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***The Future of Commerce:
Why It Will Be Driven By A More Empowered, Inclusive Planet
As Prepared for Delivery***

Good morning everyone.

In the last five centuries, there have been several epic shifts that have revolutionized how we communicate, conduct commerce, and create industry. Let's start with the Printing Revolution in the 15th century, which saw the advent of the printing press and birth of communications on a mass scale. There's the Commercial Revolution, in the 16th century, which was really the dawn of capitalism, trade, and exploration. There's the Industrial Revolution, starting in the 18th century, which mechanized much of what had been manufactured by hand.

Fast forward a couple of centuries and you've got the Information Revolution, which you could argue began in the early 1970s with Intel's microprocessor and that hit a major inflection point 20 years later called the Internet.

Today, I believe we're on the threshold of another seismic shift. What I want to do this morning is lay out my vision of the future of commerce, where more people from more places are better able to get what they want...to shop, pay bills, get benefits, move up the pyramid...whatever, wherever, whenever. It's a vision driven by advancements in technology that have led to unprecedented potential for economic growth and productivity and a massive capture of data.

It's a vision that's driven by a more empowered, inclusive planet, where those who are already included in the financial mainstream are able to better live the lives they want – and where those who aren't included have an opportunity to join the financial mainstream, participate in the global economy, and build more self-determined lives. To build out this vision, I'll focus on four topics:

1. The convergence of factors driving this shift.
2. The promise of greater empowerment and inclusion for consumers, merchants, and governments.
3. What has to happen to realize that promise; and
4. What success might look like.

The convergence of factors driving this shift.

Consumer demands are evolving rapidly. In the developed world, especially among Millennials, it's pretty straightforward: their expectations for products, delivery, and service couldn't be higher and their tolerance for friction in any of these areas couldn't be lower. They're digital natives – living in their minds, in an all-digital world.

They've never had a landline because in their generation it doesn't make sense for how they live their lives. And their attitudes toward privacy and sharing are vastly different from their parents and grandparents. I speak from experience as the father of two daughters in their 20s – otherwise known as my Millennial focus group of two.

Of course, I haven't had the heart to tell them my focus group has expanded. Millennials at MasterCard made up five percent of the workforce when I came on board three years ago – today they make up 30 percent of the workforce.

In the developing world, individual demands are being driven by megatrends like a growing middle class and urbanization. Projections are that in less than two decades – for the first time – a majority of the world's population won't be impoverished. And as of a few years ago, more people live in cities than rural areas – another first!

Yet, at the same time, in many countries, youth unemployment is reaching historic highs.

Half the world's adult population remains excluded from the financial mainstream.

And given increasing productivity and all the technological innovation we are seeing today, it's unclear to me that future economic growth will produce as many jobs of the same type as the past did.

But this is also where I see technology enhancing the lives of those already included as well as enabling the lives of those who aren't.

Technology today is driving monumental change in many ways, not unlike the printing press as I mentioned at the outset that revolutionized knowledge and information 500 years ago, wresting both from the control of the church and temples and priests.

And today's breakthroughs have an incredible capacity to drive similar empowerment and inclusion.

There's the digital convergence we're all experiencing. We're living and working at a time when our physical and digital lives are increasingly coming closer together, where every device will be a potential commerce device.

Which becomes even more interesting when you think about something Qualcomm's Paul Jacobs said not too long ago: that the number of connected devices will likely reach 24 billion or so by 2020.

There's the Internet of Everything, biometrics, crowdsourcing, location-based services, sensor-based services, gamification, NFC, and the cloud which – as it matures – is driving global-scale computing at ever lower costs.

And it's not just the latest smart phone. It's also PCs, TVs, tablets, games—and now wearables, like watches and clothing. Even refrigerators, washing machines, thermostats, and sprinkler systems are getting connected.

So, where do these factors lead? Their convergence sets the stage for an historic shift toward empowerment and inclusion, which brings me to my second point: the promise of greater empowerment and inclusion for consumers, merchants, and governments.

The promise of greater empowerment and inclusion for consumers.

