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## JOURNAL REPORT

# WSJ.D LIVE

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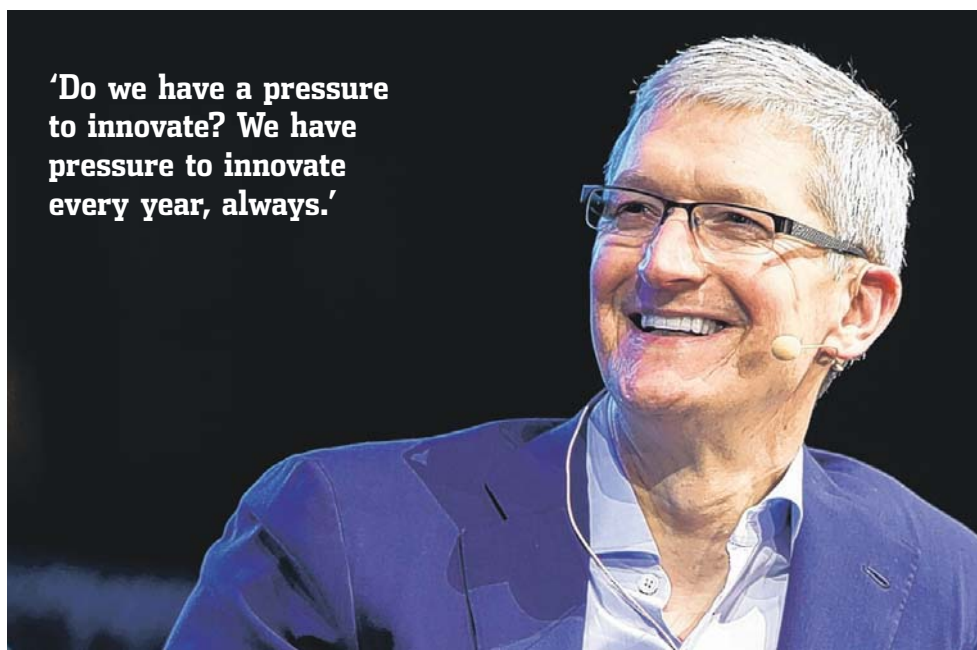
THE WALL STREET JOURNAL.

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# Tim Cook: TV, Cars, Watches and More

The Apple CEO discusses the company's new upgrade program, and the importance of privacy

**'Do we have a pressure to innovate? We have pressure to innovate every year, always.'**



MIKKI RITCHER/DOW JONES

It's been a busy time for Apple Inc. This year has seen the tech giant plunge into the watch business, upgrade its iPhone—and, now, prepare to relaunch Apple TV.

To get an inside look at these moves, *The Wall Street Journal's* editor in chief, Gerard Baker, spoke with Apple Chief Executive Tim Cook. Here are edited excerpts of the discussion.

### Rating the watch

**MR. BAKER:** Let's talk about the watch. You launched it earlier this year. Has it matched your expectations?

**MR. COOK:** We shipped a lot of the first quarter. And then last quarter we shipped even more. I can predict without hesitation that we're going to ship even more this quarter.

**MR. BAKER:** From the consumer's perspective, I have my

iPhone with me, and I use my iPad all the time. I don't find the watch indispensable.

**MR. COOK:** We see customer satisfaction off the charts. It's, like, 97%. What people love about it, they love the health and fitness portion of it. They love being reminded they've been sitting too long. People love notifications. Paying with the watch is even better than the iPhone.

You can control your cameras with it. You can control Apple TV with it. More and more functions keep coming.

**MR. BAKER:** Let's talk about your recent product launch, iPhone 6S, particularly about your upgrade program, which seemed a significant thing. Now a customer can get a phone and can upgrade after a year, breaking that link with the carrier. What's the thinking behind that? Are you trying to

encourage iPhone users to get a new phone every year? If you're trying to do that, do you need to up the innovation each year?

**MR. COOK:** It's not competing with a carrier. A person walks into the Apple store and says, "I'm a customer that likes to upgrade every year," so this is the plan for them. They want to say, "Take my phone and give me the latest iPhone." They select which carrier they want. We don't steer them.

