MasterCard, First Data, Sprint, and about 25 major merchants across the country, is the Google NFC Wallet. Folks may or may not have heard of it. It allows you to use, today, an Android-based cellphone which has certain NFC capabilities to pay at point of sale. And we believe that that provides for opportunities -- a whole plethora of opportunities -- for users, including enhanced security, greater convenience, new features and functionality, including the ability to, as we call it, "tap, pay, and save.” So you can enjoy loyalty, you can enjoy rewards and offers, and, obviously, you can make payment at the same time. And then recently, after launch, we announced, for example, you can use it at transit systems, and we've

added additional features over time, like digital receipts that consumers can elect to receive, as well.

>> ROBIN LEIDENTHAL: I... Can you hear? Is it on? Okay. Thank you. I have the pleasure of working in Intuit's Payment Solutions division, which includes our mobile offering. Just by way of background, Intuit, you probably know by TurboTax or QuickBooks, Quicken. But we have a substantial payments business, as well, which includes QuickBooks Merchant Services and our GoPayment offering. We are focused on consumers and small businesses, and those who serve them, so accountants, healthcare providers, that sort of thing. And when we talk about small businesses, we're looking at, our target are small businesses with 50 or fewer employees, and generally our sweet spot are 15 or fewer employees. So we're looking at really small businesses and micromerchants, as they're called today. And so the mobile solution, our GoPayment solution, is really a perfect fit for this -- these really small merchants. So think of tradespeople, the pool guy, the babysitter, you know, those types of really small businesses. And so we're excited about this product. It's been in market for about 2 1/2 years and growing substantially.

>> ADAM LEVITIN: Well, I don't make any kind of payment product. I'm a law professor at Georgetown, and my focus is on consumer finance and particularly on the regulation of payment systems and the antitrust issues that come up with payment systems. So that's why I'm here today.

>> LAUREN SAUNDERS: I'm with the National Consumer Law Center. We are based in Boston. We've been around since 1969. I run our D.C. office. We were originally formed to be a source of legal expertise for the network of poverty-law programs around the country, helping people with their legal issues -- the legal-services programs. We still do that, but are generally a resource for consumer advocates and policymakers, for expertise in the consumer financial area. We have always done a lot of policy work. We are usually the ones digging into the proposed rules and commenting from the consumer perspective on how particular regulations ought to protect consumers better. We publish a series of legal treatises, including one on consumer banking and payments law.

>> JOHN VALENTINE: Hi, everybody. My name is John Valentine, V.P. of the East Coast for LevelUp. We've been around for about a year, so I guess you could call us the new game in town. We are the pay phone app. We're the app on any phone that can access the Internet, so it's iPhone, Android, Windows Mobile, BlackBerry, even regular phones. We're the app that allows people to pay with their phone. All those different types of payment opportunities we've got, over 100,000 users have used LevelUp over the past year, particularly in one of our eight cities. So right now, we have launched on the ground. We're in Boston, Philadelphia, New York, Seattle, San Francisco, Chicago, Atlanta, and San Diego. And we've got 1,600 merchants in our system right now. So we're growing incredibly quickly. We're doubling our user number and we're doubling our merchant number every six weeks. So things are getting very exciting in the mobile space.

>> MALINI MITHAL: Okay, thank you. And for panelists whose companies offer some kind of mobile-payment service or solution, can you discuss a little bit about what consumers can do with your service? So, let's start with John.

>> JOHN VALENTINE: Sure, sure. So, we are a QR-code-based mobile-payment method, so all you have to do is open up the app and scan your phone against a merchant phone. It's a very simple process. We wanted to keep it "Sesame Street" simple, because the reality is, anyone can just give over cash or give over credit. But when they're paying with their phone, the first time they do it, people are clueless. "How do I do it? Do I scan it? Do I move it here, move it there?" So we want to keep it "Sesame Street" simple for people to actually use. So when they scan it, the dock will glow green, the total amount will be entered, the transaction happens, you get an e-mail receipt. And we built in a digital loyalty program that's very exciting for all consumers, so for every purchase you make, you earn progress towards earning rewards.

>> ANDY HASTY: Okay, so, opportunities?

>> JAMES ANDERSON: You want the rest of it?

>> MALINI MITHAL: Yes. [Laughter]

>> JAMES ANDERSON: We were gonna work our way back.

>> MALINI MITHAL: We are. So let's go with... Okay, so it would be Robin.

>> ROBIN LEIDENTHAL: Okay. Thank you. So, I think Carol -- thank you for showing the video. That's a great example of how consumers would leverage our product. So, small businesses, particularly, if you think about the fellow who comes to your house and fixes, you know, the garbage disposal, he has now the opportunity to bring his mobile device and the swiper, and you can pay on the spot. So it's super convenient for the consumer, and it's super convenient for that small businessperson who can now get paid right away.

>> MALINI MITHAL: That's great. Thanks.

>> KYLE ENRIGHT: Yeah. I think, as I already alluded to, with regard to the Google NFC Wallet, users obviously can pay. We support a number of merchant-loyalty programs, so there are established merchants who already have those loyalty programs, like Jamba Juice, American Eagle, et cetera. We support those loyalty programs. We also provide offers. So, opportunities for consumers to save money, find value, and merchants to deepen their relationship with those consumers. And then I think I already mentioned, we currently have a digital-receipt capability. So, in near real-time -- basically, within a minute of your purchase -- you can get a digital receipt. And we support transit. And, basically at Google, we build platforms and then we invite everyone in the industry to participate with us in those platforms. So we anticipate that there will be lots of additional transaction types and lots of additional features that third parties will be able to provide through Google Wallet. And that's something that we offer for free. And we're excited about working with other industry participants on that.

>> JAMES ANDERSON: Okay. So, within MasterCard's portfolio of mobile-payments products, we split things in two ways. Most of our work has been done on enabling the consumer to use a mobile phone to pay. And in that domain, we split again into point of sale, where we've generally favored near-field communications as a technology that we want to push into the marketplace. But we also, of course, soft cards are used extensively on the Internet and, therefore, on the mobile

Internet. And, indeed, of course, even in programs like PayPal, which at some level, of course, is competition, often, in fact, there are tens of millions, maybe hundreds of millions, of cards which have our brand embedded inside that scheme. So we participate in multiple levels. We also have a recent program looking at the other side of our network, which is how do we use mobile on the merchant side, which is, as everybody said, a very exciting space and growing very quickly. So we want to make sure that, as the potential of that gets realized, we ensure that it's safe and secure for consumers and merchants, and also, we leverage all the technologies that are available. And particularly, as we look at EMV technology coming to the U.S. to replace mag-stripe technology for the storage of payment credentials, we want to make sure that that's fully embraced, as well, on the merchant side, as we have mobile point of sale.

>> MALINI MITHAL: And my last background question is actually for Adam or Lauren. What prompted you to start looking at this particular space -- at the mobile-payments industry?

>> LAUREN SAUNDERS: Well, payments have been an area that we've worked on for a long time, and protections for consumers in the payment area is part of our bread and butter -- your rights under credit cards and debit cards. And I've been looking a lot at prepaid cards, and, obviously, this is the next phase. And we are always on the lookout for new areas that don't necessarily fit into the old pigeonholes of consumer protection, so we know we need to know more about it. And I'm here as much to learn as I am to talk.

>> MALINI MITHAL: Adam?

>> ADAM LEVITIN: Pretty much the same story. That's why I like, when Dillinger was asked, "Why do you rob banks?," "That's where the money is." And that if you're looking at payments, this is where the market is moving. And you go back five years, and you think of the number of people who had smartphones five years ago, or certainly 10 years ago, and it was negligible. And you fast-forward then five years, and it's hard not to imagine that this is going to be a -- you know, this is where commerce is moving.