Consumers are navigating this new, information-rich landscape, where the physical and the digital are coexisting, in some very interesting ways. This landscape is influencing everything from how we shop to how businesses are engaging consumers.

In today's world of commerce, you've got to think about what the consumer is trying to do, not what you want to offer or sell them. Nobody wakes up in the morning or goes shopping, looking forward to making a payment. That's not the most exciting part of the interaction. It's all the rest of it. Consumers want to do something. See a movie. Go to dinner. Take in a ballgame. And where the engagement and the purchase used to be wrapped up into one experience, today that engagement is now along a continuum of experiences: before, during, and after.

Before you make a purchase, you research and price comparison shop. Think about a tool like TripAdvisor and the explosion of peer-to-peer or customer reviews and the influence they have on your buying decision. Ten years ago or so, that didn't exist. Today, you're able to get what you want, on your own terms, in your own way, on your own timetable, at the best price...all to make the best purchase decision possible.

Then there's the during part of the shopping experience. You can check out in more ways than ever at the point of sale...there's Tap & Go, In-Store, In-Aisle, In-App, On-line – heck, even on-couch...and with any number of devices. You can go contactless on the bus, subway, or train – no need to fumble for change and hold up the line. Same thing for parking meters.

Order a hot dog and drink from your seat at the ballpark. No need to get up and risk missing any of the action. The future of commerce – in part – will be about fewer false choices and more real fulfillment.

So, what about after the purchase? Right now, you walk into a store; no one knows you're there. And frankly, they won't know you're there until check out. You pay and your experience has just ended, when it should actually be continuing with added benefits and rewards...where, with technology and data, information from your last purchase should add value for your next purchase...where the outcome should be a deepening relationship between consumers and merchants.

The promise of greater empowerment and inclusion for merchants.

That brings me to the promise of greater empowerment and inclusion for merchants. Just as consumers don't go into a store saying they can't wait to pay, merchants don't go into business because they can't wait to accept payments. You get into business because you see a need that's not being met...you have a business model that enables you to disrupt an industry...you have an idea for a new product.

To move your business forward, you want to increase sales, manage inventory, understand your customers, and create loyal customers.

To add value to a merchant or a retailer, you have to connect with the problems they're trying to solve. I'll show you what I mean through three different examples.

Example one: Let's say you're reading a magazine on your tablet. You see an outfit or coat that you like. A MasterCard-Intel innovation with PhiSix Fashion Labs will allow you to "try it on for size" digitally by using a fully-interactive, 3D virtual fitting room app. The app takes your photo, sizes you, and creates your avatar. You see yourself walking down the cat walk, wearing the merchandise.

And then, If you like how it looks, you can make the purchase right there, with one tap on the screen, using ShopThis! with MasterPass™. Consumers win – they can make a purchase without having to leave the page they're on.

Retailers win because of higher pull-throughs, and fewer returns that come with postage and inventory costs.

In my second example, there's a similar win-win but with parking meters which I mentioned a minute ago. As we move from coins, to electronic, to digital, a parking meter becomes more than an instrument that allows a person to park – when digitized, it becomes a merchandizing opportunity for retailers and a benefit for consumers.

Let's say you're pulling into a city center, you park your car and pay your meter only to find that you now have the option to redeem in real-time a special "smart" merchant offer from a nearby store or restaurant. MasterCard has partnered with Parkeon – the world's leader in parking services – to make that happen.

Together, we're in the process of transforming on-street parking into a retail experience for consumers and merchants.

This brings me to my third example: what I see as the untapped potential for small-and-medium-sized enterprises – so-called SMEs – even micro businesses.

There's a 21-year old Brazilian from São Paulo named Juarez Nascimento, who had been a cash-only street vendor selling mobile phone accessories to motorists waiting at traffic lights. But he began losing customers as people started carrying less cash because of crime. Juarez decided to innovate, use a card reader, and accept plastic.

The result? Fewer lost sales, a monthly income that's doubled, and increased security from not having to carry cash himself either. To top things off, in order to accept plastic, Juarez had to open a business, making him a micro-business owner and entering the financial mainstream.