Do we have a pressure to innovate? We have pressure to innovate every year, always.

### Sound and vision

**MR. BAKER:** Apple Music. You launched that in June. Tell us how that's going.

**MR. COOK:** It's going really well. We have over 6½ million paid users, and we have 8½ million-plus people in the 90-day free trial. People love the

human curation. Technology will not be sufficient to tell you what song should be next. It takes a human to do that.

**MR. BAKER:** Apple TV is just about to relaunch. When people thought about Apple TV, people thought you were going to transform TV in the way that you transformed the music experience and phones. It looks as though Apple TV is not going to be fundamentally disruptive. Is it?

**MR. COOK:** I think it will be, yes. When you really look at the TV experience today, the TV makes the decision about what time to watch it. Or we have to decide whether to record it in advance. If I come to work the next day and hear something that happened last night that I didn't see, if I haven't recorded it, maybe I can find it somewhere on the Web, maybe I can't.

We've developed a whole infrastructure to try to fix this broken process.

**MR. BAKER:** But six months ago or so, we thought we might be seeing a fundamental movement in the cord cutting. That Apple TV may provide all the major networks, which still count for a significant amount of viewing in the U.S.

**MR. COOK:** I think it is the platform for the networks to do that. If you're a content owner, what do you want? You want to get your content to people who want to watch it. And you want to enlarge that audience as much as possible. And you want to interact with your customer. You cannot do that in today's system.

**MR. BAKER:** What is it about the car business that is ripe for disruption?

**MR. COOK:** What we want in the short term is, we'd like people as they enter their car to be able to have an iPhone experience in their car. We've developed a product called CarPlay. That's all about trying to make your life outside the car and your life inside the car be seamless.

**MR. BAKER:** Let's move on to privacy. You seem to have made a conscious decision to

# LIVE WSJ.D

## Tech's Present—and Future

For the second year running, entrepreneurs, executives and financiers descended on Laguna Beach, Calif., last week for WSJ.D Live, The Wall Street Journal's global technology conference.

Attendees heard provocative interviews with Apple's Tim Cook, Virginia Rometty of International Business Machines, Uber's Travis Kalanick, Adm. Michael Rogers of the National Security Agency, Xiaomi's Bin Lin, Benchmark's Bill Gurley, Theranos's Elizabeth Holmes, Mark Cuban, Facebook's Chris Cox, Tyra Banks and many more.

Other highlights included a startup showcase featuring celebrity judges, including will.i.am, venture capitalist Theresia Gouw and Mr. Cuban, product demonstrations and a drone ballet.

Here are selected excerpts.

### FULL WSJ.D LIVE COVERAGE

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promote the privacy of your users, perhaps even ahead of the fullness of the customer experience.

**MR. COOK:** Privacy is hugely important to us. It's a key value of our company. And we think that it will become increasingly important to more and more people over time, as they realize that intimate parts of their lives are in the open and being used for all sorts of things.

But we're not making a trade-off with customer experience. Our view is you can have both. The big difference that we're doing is that we're holding that information on your device encrypted, so it is yours.

### The bigger mission

**MR. BAKER:** You got very much involved in the public square as a CEO. You have a very distinctive culture at Apple. Is that something that you want to do more of? And do you think other corporate leaders should be doing the same thing?

**MR. COOK:** Business has a re-

sponsibility within the communities that they operate to be a great citizen. We're a global company, so we have a responsibility to be a great global citizen.

We don't get into a whole set of issues that we don't bring in expertise or have some knowledge over. The things that we're focused on are the environment, in which we feel we have a tremendous expertise and tremendous responsibility. Because we make a lot of products.

Human rights is another one. We have people in many parts of the world and in all of the U.S. states. And human rights I think are always one of the key issues of the times.

We focus on education. We do because Apple has a long-standing business in there. We have a lot of people with great knowledge of education. And we fundamentally have always believed that education was the great equalizer.

And so our culture is to leave the world better than we found it. And we try really hard to do that.

# Silicon Valley's Dangerous and Unsustainable Path

Venture capitalist Bill Gurley says companies hurt themselves by trying to delay going public

Venture capitalist Bill Gurley of Benchmark is known as one of Silicon Valley's top technology deal makers. In recent years, Benchmark has backed many of the biggest names in tech, including Dropbox, Instagram, Snapchat and Uber Technologies, the most valuable private company in the world, at \$51 billion.