>> MALINI MITHAL: Okay. Now I'm gonna turn it over to Andy for the next set of questions.

>> ANDY HASTY: Okay, so, mobile payments is coming. It may be here already. Opportunities and challenges. Let's start with the opportunities. What are the benefits? How do mobile payments help consumers? How do mobile payments help businesses?

>> JOHN VALENTINE: I love this process. I love this process. [Laughter] So, mobile payments help consumers because it's faster, it's simpler, and you have a digital record of everything that happens. You're getting digital receipts, you're earning progress towards rewards, whether it be offers or more of a digital punch-card system. Consumers like it because it's fun. Right now, there's sort of a negative or neutral reaction to handing over money to pay for something, because it's like, "I'm getting something, but I have to give away money for it." We've found -- at least, at LevelUp -- when people use their phone to pay, it lights up. You know, they use their phone all the time. It takes about 20 minutes for someone who walks out of their door to realize that their wallet is missing. It takes them about 90 seconds to realize that their phone is missing. So, everyone is doing everything with their phone. And it's simple, it's fast, it's easy. Merchants like it because of the loyalty programs that we build into it. The reality is, merchants need to be educated on this just as much as consumers do. And so what we've found with LevelUp, people who accept our platform, they see users coming back more and spending more. In some ways like the financial district of Boston, people won't go to lunch anywhere that doesn't accept LevelUp, and that's been an interesting sort of use case for our platform.

>> ANDY HASTY: Thanks, John. Lauren?

>> LAUREN SAUNDERS: So, obviously, the convenience factor and the rewards factor has already been discussed. For me, a convenience factor I think a lot of us here in D.C. have seen, of course, is the pay-by-cellphone parking, right? Whoever has enough quarters for the expensive parking meters around here? That's a great convenience factor. I also think the information available when you use your mobile phone -- as John just mentioned, the availability to get the e-mail receipts and store them in a way that's not gonna be piles around your house. I especially like the ability to access information about your account, to get your balance, to view your transactions. A lot of people don't even get paper statements anymore. And do they really go online and monitor

their accounts? Probably not. But if it's more easy and convenient to know what's going on inside your account, if you do it on a mobile phone. People who don't have Internet access, or aren't that comfortable using a traditional computer, but we see high levels of saturation of smartphones, even in the lower-income population. And people use those smartphones for a lot of things, and they're gonna be more comfortable engaging in the electronic world and more able to if they have that access that they may not have right now.

>> ANDY HASTY: Robin?

>> ROBIN LEIDENTHAL: I would just say, on the acceptance side, that mobile payments enables tens of millions of new card acceptors. So, these small businesses, these microbusinesses, who previously may not have qualified for a traditional merchant account. So, these 70-question applications that are traditional in merchant acquiring, and also the cost of terminals and the complexity of managing a merchant account and all of that. So I think it opens up card acceptance or digital payments to a very large population of small businesses. And so I think it creates convenience for both the consumer and the merchant.

>> ANDY HASTY: Thank you. And James?

>> JAMES ANDERSON: Yeah, so, I think, on the consumer side, what we see beginning to happen, and happening through mobile first -- though I still feel like we're sort of like the middle of the first inning -- is this kind of merging of the shopping and payment experiences into something that's better for the consumer. There was sort of, you shopped and then you paid, and they were two distinct experiences. And I think, if you look at a lot of what we're seeing, what Google started to do, and what some of the other innovators are starting to do, is really kind of create a better user experience that starts before you even make a decision to buy some of the social integration, and then sort of supports you or supports the consumer through the shopping experience and then into the purchase. And that's really a new paradigm, where you had these kind of distinct steps which were organized in the consumer's mind. Now you're able to bring them together and kind of create a lateral flow through it. So we think, for consumers, that's pretty compelling. And I think that's sort of manifested itself in the, "Geez, that's cool," which, in a sense, isn't... You know, coolness, in

and of itself, isn't an objective function. But making consumers go "Wow" is actually pretty meaningful, because that means you've hit something that oftentimes they didn't even know was a problem. And I think that's really what's powerful, is when people didn't realize there was a problem and then they see a better way. That's when you really get consumers engaged. And on the merchant side, we think it's fantastic that there's now a couple of million extra places you can use your card to pay. That's fantastic for MasterCard. [Light laughter]

>> ANDY HASTY: Adam, you want to jump in?

>> ADAM LEVITIN: Sure. I think the comment that this is the early innings is really true, that there's amazing, amazing potential that we haven't even started to see be tapped with mobile. And so let me give you an example. One of the videos -- I can't remember which company -- showed sort of an ice cream company start-up, and they had a problem. It gets cold, no one wants ice cream. Well, it's not that nobody wants ice cream when it's cold. They may not be willing to pay less for it. You can imagine a system -- it's not there today, but you can imagine a system which allows merchants to really have much more dynamic pricing based on demand. San Francisco is doing something like this with its parking meters. You can imagine this applying to other kinds of merchants. So, when it's cold, you're able to dial down your prices on the ice cream and let people know about it, based on proximity. So you're combining both the ability to change prices and tell people about those price changes, and proximity opens up a lot of benefits for merchants and ultimately for consumers, because it's only worthwhile for merchants if consumers are gonna want those offers. So I think, really. the real promise with mobile is going to be in the integration with rewards. There is some convenience. I personally haven't been sold on the convenience. I was looking at a lot of those videos and thinking, "Gosh, that's a lot of numbers I have to push. Do I want to wait in line behind someone who's fishing in their purse to find their phone, take it out, enter their PIN number, press all the buttons?" I'm not sold on the convenience, but I think that I could definitely be sold on the integration with rewards and accounting, so forth.

>> ANDY HASTY: And I think that's a really good point. As we saw in the video, you have to enter a PIN code and select cards. So is it really that much more convenient?

>> JAMES ANDERSON: Okay, I'll take that. [Laughter] So, we've been working on it for 10 years, so our objective function is to make stuff secure and convenient. And it can't be an either-or. So when we write our rules and when we look at the product features that we put into it, those two objectives have to be traded off. We've written a bunch of specifications for how we think mobile payments is gonna work, particularly at proximity. And there's occasions when convenience has to win. So if you're talking about buying a cup of coffee, I agree, standing behind somebody punching PINs into phones is not probably gonna be delightful if somebody is buying a $2 cup of coffee. But our objective function has been to enable you to use your phone to buy anything. And so if you want to buy a big-screen TV, it's probably not gonna be acceptable to the financial institution that's underwriting the transaction that you just pick up your phone and wave it. They actually do want to make sure it was you who did the transaction, not somebody who just picked up your phone. So we've built stuff into our specifications to afford the speed that can come with contact lists and just tap and go, but also security through entering a PIN. And, again, this comes back to where we are in the generation of the product. Some of those specifications haven't been deployed yet, but they're in the works. I mean, they're in deployment right now.

>> ANDY HASTY: Thanks, James. Kyle?

>> KYLE ENRIGHT: Sure. You know, from our perspective at Google, we had observed the supposed mobile-payments market over a course of many years. And I think, James probably, off the record, could attest to lots of the efforts that Visa, MasterCard, others put in to trying to get this industry kick-started, with not nearly as much effect as I think we've seen in the last 12 months. And from our own perspective, part of that was because people were trying to solve a problem that didn't exist. Fundamentally, James and the folks at Visa and American Express and Discover and places like JCB in Japan, et cetera, have done a phenomenal job of providing a ubiquitous, cheap, relatively secure method of paying. So, other than disputes between merchants and certain other entities about interchange fees, there's really nothing you could claim that needs fixing about our current payment system. It can always be enhanced, of course. So, at Google, we looked at the problem differently, and we said, "Fundamentally, you need to provide a unique experience to consumers that they value and appreciate above and beyond just payments, and you need to provide a unique experience and value for merchants above and beyond payments." All right? So that's

why we looked at this kind of more as an opportunity to bring in a lot of the shopping equation that James already touched on. And I think that's really important. And something that is fundamental about this shift in paradigm from static, card-based, fixed-infrastructure approach to payments to a much more dynamic, fluid, potentially decoupled approach to payments is the fact that you bring this whole flywheel of innovation. So everything that John's company has today or that Google has today or even probably that MasterCard has today will be different within 12 months, and it'll be different again 12 months after that. And I think that's one of actually the most powerful engines behind all of this, is that we do have this opportunity to bring innovation on a continual cycle. You don't need to wait to assign new pieces of plastic to people to introduce new features.