It's not that the business landscape is changing. It's a new landscape altogether. It's like what Jack Ma, founder of China's largest e-Commerce company – Alibaba, said about the U.S. approach to e-commerce versus China's: "in the U.S., e-commerce is just online shopping. In China, e-commerce is a lifestyle."

Commerce is moving from an exchange that's transactional to an experience that's transformational...from the exchange of value to the creation of value. This is leading to an explosion of new value creation opportunities; which will make the consumer market increasingly dynamic and sustainable.

The promise of greater empowerment and inclusion for governments.

I've talked about the promise of greater empowerment and inclusion for consumers and merchants. What about governments? The promise for governments is increased financial inclusion and greater efficiencies.

Some 2.5 billion people – about half of the world's adult population – are excluded from the financial mainstream. That's got to change.

And it's beginning to change as technology helps governments strengthen the social contract with their citizens in ways that make a difference in their everyday lives. Public-private partnerships are the key to making that happen.

I think of South Africa, where today 22 million people and their families get their benefits through 10 million payment cards that have biometric technology built into them. Let me tell you about one of those recipients.

Her name is Hilda, a 77-year-old lady, living in a little tin shack whom I met during a trip to South Africa earlier this year. Hilda and I were talking about this new way to get benefits and she told me something I haven't forgotten: "Now I feel like I'm somebody. I have a card that has my biometrics—I exist." You cannot imagine the pride and pleasure I saw on her face.

She's getting the same social benefits she was getting before, but then it was in cash, and she was anonymous and subject to harassment by her own relatives who would forcibly take her cash. Now, she has an identity inside of South Africa and cannot lose her benefits.

In fact, five million recipients – of the 22 million getting benefits – have access, like Hilda, to a formal financial tool for the very first time. These are five million people considered financially included today who were financially excluded just 18 months ago.

I think of Nigeria which earlier this year announced its plan to roll out a national ID program with 13 million citizens who will participate in the first phase. The government is using biometrics like fingerprints, facial recognition, and a digital signature to fight identity fraud and payment fraud. The eventual goal is to introduce more than 100 million cards to Nigeria's 167 million citizens – the broadest financial inclusion initiative of its kind ever on the continent.

I think about MasterCard's partnership with the United Nations World Food Programme, where we'll be rolling out a new web-based donation platform over the next few months. Our cardholders will be able to register and make a donation whenever and wherever they make a purchase.

And about a week ago, the World Food Programme announced it will be using MasterCard technology to provide over one million Syrian refugees in Lebanon and Jordan with prepaid cards – reloadable every month – so those in need can buy the food they need from local stores.

When it comes to helping developing nations, a new Gates Foundation/McKinsey study entitled, **Fighting Poverty, Profitably** found that digital payments offer the highest potential for financial inclusion. Only countries with relatively widespread access to digital transactions achieve high levels of financial inclusion. In countries where more than 70 percent of people can pay digitally, financial inclusion is over 85 percent.

Digital and electronic payments are making a difference in developed countries as well. There's the U.S. Treasury Department which now is delivering nearly all federal benefits electronically – no more lost checks in the mail. No more spending a \$1.03 to cut a check, when an electronic payment costs about a dime.

I've talked about the convergence of factors driving the promise empowerment and inclusion. I've talked about what that promise means for consumers, merchants, and governments. Now, to my third point: what has to happen to realize that promise.

What has to happen to realize that promise?

First, there's the quest to reduce cash-dependency around the globe. 85 percent of the world's retail transactions are still done in cash. Why is this a problem? Because if you're a country that wants to grow in the future and you want to grow at the kind of rate that's possible for you, cash is not your solution.

Cash isn't your solution because it's expensive. It's expensive in ways beyond just the cost of printing, distributing and delivering it, which can be anywhere between 0.5 to 1.5% of GDP. It's expensive in terms of tax avoidance. It's expensive in terms of corruption and illegal activity. It's expensive in terms of societal costs.