Mr. Gurley sat down with *Wall Street Journal* reporter Rolfe Winkler to discuss today's sky-high valuations and the importance of going public. Here are edited excerpts.

**MR. WINKLER:** The last time we had you onstage, we spoke in September, a year ago. You made some news by sounding the alarm on excessive risk-taking in private tech investing. Since then, valuations have continued to rise. It seems like the party's still going. Were you wrong?

**MR. GURLEY:** It's my belief that Silicon Valley and the venture-backed businesses have moved into a world that is both speculative and unsustainable. And if we continue down that path, I think there's going to be even more damage that's caused.

I'm glad we're at The Wall Street Journal event, so we can talk finance, as opposed to just in Silicon Valley, where they like to talk about product all the time. Valuations represent discounted future expectations. They are not a reward for what you have accomplished in the past.

When entrepreneurs raise money at really high valuations, they should be saying, "Oh [no], now I've got a lot to go do," as opposed to, "Hurray, look what we've accomplished." And Silicon Valley and the press I think have both gotten that wrong for the past two or three years.

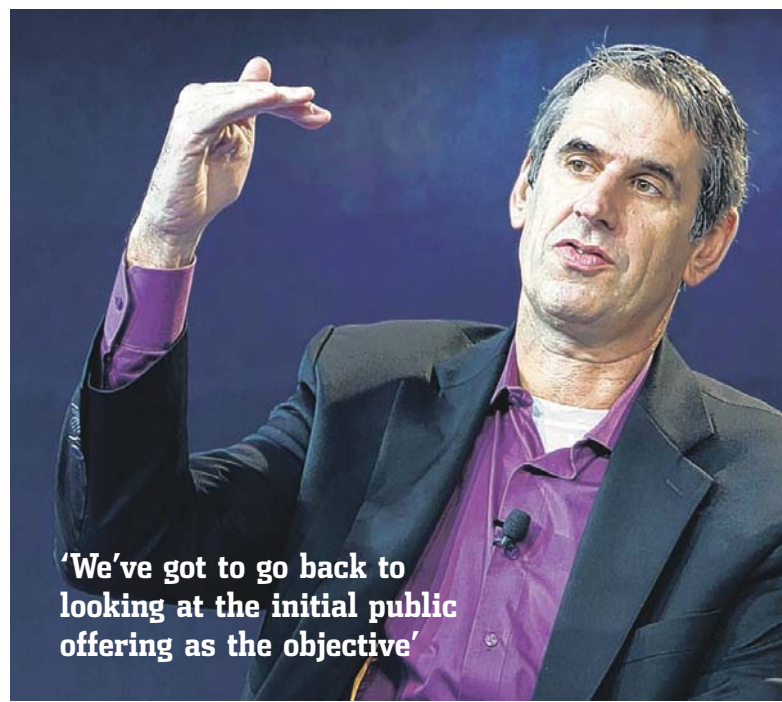
**MR. WINKLER:** What stops it?

**MR. GURLEY:** I think that's starting to happen. There have been a number of rounds in the past six weeks where an entrepreneur has gone out at a price for X and ended up at 50% of X, or something like that. I think the buy side that has been funding a lot of these rounds has finally recognized that investing in highly illiquid, immature companies is a risky proposition and not one that's easy. People have been acting as if it is easy, and it isn't.

**MR. WINKLER:** What changed?

**MR. GURLEY:** I think things got to a point of being silly in certain places. In China, in particular, you had companies burning \$100 million a month with no revenue. These are levels that we've never seen before.

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**'We've got to go back to looking at the initial public offering as the objective'**

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Vikas Jain says the smartphone is a whole different experience in India, **R2**

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## JOURNAL REPORT | WSJ.D LIVE

# The Many Stakeholders Of Salesforce.com

They go well beyond shareholders, says the company's CEO, Marc Benioff

**Salesforce.com** Chief Executive Marc Benioff grabbed the spotlight earlier this year as he led a successful campaign against Indiana's Religious Freedom Restoration Act.