>> ANDY HASTY: Thanks, Kyle. And I think you and Adam have both raised the, "Are consumers saving money here?" with energy -- changes in the interchange fees and elastic pricing. But before we get to that question, Robin, do you have something to add?

>> ROBIN LEIDENTHAL: I just wanted to comment on the convenience question. So, I think it is more convenient. So, GoPayment is the ability to take your card -- the card that you have today -- and swipe it through a device on the phone, so it is more convenient. If you think about going to the farmer's market on Saturdays, typically, you have to go get cash out of an ATM and you have to kind of decide how much you want to spend, and it's all cash. So the convenience is, I don't have to worry about that anymore if the vegetable stand takes GoPayment and we can just swipe the card. Am I more likely to buy more because I'm not thinking about it as carefully? So I think there is a huge convenience. And the other thing is, this solution rides on the existing infrastructure and includes the existing protections that are offered by the card brand. So I think it's convenient and safe all the way around.

>> ANDY HASTY: Yeah, and I think you raise a really good point, and the tendency to overspend here. So are consumers saving money through mobile payments? John?

>> JOHN VALENTINE: So, um... [Laughter] I'm just having fun up here. There are... So, a lot of different mobile-payment platforms have different loyalty-rewards programs. There are some that give you an offer the first time that you show up at a business and use it, very much like a

groupon or LivingSocial. There are others that have sort of a digital punch-card mission, where, for every certain amount of dollars that are spent, the customer, after multiple, repeat visits, which is exactly what the merchants want, they get a few dollars in credit to use the next time they come. And customers using a bunch of different platforms have saved anywhere between 5% and 15% overall. And what happens is, the merchants are also happy because they're capturing more loyal customers, and loyal customers make up about 80% or so of a local merchant's revenue. So if they can find a way to not only capture a new customer, but also keep them coming back through mobile payments, they're gonna do it 9 times out of 10.

>> MALINI MITHAL: Okay, great. And, actually, because interchange fees have come up and we're talking about whether consumers or businesses save money on the transaction, I would love to turn to John again for a second. If you could just talk a little bit about interchange fees and the Durbin amendment. If you could just describe that for the audience and how that affects your business.

>> JOHN VALENTINE: Sure. So, interchange fees have been on the rise for the past decade. And it has hurt local merchants probably much bigger than the larger merchants, because the higher the interchange fees are, the less money that they get from all the revenue that comes in from credit and debit cards.

>> MALINI MITHAL: And, John, I'm sorry. I'm gonna interrupt for just a second. Can you describe what interchange fees are?

>> JOHN VALENTINE: Oh, sure. Interchange fees are the cost of moving money, and it's based on risk, it's based on costs. And so every merchant pays a certain transaction fee for every credit-card payment made. And that transaction fee goes to the merchant processor, as well as Visa, MasterCard, Discover, AmEx, all the major processors. So there is a cost of doing business, if you will, when someone swipes a credit card. That's a reason why a lot of merchants will have minimum $10 for a credit-card swipe, because oftentimes they're charged a per-swipe fee. So if I want to buy a pack of Dentyne Ice and just a pack, and just a pack of Dentyne Ice, and I use an AmEx, well, the local merchant will probably be charged 15 cents, plus 3.5%, which, on a $1 pack

of gum, is well over 20%, right? So that hurts the local business. The Durbin Amendment of the Dodd-Frank Act -- the new consumer-protection act that just came out -- is probably one of the best things to happen to local merchants in a really long time. What it did was, it capped the per-swipe fee for debit cards, as well as lowered the add valorem transaction fee on the total value of the purchase. The reason why that happened was because, for debit cards, there is a lot less risk involved with making those transactions, because the money comes right from the debit account, so the money is actually in the account being moved, as opposed to a credit card, where it's AmEx's money, Visa's money, MasterCard and Discover's money. So what that has done, has lowered the interchange rate for debit cards, and it's very much in the aspirational goal of what LevelUp is trying to achieve. We're trying to achieve something, in theory, called "interchange zero," and we want interchange fees to approach and converge towards zero. And so what we see, mobile payments itself is not technically going to change interchange fees themselves. What it's going to do is, instead of me handing a credit card to a merchant and them swiping and the transaction is between them and MasterCard, now, when I use mobile payments, now instead of going directly to the big five or the big four, now there's so many more different funding options available -- LevelUp, Square, Dwolla -- there's a lot of different types of companies that are toying with a lot of new ways to move money at a rate that's much cheaper. So the Durbin Amendment is certainly one step towards that process of putting more money back in the hands of merchants as they make more sales and certainly allowing the costs to come down.

>> MALINI MITHAL: James?

>> JAMES ANDERSON: Okay. So, I just want to clarify a few terms and just make sure everybody understands. So, when a merchant decides to open up a merchant account and accept credit and debit cards, they sign up with somebody who's either a processor or an acquirer. They have a business relationship with them, and those people are enabled to accept our brands. Interchange is actually a piece of compensation that flows from a merchant, through the acquirer, to the issuer of the card. So it actually doesn't go to Visa, MasterCard, or American Express unless, in the case of American Express, where they are the issuer themselves. There is a fee associated for the value that we provide, as a payment network, in the authorization, clearing, and settlement functions. That is a fee that we charge to the acquirer, and the acquirer has the option to pass it on

to the merchants. So it's a mature business. It's been around for a while, and so there's a pretty sophisticated economic structure around that. I just want to make sure everybody has a sense. Now, I think what's pretty exciting, though, about what's happened and companies like Intuit have done, is that they've essentially restructured the economics, and what they've communicated out to the merchant is very different than, historically, what has been communicated to the merchant about accepting credit and debit cards, which just the description I gave you was pretty complicated, I'll admit. And for a lot of small merchants, it was too complicated. The story was getting very fuzzy. So I think what's exciting about mobile, as a point of sale and on the merchant side of the equation, is, it's essentially repackaged the access to the 4 billion or 5 billion cards that have been issued on our brand and our competitors' brands. It's repackaged the economics of accessing that, made it more accessible to small merchants, which, as I said before, I think is a fantastic innovation.

>> MALINI MITHAL: And, Adam?