A Fletcher School study from Tufts University found that cash costs the U.S. about \$200 billion a year or 1.3 percent of GDP. A German university study found that cash costs Germans about 12.5 billion Euros per year. A Canadian university study estimated that the net fiscal benefit of scrapping cash to the federal government is equivalent to 1.1% of GDP. Half of Canada's fiscal deficit. And a Turkish university study found that if consumers stopped using cash by 2015, Turkey would earn about \$22 billion USD.

Second, realizing this promise means fewer false choices in the security arena. Even just a few years ago, when it came to technology and data, issues like service and security used to be an either-or proposition.

Imagine a technological version of "whack-a-mole." You solve one problem, then another pops up. You could get better service, but you have to give up some security. You could get better security, but you have to give up better service.

But that's no longer the case. In fact, in 2013, not only can you have both – consumers want both. In fact, they expect both!! There's a growing market for security – especially fraud security, which includes some of the biometrics

I've mentioned, but also retina recognition, personal clouds, keystroke patterns on your keyboard. Security isn't just a new industry, it's a new economy.

Then there's the data and analytics side of the security equation. Good data increases analytical strength. Good data enables better protection tools like fraud predictors and fraud scoring. You made a payment on your phone in Germany – minutes later, someone makes a purchase from the "same" phone in the U.S.

We're going to flag that quicker than the time it takes me to finish this sentence. Technology is moving fast, but you still can't be in Germany one minute and the U.S. the next. At least not yet!

So, what might success look like?

I've laid out a vision of the future of commerce, driven by the promise of greater empowerment and inclusion for consumers, merchants, and governments. And I've talked about what has to happen to realize that promise. So, what might success look like?

I see success as reducing the role of cash in the global economy. It's not just that cash is expensive, it's inconvenient. You can't shove cash into a computer to buy something online, unless you are a Caveman in a Capital One ad! And when you shop with cash, you're limited to the money you have on hand.

Let's say there's a huge sale – you can't take advantage of it and you lose out on the cost-savings.

If you're a merchant dealing only in cash, your market of customers is limited to a narrow, physical radius; your sales per customer are lower and your cost of handling and securing the money you earn from sales is way higher.

Cash is the friend of the rich man, not the poor man. One of the authors of the Fletcher School study I cited said as much in a New Yorker article: "we tend to think of cash as the poor man's best friend. That is where we're wrong." Think about who avoids taxes? He or she with means who needs to avoid them.

Who chooses cash? He or she who has the luxury of choice. Hilda didn't have the luxury of choice. Now, she's connected to a financial tool that provides her more options. She can even get cash back when grocery shopping.

But on her own terms.

I believe success also flows from aligning products to people's needs – to what it is they want. Getting a hurried cup of coffee on your way to work – who doesn't want fewer steps and less friction while paying for it? You just want to tap and go and be done – quickly, safely and securely.

When it comes to enabling commerce or facilitating benefits, you want to design products and services from the viewpoint of what the consumer wants...and in the simplest, most inclusive way possible, so that friction is reduced to maximum extent possible – without sacrificing security. Safer, simpler, smarter!

We at MasterCard are excited about this vision that uses our assets to help make success possible. We have nearly 2 billion current consumers, shopping at more than 36 million merchants, through 25,000 plus banks in 200 countries – with a system that complies with all the local legal regulations in those countries, and guarantees that all the players in the ecosystem will get paid for their participation.

We have data, anonymised by the fact that we do not get your name when you shop – we get the card number. And we have wonderful people, who understand the industry but also the technology and innovation driving it for this vision of what success looks like.

Success is a global economy that's actually closer to being truly global; where more people from more places are participating in it, contributing to it, and helping it grow...where Adam Smith's Invisible Hand is also a Helping Hand.

Canadian author William Gibson once said: "The future is already here—it's just not evenly distributed." Today, we have a once-in-a-generation opportunity to define and distribute the future...more evenly and more equitably and in a way that's more sustainable and prosperous, lifting more people up, instead of leaving them behind.

Success is all of us here at this summit pulling together to make all of this happen, because it's good business and good for business...because it grows a larger pie...and because it builds a better future of commerce that's driven by a more empowered, inclusive planet. Thank you.