The Wall Street Journal's Monica Langley spoke with Mr. Benioff about corporations taking on causes. Here are edited excerpts of the discussion.

**MS. LANGLEY:** You have used your clout in social causes.

**MR. BENIOFF:** I have individuals, stakeholders, that are very important to me. Because they're part of my company. My customers are my stakeholders. My partners are my stakeholders. My employees are my stakeholders.

I have other stakeholders, too. I even consider the communities that we live in are stakeholders. The environment is a stakeholder. We cannot do our business without that. But

in regards to our employees, you have to understand that, for example, when we were in Indiana earlier this year, and the employees are calling me, and they're saying, "Look, we have gay employees who are going to experience discrimination from the government of [Indiana]. What are you going to do about it?" Then I have an obligation, as the CEO of the company, to represent their interests. And so that was kind of the RFRA discussion. And we led that. And it wasn't just me. It was a lot of people who joined me.

You read all about these CEOs who are maniacally focused on shareholder value. Short-termism. But there's this theory that if you're going to successfully manage and lead a modern organization, you need to have a multistakeholder dialogue. You need to be able to bring in everybody

and understand it's not just about one thing. When you're the CEO, you'd better have a big lens of everyone you're representing.

**MS. LANGLEY:** When you started 16 years ago, you pioneered software-as-a-service and customer-relationship management. How are you innovating?

**MR. BENIOFF:** When we started out, I had been in a big company for 13 years. It wasn't big when I started. But it became big. I was like, "I'm going to do this on my own."

And I said, there's three things I really want to do. One, I want to create a new technology model. We call that cloud now. Two, we want to create software that was sold as a pay-as-you-go model.

And three, we took 1% of our equity, 1% of our profit, 1% of all of our employees' time,



'When you're the CEO, you'd better have a big lens of everyone you're representing.'

MIKKI RITCHER/DOW JONES (2)

and put it into a 501(c)(3) charity on the day we started.

Now we have almost 20,000 people. We've done 1.1 million hours of community service. We run 25,000 nonprofits free on our service. We've delivered over \$250 million of services to them. And we've given away \$100 million in grants. That's the idea going forward. I feel like the stakeholder idea is kind of that idea, too. It's

just one of those things that's very important, part of our company, who we are.

**MS. LANGLEY:** One of the points that you've been making lately is about women and equal pay within Salesforce.

**MR. BENIOFF:** Equality's really important to Salesforce, to me and to Salesforce, in that equality is about gay rights. Equality's also about women's

rights.

As the CEO of Salesforce, I'm going to fight for that, as it relates to my company. That's important when it comes to women, because women in technology is a tough issue. Because we don't have that many women in technology.

I think we could've done a better job, honestly, if we had taken that on earlier and had that revelation.



'The operator revenues are so low that the operator can't subsidize the hardware.'

## The Smartphone in India

It's a whole different experience, says Vikas Jain

How do you sell smartphones to India—a country with over one billion people, many of whom have never used the Internet before?

To get insights into the opportunities and challenges of the market, The Wall Street Journal's Joanna Stern spoke with Vikas Jain, co-founder of the Indian phone giant Micromax Informatics.

Here are edited excerpts of their conversation.

**MS. STERN:** How many smart-

phones do you sell in a month? **MR. JAIN:** We do about 3.5 million mobile phones a month. That's more than 100,000 a day.

**MS. STERN:** You're making a lot of phones as well. The most successful smartphone company, Apple, makes about two new phones a year. You make 30 new phones a year. Are people interested in 30 different phones?

**MR. JAIN:** In India the operator revenues are so low that the operator can't subsidize the hardware. You buy the hardware at the actual cost of the hardware.

[So each different price level of phone ends up being targeted at different parts of the market. It's like different models of automobiles.] If you take any of the automobile brands, they have multiple models. The target group changes after a certain price segment.

**MS. STERN:** In the U.S., people are on their fifth or sixth smartphone. They're used to using the Internet. In India, you're opening the Internet to them for the first time. What does that look like on a smartphone?

**MR. JAIN:** As a brand, we don't sell technology.

What we are proud of is an experience, things like the design of the phone and ease of use. That drives people to our phones.