>> ADAM LEVITIN: So, payments are an intermediation function. And this means everyone in this value chain is essentially a middleman between the payor and the payee. And as Carol described in her keynote, the number of mouths to feed is growing when you move from traditional cards to mobile, that there are a lot of mouths at the trough, that you have your OS -- your operating system manufacturers -- your hardware manufacturers, your card networks, your banks, your telecoms, and application designers. That's a lot of different mouths. And different systems are gonna look differently -- exactly who is playing what role. But when you have more mouths in the value chain, that means that there's going to be more competition for the value in the value there. And this pushes in... There's, I think, really a fundamental competition that's going on between the interests of the end users and the interests of the parties in the middle, in mobile commerce. So, from the end user's perspective, merchants and consumers, you want to have the cheapest possible system, and that means finding the cheapest rails. And there's a pecking order of which rails are cheaper than others. So credit is going to be the most expensive, then signature debit, then PIN debit. And, finally, ACH is the cheapest. So your end users want to see a system that's going to be cheap. The question is if there's going to be a more expensive system. So if you're going to use PIN-debit rails, which will be local ATM networks, or if you're going to use the signature rails --

that's MasterCard and Visa's debit networks -- if you're going to use those more expensive rails, how much more value is being given to merchants and consumers? And it's hard to imagine -- No, it's not hard to imagine. The challenge is going to be for entities like MasterCard and Visa that want to see their rails getting used. If they have more expensive rails, for them to provide great value that offsets that additional cost. And it's not clear to me that's going to happen. But that's going to be the challenge here. And I think the lurking issue in mobile commerce -- the huge issue -- is going to be antitrust -- that every one of the industries that comes together in mobile already has severe antitrust problems. Payments has it with interchange. We've had this with operating systems going back to the browser wars with Microsoft. We have this with telecoms. And when you put all these industries together, I'm not sure exactly where this is going to flare up, but it's pretty much guaranteed to be a problem for mobile. And part of this is because mobile is -- there are network effects here that, just like in payments or telecoms, if I have a telephone and I'm the only one, it's not very valuable. If lots of other people have telephones, my telephone is valuable. Same thing with a credit card, that if merchants don't take the card, it's not valuable for me to have the card, and vice versa. We're seeing right now different systems trying to establish themselves so that they can leverage those network effects. No one has yet. But that's going to happen sooner or later, and when that happens, that's really where I think the antitrust issues are gonna come to a head.

>> MALINI MITHAL: Great. And actually, let's just answer -- or, take one more comment on this topic before we move on to Andy's next topic. So, I think, Lauren, you had your card up next, so if you just want to speak briefly, and then we'll go to Andy.

>> LAUREN SAUNDERS: Sure. And mine will probably be the bridge to the next topic anyway. So, since interchange was brought up, I mean, we just -- you know, for the record -- didn't take a position on Durbin, and I think there's benefits and concerns for consumers and how the whole interchange world plays out. But it's clear that interchange is one of the factors that's driving what's going on in mobile. And so obviously you've got companies at LevelUp that are trying to help merchants avoid interchange fees, and that can have benefits for consumers if those fees get turned into rewards or discounts that the consumer gets. They can also steer people into things that aren't necessarily good for them. Or pushing them to a choice they wouldn't necessarily make

themselves. So anybody who's used PayPal knows that when you try to make a payment with PayPal, they're going to push you to use an ACH out of your bank account, even if you know -- I know -- I always want to make it a credit card, right? I want my miles, I want my chargeback rates on my credit card. They're going to make me go through hoops to make the choice that I want to make. And we, you know, may lose some of our rights, and we've also got new mobile things that are coming up, we've heard, that don't even operate on the existing rails, even, you know, that ACH and credit offer. So they're going to be pushing us towards new kinds of accounts that aren't even in the laws that protect consumers. So interchange is going to push us in ways that'll have benefits for consumers, but we won't necessarily even have any idea the consequences of going off in a different direction sometimes.

>> ANDY HASTY: So, I may have flipped this coin already, but let's talk about the cost here. What are the challenges for consumers? What are the costs that they face in engaging with mobile payments, and for businesses, as well?

>> ADAM LEVITIN: Well, Robin mentioned earlier that consumers are more likely to spend more when using mobile because they're not thinking quite as carefully about their spending. There's something psychological about when you reach into your wallet and you take out cash. You're giving something up. You're feeling the pain there. And where you just wave your phone with an NFC device, it's zipless. You don't notice it. I'm not sure -- I'm of two minds of how to see this. On the one hand, you can see this as, you know, here's -- this device is encouraging consumers to overspend, spend more than they would have otherwise. And maybe that's a ba-- and you might, from, at least, a consumer perspective, that could be a bad thing, if the device is encouraging more spending than I guess you should. On the other hand, you can see this as just limiting transaction costs. That mobile -- by being zipless, it gets rid of the transaction costs and means that consumers are actually consuming the amount that they want to -- they really do want to consume. I don't know what the answer is there. But I think that's the question. If this is encouraging greater consumption and less careful consumption, that's a problem. And I know from my own experience, playing games on the iPad, that it's really, really easy to make a purchase, and afterwards, I look back and say, "What? I spent $10 buying more ammunition for that game? What was I thinking?" But at the time, it was like, "Oh, just tap the button." So I think this is one

of the real questions -- is this -- is this facilitating what consumers want, or is this kind of leading them into purchases that they don't want to make? Is there something almost like a vice model, where you keep putting the coins into the slot machine?

>> ANDY HASTY: Kyle, do you want to...?

>> KYLE ENRIGHT: Sure. I feel a little bit compelled to answer, just because I think everyone's probably getting depressed listening to Adam's comments. [Laughter] Between anti--

>> ADAM LEVITIN: I like this stuff. I mean...

>> KYLE ENRIGHT: Between antitrust, rising costs with too many pigs at the trough, consumer, you know, not understanding what they're spending -- gee. It was a sunny day outside, or not yet a rainy day outside until I came in. But anyways, you know, I guess I'd say, in terms of the actual costs, we should not just look at costs associated with mobile but we should look at the costs that mobile potentially can eliminate. So as James can attest, it's not free to print those pieces of plastic, put them in an envelope, put, you know, even bulk-rate postage on them, and then, when somebody doesn't get them, they call and that costs the issuer -- Citibank or Wells Fargo, whomever it is -- a bunch of money to take that call and, "Where's my card?" and all those good things. So there are lots of opportunities, both on the merchant side and on the issuer side, to remove costs from the equation. With regard to some of Adam's comments, I can't speak to his own personal spending habits, but, for me, at least, it's a lot more helpful to have my digital receipts on my device that I can review, if I actually want to monitor what I'm buying, rather than for me -- a lot of times, I just throw the pieces of paper away, 'cause they accumulate pretty quickly and they take up a lot of space in my wallet and it's hard to sort through them, anyway. So I think there are a bunch of mobile-banking applications, as well, which is a slightly different nuance in this whole equation, that actually provide very powerful tools for users, in real-time, to know not only what their account balances are but also their spending habits, they can set their own goals, they can get into competition with themselves about how much they spend or save, how much loyalty they accrue or don't. I think the degrees of flexibility that are offered by mobile payments far, far, far outweigh

these, you know, idiosyncratic habits of given individuals, about how they do or don't spend money on iPads.

>> ANDY HASTY: I think that's a really good point. Mobile is, at its heart, a communications device that has memory and the ability to document these transactions. How is that being leveraged by mobile-payments companies to ensure the accuracy of transactions or alert consumers to their purchase histories? John?

>> JOHN VALENTINE: I'll take a first stab. So it's important for the consumer to feel like -- and this kind of goes into security a little bit -- to feel like mobile payments is not just secure but also accurate. And so a digital receipt is very powerful and very important in that, when I receive a receipt from a BestBuy or Starbucks transaction, I'm probably going to crumple it up and throw it away. But when I see it immediately as a push notification or an e-mail coming right to my phone within seconds after the transaction, yeah, I'm going to look at it and I'm going to make sure that it's accurate. What happens if someone steals my phone and knows my PIN to get into -- get into LevelUp? I want a way of knowing almost immediately if someone has stolen my phone. You know, if you're looking at AmEx -- if I lose my AmEx, and I I may find out the next day when I get a call from AmEx saying, "Hey, someone in -- Someone's gone online and done a huge shopping spree," you know, is that -- you want to know in real-time what's going on with your account. And so if you get an e-mail receipt after every single transaction, then you know exactly how your account is being used. So it's pretty exciting to have all that data for the consumer at their fingertips. And then, on the flip side, for the merchant, now all of a sudden, the merchant has all the data and analytics for their brick-and-mortar stores that have been, in the past, only reserved to major credit-card companies, as well as, you know, online shopping sites. So now a local coffee shop can find out what their average ticket is, what zip code, where are their customers from? What's their average ticket, how often do they come back? They can find all these really interesting nuggets of data that can help their business now because of all the information that is being gathered through mobile payments.

>> ANDY HASTY: And that raises another really good point, too, where there are a lot of new mouths at the table. And this data -- what about privacy?

>> JOHN VALENTINE: Privacy is very important. Because -- [Laughter] Imagine if you were to give a payer's information -- right? -- to every single business where they transacted -- imagine if I used a mobile-payment platform and I use my phone today five different places. I do not want five e-mails from those five merchants with offers and information and -- I just don't. It's got to be an opt-in situation. So all the information needs to be anonymized and security comes into play. We need consumers feeling comfortable that they can use their phone to spend in a very secure way. So those are both very important pieces.

>> ANDY HASTY: Thanks, John. Lauren?

>> LAUREN SAUNDERS: You know, privacy is obviously a big concern. It's not an area that our organization has typically worked on, but one aspect of it especially concerns us. All this information can be used to push things on consumers that aren't necessarily in their best interests. So, for example, there are prepaid cards that you can sign up for today, and suddenly you're besieged with offers for payday loans and fast cash and, you know, predatory lending. Right now, if you go onto the Internet and you search for a payday loan, you actually may get a lead-generator website that is just going to take your private information and sell it to the highest bidder and, as the FTC well knows, perhaps pass that on to some scam operation that's going to start collecting debts that you don't even owe. All of these great offers and rewards are things that are very seductive to people, but they don't know how that information is going to be used. They don't know who that person is. Even if what they're doing is is illegal, there may be laws that protect them. but they're a fly-by-night operation, they're not complying, people don't know who they are, you can't go after them, there's all sorts of information, and people tend not to think about these things. The immediacy of a discount, of a reward, can be very seductive, and people can forget about what is going to happen and have no idea what is going to happen with that information.

>> ANDY HASTY: Thanks, Lauren. Robin?

>> ROBIN LEIDENTHAL: I would just say, for Intuit, privacy and security is at the heart of what we do. We are, you know -- we're processing tax returns and payroll deposits and handling, you

know, the most intimate financial details for our consumers and small businesses. So it's something that we take very seriously. And, you know, it's -- it's a core value for us.

>> ANDY HASTY: And, James?

>> JAMES ANDERSON: Yeah, so, just on the privacy and security points, it's important to us, too, at MasterCard, Inc. [Laughter]

>> KYLE ENRIGHT: Good old Google.

>> JAMES ANDERSON: Yeah, do a Google. I think -- So we work very hard on our product side to actually make things secure, but I tend to agree with Lauren that the weakest link is actually the consumer, or the user of the system is often the person who is most vulnerable because -- You know, we can make the secure element really, really secure, but if somebody, you know, gets a pop-up on their screen and punches their PIN in, it doesn't matter. If it's not going to the secure element, it doesn't matter how secure the secure element is because somebody's intercepted that. And I think one of the concerns I have is that when you take activity from one domain where people are relatively comfortable to a new domain where people are unfamiliar, it definitely opens up vectors for the bad guys to try and intercept. And I think mobile is particularly going to be a challenge in that regard because the screen is small. Some of the cues that we're used to on the Internet on a PC aren't available. And the environment is just not something that people are used to doing commerce on. So, as solution providers, we need to do everything we can to make our solutions secure, but there is a huge piece where you can't protect the consumer from themselves if they don't want to be careful.

>> ANDY HASTY: Yeah, I think that's a really good point. The -- the on-the-go nature of the mobile-payments user and the fact that convenience can be such a benefit here -- what -- Can we talk a little bit about the element of mobile payments -- the convenience factors, the on-the-go, the small screen size. How does that affect the payment transaction? Lauren?

>> LAUREN SAUNDERS: Well, that's one of the things that worries me. On the one hand, that access to information -- you know, the bigger screen than a little, tiny old-fashioned phone, has lots of benefits. But, you know, if you're accepting an account agreement based on what you can read on some little screen, even, you know -- not with the information that you can get on a larger computer without an attached printer, you know, you get a credit card that comes in the mail with, you know, a bunch of information. You know, you may read it, you may not, but it's there. You can refer back to it. You can stick it in your file. Same thing if you sign up for something, you know, on your desktop. On a screen, you know, what information are you going to get? Are you going to know? Are fees going to be hidden? As much as I like paying by cellphone when I park here, I was shocked the first time I did it, that it didn't even give me a pop-up that said, "Okay, you're authorizing $5.” You know, I don't even know -- because I haven't taken the time to go back and look at my credit-card statement, you know, were any fees added? There's all sorts of things that could happen that you may have a better idea of knowing if you do it on a desktop, but on a little screen, something you can't save and access later on -- it's quite scary.

>> ANDY HASTY: Kyle?

>> KYLE ENRIGHT: Yeah. So I guess just following on that, obviously, from a Google perspective, we take these things very seriously. Disclosure, you know, consumer education and information, choice are sort of in our DNA. And, you know, that's why, for us, it's really important to always provide the clearest possible message to consumers at each step along the way. So, if they're activating, for example, a Google Wallet account, we, you know, make it very clear to them that that, in fact, is what they're doing. They're not doing something else. They're not conducting a search. They're activating a Google Wallet account, and that comes with a certain number of steps that are very different than signing up for any of our other products, again because the nature of the service is so different. And in that regard, we're obviously establishing a different relationship with the consumers. They think about their money differently than they think about other things, other services that we might provide for them. And then I think after the fact, the fact that there's no messaging popping up that you're actually conducting a purchase transaction, for example, to us, would be bizarre and I think, to most consumers, would be bizarre. So you want to provide very clear messaging about, you know, user -- in fact, is this your intent, is this what you want to do,

confirming that you want to do it, and then, after the fact the receipt for wanting to do that. And then, for us, one of the things that we've done with Google Wallet that's very unique for Google is we've actually provided live, you know, top 24x7x365 telephone customer support. So, again, different relationship with the consumer because the nature of the service is different. So if people have questions, if they have problems, if they don't understand, any of the sorts of things that Lauren hit on so appropriately, you get a live person on the phone, they can answer it. And we've found that to be really powerful in helping to get people familiar with the experience of engaging with Google Wallet and then using Google Wallet over time.

>> ANDY HASTY: Thanks, Kyle. I want to circle back a little bit. In a basic cash transaction, it's me, my money, and the merchant. In a mobile-payment service, it's me, the mobile-payment service, and the merchant. What are -- Who are these -- Who are the additional parties that are part of the mobile-payment service? Who -- who are these additional mouths at the table?

>> JAMES ANDERSON: Okay. Well, so, I think it was talked about earlier on. But if you talk about a credit-card transaction or a debit-card transaction, I think people are familiar with the idea that there's somebody who's issued it at some bank, some financial institution that's issued that debit card or credit card. In the case of a debit card, you know them because you gave them money and you opened a deposit account or a checking account. In the case of a credit-card provider, you opened a credit line, and that's the issuer of that credit line. As you go to mobile, the other players involved, obviously, is they're -- and it's still to be determined how much role these people play and how much value they create and capture. But the mobile phone is made by somebody who is, you know, the OEM who created the phone. Some of them have aspirations to play in the space. It runs a piece of software called the operating system. And to my left is somebody who runs an operating system for mobile phones. And then there's applications or service providers who also are creating services that consumers are using. And in the case of a mobile phone, there's typically a carrier who is, you know, the entity in a market like the U.S. who has subsidized the hardware ending up in your pocket. So those are the additional players who are involved at some level in mobile payments. Again, different people in that value chain have different aspirations about what role they want to play and how they want to be compensated for it, but those are the basic additional actors.

>> ANDY HASTY: Thanks, James. Kyle, who -- who are these additional parties, and what issues does that raise?

>> KYLE ENRIGHT: So I think James did a pretty good job describing some of the additional parties or many of the additional parties. I guess, just because it's sort of grated on me previously when we were talking about additional mouths at the table, the one thing I'd say is, the difference between holding this conference in a place like Washington, D.C., and a place like Silicon Valley is the perspective of, are we bringing more mouths to the table, which raises costs, or are we bringing more innovators to the table, which provides consumers with value, choice, features, similarly for merchants. And I think that's just -- I mean, Carol's from Silicon Valley. People can talk to her offline. You can come visit us at Google. I think the whole mantra of a lot of the innovation that's going on is, in fact, by bringing new companies, companies who haven't previously participated in the payments industry, companies who have and are remaking themselves, companies who are next to it but are now directly getting into it -- from our standpoint, this is all great, Right? As long as, again, we have things like security, consumer choice, clear disclosure, all those good things. But to answer your question more directly -- "Who are some of the other parties?" -- I guess I would say all the folks that James mentioned and lots of others yet -- companies yet to be started, some of which are newly started, like John's company. The one thing I would point to is, again, people should not assume that the current paper-based, plastic-based, conventional payment system doesn't have lots of parties at the table. When James went through his super-simplified version of what's involved in a payment transaction, he happened to leave out lots and lots and lots of other parties, and then if we add in other pieces of the equation... Again, I've already said payments alone are not enough. Merchants don't care. They'll fight about interchange, but fundamentally, they're not going to make a change based on that. What they are interested in is removing things like coupon-distribution companies. Has anybody ever thought about how a coupon actually gets to you? How are those risks compiled? Who controls those lists? Companies you have no idea who they are. You've never seen them. You wouldn't know where to find them. You couldn't contact them. And then other companies mail those things to you. Other companies actually do the redemption. So there are a whole number of other mouths at the table in the conventional payments and commerce world that I think don't get talked about very much, and a lot of those things are going to be made

much more efficient, much more transparent for consumers, and bring a lot more innovation and choice.

>> MALINI MITHAL: And, actually, let's focus also on the second half of the question. So, are there more mouths to feed? And as Kyle pointed out, that could be causing a lot of innovation. If it is causing costs, what types of costs are associated with the fact that there are so many parties -- additional parties that may be involved in the mobile-payment system? Adam?

>> ADAM LEVITIN: Well, you know, I thin, listening to Kyle's comments, you know, I don't disagree with him that I think there's a question of emphasis that Kyle sort of mentioned, all these innovation benefits. You know, we have to take care of security and privacy and all that good stuff, but as if it were an afterthought. And I think that's actually kind of critical for making innovation work, that having some regulatory certainty, knowing what the rules are going to be, and having rules that work for everyone provides a framework in which innovation can take place, that a lot of -- We heard earlier from -- I think Carol was talking about that certain technologies, there has been standard-setting done. What standard setting? That is a form of regulation. It can be done privately. It can be done with government facilitation. That's, you know -- whether -- You know, how we do it is a separate issue, but for these systems to work, there has to be a certain level of standard-setting. And standard-setting applies not just to the physical technology but also to questions like, who do you turn to for redress if there's a problem? And this is -- So, we have more mouths to feed just, you know, raises some value questions, but it also raises a consumer-confusion-type question. With -- There are a lot of mouths to feed already, as Kyle notes, for credit and debit. But if I have a problem with -- a questionable transaction shows up on my credit-card statement, it's pretty clear that there are only two parties I could possibly be dealing with -- the card issuer or the merchant. It never occurs to a consumer that you go and talk to the ISO or the merchant acquirer, someone who's connecting the merchant and the issuer. When you're dealing with a mobile platform, at least currently, it's really not clear who is the -- where do you go for redress? Do you look to the party who provide-- the source of the payment, to the -- you know, to your bank? Or do you look to the -- to the telecom that carried -- did the transaction? Do you look to the mobile-payment platform provider? There's, I think, at least a question there. That's something that we can probably settle pretty easily, going forward, but at least currently, I think

there's some confusion there. So this is a case where, I think, more mouths, at least for the time being, are adding a cost.

>> MALINI MITHAL: Okay. And since we're actually gonna be focusing on this topic even more in the next panel, I'm just going to ask for just a minute of responses from Lauren and John, since they were the next two that had their cards up, and then we'll move on to the next topic.

>> LAUREN SAUNDERS: Okay. So beyond confusion, there's a real issue of what rights the consumer has. The most stark example, I think, is the examples where the charge goes on to your cellphone bill. Well, it turns out, you know, it's a scam. You didn't -- you know, you didn't make the purchase or you didn't get what you thought you paid for, and you call up, you know, Sprint, and they're going to say, "Well, you know, not my problem. Call the person that you charged." And you're going to get the runaround. And you're also in two completely different regulatory schemes, right? The system for regulating telecommunications is not set up to deal with, you know, the payment disputes that you have in the other world. And even when you think you're operating in a world where you know where the rules are, they can be distorted, the more people you have involved. So, with PayPal, if I pay a hotel directly, there's a problem. Okay, I've got my chargeback rates on my credit card. If I use the card through PayPal, well, PayPal says that my chargeback rates really only run as the PayPal, and as long as they delivered the money to the hotel, there's not a problem. I can't assert my same, you know, Card Act rights, vis-a-vis the merchant. When we start putting these things into wallets and there's agreements governing use of the wallets, what has changed? What is distorted? The consumer isn't necessarily going to know.

>> MALINI MITHAL: Thanks, Lauren. And John.

>> JOHN VALENTINE: Lauren is definitely right. Things are changing with mobile payments. All you have to look at is where the flow of money is turning. Right? So, you've got the carriers who are promoting Isis and are going to launch Isis. They want you to be paying for your mobile payments with your cellphone bill, right? That's what they're looking for. Because that's where they want the money to flow. With -- you have Dwolla, a really fantastic new company that is working with bank accounts. And so they want more money to flow through bank accounts as

opposed to credit cards. You have, you know, LevelUp and Google, where more transactions are going through the credit-card systems, with Citi MasterCard and the credit cards that we accept. So all you have to do is follow where the money is flowing to determine how the cost structure is going to change and who is playing at the table. Now, we've got a host of, you know, probably 10 solid mobile-payment platform options right now, and there's certainly going to be consolidation in the future to what is actually working for the consumer. But that's exactly where you have to look at to determine, are there more mouths at the table, are there less? It's all about the flow of money.

>> JAMES ANDERSON: So, I just have to correct one thing. So, Isis can speak for itself, but Isis is not planning to bill to the telephone bill. They're actually going to use Visa, MasterCard, American Express, and Discover accounts within the Isis Wallet.

>> JOHN VALENTINE: Yeah, yeah, yeah.

>> MALINI MITHAL: So, I am receiving a lot of questions from the audience, or we are, about privacy and security, which are also two topics we're going to be covering more in depth later this afternoon, so I'm going to save your questions for those panels. And we're going to move on to our next topic, which is the popularity of mobile payments, any barriers to adoption. Actually, I wanted to talk about a recent Fed study that was released just -- Federal Reserve study -- that was released just last month. And it found that 87.3% of those surveyed had not made a mobile payment in the last 12 months. Actually, one of the authors of the study is here today, Max Schmeiser, and he's brought copies of the study with him, so if you're interested in more about the study, it's outside on our table when you walk in. But I wanted to then pose this question to the group -- how popular are mobile payments in the U.S. right now? How widespread are they? Robin?

>> ROBIN LEIDENTHAL: I would -- So, from our perspective with GoPayments, we've had huge uptake in that mobile product. So it's -- it's extraordinarily popular with our small-business base. And it just continues to grow at a phenomenal rate.

>> MALINI MITHAL: Okay. Great. Kyle?

>> KYLE ENRIGHT: Yeah, and I think just in terms of terminology, we should be -- try to be as clear as possible what we mean when we say mobile payments. So there are, you know, lots of transactions being conducted from a mobile phone, which is basically an e-commerce purchase transaction, just like you would from your laptop or desktop or what-have-you device. So, PayPal, I think, has publicly stated some numbers in their earnings releases that they're doing something on the order of $4 billion, annually, and they expect that roughly to double again this year. Obviously, lots of other players beyond PayPal. Lots of people buy stuff from Amazon or songs, what have you, from iTunes, lots of stuff through the Google Play Marketplace, et cetera. So that is, oftentimes, lumped into this definition of mobile payments, because those are purchases from a mobile device, as opposed to, and distinct from, a lot of the stuff, for example, that -- the problem that Google Wallet tries to address, which is really paying for things in the physical world in lieu of cash or standard plastic-card transactions. Those are, you know -- If you look globally -- Japan, lots of adoption, lots of usage. And, you know, pretty much outside of Japan, not a whole heck of a lot. There are a lost reasons for that. James can probably -- you could buy him dinner for a week, and he couldn't tell you all the stories. But you need a lot of -- you need some infrastructure changes. Those are all coming. Basically, it's getting standardized, costs coming down rapidly, and we believe -- and I think MasterCard even more so -- it'll be ubiquitous very soon. You need phones that actually can conduct those payment transactions in some way, shape, or form, and then you need merchants to adopt it, and obviously, you need users, too, to adopt it.

>> MALINI MITHAL: And, actually, let me vary the question a little. Carol noted in her presentation that in all the ads she was showing that a lot of the mobile-payment users were very young. So does popularity of mobile-payment use vary by any demographic, such as age? Or we've heard a lot about the underbanked, where the underbanked, are they using mobile payments more? Someone address that? John, are you still good with answering that question?

>> JOHN VALENTINE: Yeah, sure, sure. One thing that we're seeing quite a bit is, you know, we know the average age of people who use LevelUp, and we peak out at about 23, 24, and then it's a steady decline throughout. Now, it could be a result of our marketing, but it's probably a result of younger people being more open to trying new things. So, just to give you -- just to get an idea of

the room, raise your hand if you've used either Dwolla or Google Wallet or PayPal at Home Depot or LevelUp before. All right. So, I think it's an interesting audience, but it's about 25% to 30%. So, as you can probably see, we're very much in the nascent stages of mobile-payment acceptance.

>> JAMES ANDERSON: So, our experience, and we've done a lot of market research and we've done in-home research where we've talked to people and tried to understand kind of the psychology of this trend in what we've been trying to promote. Our experience and learning is pretty straightforward, which is that the appeal of mobile payments is actually heavily tied to people's engagement with their mobile phones and much less to their engagement around payments, because, frankly, most people aren't very engaged around payments. It's not, like, a super-exciting thing, other than for people who make their living doing it, like me. And so it really correlates heavily with engagement with mobile, and I think that's really the driver of the age skew that John was mentioning, which is that, you know, people who are into their phones have, you know, 4,800 apps running, those are the people who are going to say, "Oh, I can pay with my phone. That's cool." So that's the skew.

>> JOHN VALENTINE: I do think, though, we all have -- there are some 80-year-olds that brag to their friends that they use their phone to pay, so... Definitely people from every demographic are embracing it.

>> MALINI MITHAL: Okay. And then, what about the underbanked? Again referring to the Fed study, "underbanked" was defined as someone who has a checking or another bank account but has used an alternative payment product in the last year, such as a payday loan. So are the underbanked using mobile payments more than the rest of the population, and what effects does this have? Lauren.

>> LAUREN SAUNDERS: Yeah, I think they are and they increasingly will be. I think the recent fed survey that you talked about showed that the penetration of smartphones is actually much higher than you would think among lower-income population. In some minority communities, it's actually much higher than in the white communities. And maybe because that's their -- that's their only phone. They don't have a phone at home and they're more willing to invest in a good one or

they don't have a computer, and this is how they invest in it. I know when I was representing tenants in slum housing before I had a cellphone, my clients all had one. And they have the same desires to shop and get deals and compare and the ability to do that. That is easy for all of us who sit at desktops all day long. It's something that, you know, can be very useful but scary, too, for this vulnerable population that can be more exposed to all the different perils of mobile banking.

>> MALINI MITHAL: Oh, just a note from someone in the audience. If everyone could get close to the mikes when they're answering the questions. James?

>> JAMES ANDERSON: [Loudly] Yeah, so I just want to -- [Laughter] [Normal voice] I take orders very seriously. Not that close. So I think it comes down to some pretty simple things. So if you -- if a proxy for underbanked is people who have less money -- so let's just kind of keep it simple -- those people care a lot more about knowing exactly how much money they have. And so if you look at the, you know, products that we have in the payment business -- Obviously, if you've got cash, you know exactly how much money you've got 'cause you can just go count it in your pocket. Once you move to electronic payments, generally you're talking about debit cards and prepaid cards, if we're talking about the underbanked community or the less affluent community, those are the products they use. And knowing the balance on those accounts that underlie those card products is incredibly useful. And, you know -- surprise -- you can't do that with a card. A piece of plastic can't easily tell you the balance. The mobile phone can actually tell you the balance very easily. So, at some level, these things are just really, really simple and really, really obvious, which is that combining these two things that are separate today into an integrated proposition can deliver new value. And it doesn't have to be amazingly life-changing value. It can be as simple as knowing your balance on your checking account before you go and make a payment. That is very, very valuable to somebody who's living on a fixed income and doesn't have access to credit facilities. So -- I think, you know -- and that's part of this sort of extension -- You know, we've talked about -- Carol did a good job of talking about the historically well-organized world. And people -- you know, including people in Purchase, New York, at MasterCard say, "Well, cards aren't broken." Well, they're not broken, but can we envisage a world where they're better, where accessing a payment network is better? And I think with mobile, you can. And some of it is very simple. It's things like access to balance, access to receipts, access to transaction history.

>> ANDY HASTY: Thanks, James. We're running out of time, so I want to move to the next topic -- the last topic. Next steps. What are businesses doing to make sure that consumers are being protected, and are there best practices? Thanks, Robin.

>> JAMES ANDERSON: Okay, now I have to go. [Laughter] Then you have to go.

>> KYLE ENRIGHT: And then I have to go. [Laughter]

>> ROBIN LEIDENTHAL: So, I would say that, at Intuit, with all of our accepted solutions, that we spend a good deal of time and effort and investment in vetting merchants, you know, into the system so that they can accept payments -- right? -- so there's that sort of screening there. And then, of course, it -- with the GoPayment solution, we are -- you know, we're processing the major brands, and there are those existing protections that extend across modalities. So you have the same chargeback rate for a payment that you conduct over a mobile phone that you do on a laptop, that you do at point of sale. And so all of those protections are preserved. And then the additional protection of the vetting that we do of the merchants that we allow into the system and all of the screening that goes on after the fact. So there's -- there's a lot of protection.

>> ANDY HASTY: Thanks, Robin. James, I think you had --

>> JAMES ANDERSON: Did I get up first? So, yeah, just like Robin said... So, you don't lose any rights. So the basic message is, if you use your MasterCard and your mobile device, you have the same rights and protections as you do if you use it in a card form factor. You know, we feel that that's, you know, an incredibly powerful, simple message that people understand. And I really appreciate Lauren, you know, explaining to everybody how some other players in the business of kind of taking that and, you know, twisting it in different directions. But fundamentally, the protections that come with the MasterCard brand come regardless of the -- of a channel or form factor.

>> ANDY HASTY: Kyle.

>> KYLE ENRIGHT: Yeah. So, I think, in terms of protections, really there are three different dimensions to this. The first is security, which has already been touched upon but probably not nearly enough. So, in addition to all the protections of the existing payment networks, in particular for using conventional credit products that are in place, and regardless of which underlying payment method you're using, at least with regard to Google Wallet, we have significant levels of hardware-base and software-based security, heavily layered. You know, you need a PIN, for example, to even activate your Wallet to be able to make a purchase -- something that doesn't exist with your conventional mag-striped card today. James could lecture for days on the significant investment that the card networks have made, in terms of actual -- You know, there's a discreet chip on the phone, at least in the case of Google Wallet, that we rely upon, you know, that is very, very heavily vetted by the card networks. It's tested. You know, so extremely high level of security there, which provides a significant level of additional protection to users, just in terms of how they conduct their transactions and how the transaction is passed between the device and the merchant. The second dimension of protection is what I talked about before, which is really disclosure, consumer education, and making sure that people are informed about the choices that they're making. I think that's a really important dimension of protection that's oftentimes overlooked. Ask then the third, which is related to that is, you know, at the end of the day, as James pointed out, the biggest risk in all of this, from any dimension -- whether it's somebody overspending, whether it's somebody getting scammed or cheated -- the biggest risk in all this is the consumer themselves and the choice that they make, whether they're well-informed or not. So, you know, we, Google, have done a lot to try to proactively provide education to consumers. We've done lots of blog posts and Twitter tweets and all kinds of things. We've run campaigns with merchants to try to educate people, at least with regard to Google Wallet. But more generally, I think, the more you have real-time access to your data and the more of that information you provide to users, you really empower the consumers, right? And at the end of the day, this is what people want. Whether they're underbanked, whether they're fully banked, or overbanked, they want more access, more choice and more information about the decisions that they're making so that people themselves, as individuals, can make informed choices. And I think mobile really provides multiple dimensions to enhance that for the user experience that we can never approach with conventional payment systems.

>> ANDY HASTY: I'd like to highlight that we do have a panel dedicated to security coming up after lunch. And to change the question a little bit, since we've got about five minutes left, is there an opportunity for education to the end consumer here? Adam?

>> ADAM LEVITIN: I am incredibly skeptical about consumer education. There's a whole industry of kind of financial literacy -- nonprofits and the like -- and the truth is, when you look at the empirical studies of the effectiveness, it's just not proven -- that there are a lot of people who have a financial interest in keeping this going, but we don't know -- we haven't seen the results. And it's very easy to say, let's just do -- you know, financial literacy. Let's do education, let's do disclosure because that's a way of avoiding actually dealing with more -- addressing more substantive regulation. And I think that we're often deceiving ourselves if we think that that will be the solution to all problems. So I started -- I started my professional life as a bankruptcy attorney. And that means that, you know, the way I approach the world is thinking about, what happens when things go wrong? So it's always sunny in Silicon Valley, but where I live, it's always about to rain... [Laughter] ...I've noticed. This is what I'm paid to do. Right? So even the most wonderful, best-designed system will have problems. You think of the launching of the "Titanic." That was state-of-the-art, space-shuttle technology at the time, to think of other cutting-edge technology that doesn't always work perfectly. There are things that people don't think about and sometimes there are things that, in retrospect, should be kind of obvious. And I think one of the real questions in the mobile space is, you know, who's watching this space? So because mobile is bringing together -- It's this ecosystem that brings together so many different types of entities, some of which are currently quite heavily regulated, some of which are not regulated at all, there's a question of who -- certainly on the federal level -- whose beat is this? And there's -- and, you know, FTC has jurisdiction over some of the entities in the system but not over all of the entities. FCC has jurisdiction over another group of entities, CFPB over yet another group. Bank regulators come into play. And for payment antitrust, that's Department of Justice, not FTC. So -- and I probably haven't even gone -- could probably come up with a few other agencies that have peripheral roles. When you bring all this together, it's -- there's a question about -- of how is regulatory policy going to be set, and how is it going to be coordinated? And I hope this is something that, you know, people from federal agencies who are in the audience here are thinking about currently. Because regardless of what the substance of the regulation is, it helps to have

everyone on the same page to agree on, "Here is the procedures, here's how we're going to move in coordination, here's how we're going to figure out if there is a problem that needs to be addressed and then what the solution should be.”

>> ANDY HASTY: Thanks, Adam. And, John, I think you mentioned that merchants need education here as much as consumers do. Can you sort of elaborate on that a little bit?

>> JOHN VALENTINE: Exactly. If the merchant can't speak to the security features of a new platform or doesn't understand it fully themselves, how are they going to be able to accept payments on that? It's incredibly difficult and time-consuming for merchant education, just as much it is for consumer education. All of these mobile-payment companies that are sitting right next to me have spent years and so many dollars making sure that the systems are as secure as humanly possible, and we need to push that information out, not just to the consumer to make them feel comfortable, to be able to try out mobile payments and get comfortable with it, but also to the merchant so they can speak to it. So what a lot of our companies have been doing is going to merchants and educating them on exactly how secure and how the whole security-system process works. So if a consumer walks up and sees the option to make their first mobile payment and they ask the merchant, then they'll get a strong answer and they'll feel comfortable about it. The major challenge to that is, 9 times out of 10, they're talking not to the owner of a business but to the cashier, who is probably a lot more difficult to educate on these platforms.

>> MALINI MITHAL: And, I'm sorry, but since we're out of time, I have gotten a couple of questions from the audience that don't fit in on the other panel, so I want to go ahead and ask them. So this is changing gears a little bit, but it's about mobile payments in the U.S. and other countries. Let me go ahead and read the question. "How will a U.S. system mesh with mobile payments in other countries? Is there an effort to develop common standards?”

>> JAMES ANDERSON: Okay. I'll take that real quick. So, everything we do is global, so the stuff we do in the U.S. and stuff we do overseas is global. There's two basic systems of the way payment systems work. Fortunately, now everybody's basically heading to the same one, which is

chip-based technology, and that's what's embedded -- embodied and embedded in PayPal. So, from our point of view, it's always been a global project.

>> MALINI MITHAL: Okay. Thanks, James. A question for LevelUp. If LevelUp strives for Interchange Zero, what payment processing systems do they see as being able to provide this?

>> JOHN VALENTINE: Sure. "Us," hopefully. Hopefully. Now, Interchange Zero, we -- what we're trying to do is we're trying to create more efficient processing, whether that be through bundling or through -- We want to give local merchants who, on their own, have the sort of negotiating power of just their own business. We want to give them the negotiating power with merchant processors of 1,600-plus businesses. And when we can give individual merchants that type of power, we can lower interchange rates or we can lower the actual fees that they end up paying.

>> KYLE ENRIGHT: And just quick comment, since a lot's been talked about interchange. Personally, I don't believe that -- while least cost routing, which is effectively a catchphrase for this concept of put the transaction over the cheapest payment rails. Well, least cost routing is very interesting and certainly something that merchants look at and lots of providers are exploring. Personally, at Google, we think that, if you look at the question more holistically, merchants pay a lot of fees to acquire customers, to retain customers, to provide offers to customers, to clear out inventory, and those are additional value drivers that can result in a net Interchange Zero without necessarily trying to get their there directly through interchange, which is basically going to be impossible. It costs money to process payments. It always will. You're never going to get a native Interchange Zero, but what you can do is reduce some of the other costs that merchants currently endure pretty inefficiently.

>> MALINI MITHAL: With that, I'd like to thank each of our panelists for participating on this panel. And we're just past 10:45, so I'm going to go ahead and close this up. And we have a 15-minute break now. [Applause]