Inadvertently, they end up using the smartness of the smartphone. As they come to use more of the features, they want more, and that drives them to the second or the third or the fourth smartphone.

**MS. STERN:** Let's talk about the competition. Xiaomi, how are you staying ahead of them?

**MR. JAIN:** It's a big economy. It's a big country. You don't need to see who's on your left and right in terms of competition if you just script your own growth story.

A population of 1.2 billion, with the life cycle of the mobile phone shortening to about 14 months. Just imagine the number of mobile phones to be sold.

So I don't think that it's an industry where we need to bother about the competition.

**MS. STERN:** Are you planning to head to other markets?

**MR. JAIN:** Besides India we are operational in Nepal, Bangladesh [and elsewhere]. We are in the markets of Russia and the U.A.E. Who knows, China might be next.

**MS. STERN:** Your phones are made mostly in China, or also in India?

**MR. JAIN:** Close to 50% of the sales that we do in India are actually manufactured in India. And for about 50%, we still use the China ecosystem.

**MS. STERN:** Smartphones are many people's first and pretty much only form of computer in India. Does that mean the upgrade cycles end up being slower or faster?

**MR. JAIN:** It's faster. In India, the life of the mobile phone is truncated to about 14 months. That's largely because when I buy my first phone, the idea is to get connected to the Internet. When I evolve on the Internet, I realize that this is not the device or the phone factor I need. And I move to the next.

I think the expectation of the consumer is also evolving. As a company we were one of the first ones to bring in the 5, 5½-inch screen size. What we realized was that the consumers were using phones for video. And obviously you need big phone factors.

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## Gurley

Continued from the prior page

**MR. WINKLER:** Talk about public markets. It seems there's a recognition that eventually these companies have to go public. You have to get liquid. **MR. GURLEY:** That's one of the biggest problems that we've had. There has been a mythos of stay private longer that I think is probably the worst advice that's ever been given in Silicon Valley.

The notion was that it's hard being public, so why not just stay private as long as you can? I think it just allowed for more promotional behavior and less discipline and less recognition that eventually you've got to get to a place like a public market.

Remember when you were in college and you go out on Thursday night? There's that really old person that's in their seventh or eighth year of undergrad? To me, that's what this is. And everyone's like, "What's he doing?" If you take hundreds of millions of dollars from people, if you hire hundreds or thousands of employees and give them options, if you're on the board of a private company even, you have fiduciary duty. It's Delaware law to look after the best interest of that stock price. That's what everyone's supposed to be doing. Instead, we got into this notion that maybe you don't ever have to go public. And I think that in order for things to get corrected, we've got to go back to looking at the initial public offering as the objective, as reality.

**MR. WINKLER:** Why is going public so important?

**MR. GURLEY:** Because liquidity is the only real measure. All these private valuations are fake. They're all on paper.

There's also this other notion. If something is private, you're supposed to apply a liquidity discount. And if you look up the definition of how you should look at a liquidity discount, it's like, "Well, what is the health of the company? And what is the likelihood that it'll go public?"

If the cash flows are positive, the liquidity discount should be smaller. If the negative cash flows are big, the liquidity discount should be more. If it isn't likely to go public soon, the liquidity discount would be even bigger. So the press should be looking at these uniform valuations and applying some form of liquidity discount. We do in our own firm when we talk to our limited partners. We'll discount our companies 40%.

**MR. WINKLER:** There are people who advise, "Stay private because if you don't, the media and activist investors will say, 'Focus on the next quarter.' You'll be forced to take a shorter-term view, and if you stay private, you can take the longer-term view."

**MR. GURLEY:** First of all, we're confusing control with discipline. And now that so many companies have gone public with a super voting situation, that argument is off the table.

The scrutiny thing is interesting to me. I think about it in this analogy. Imagine a college quarterback is about to go out for the NFL draft. He's No. 1,

and the day before the draft he calls a news conference and he says, "You know, I just don't think I want to stand for the draft." And they say, "Why not?" And he goes, "Well, the scrutiny on Sunday is going to be ridiculous. I mean, they're going to watch every play. They're going to measure every pass. They're going to show slow-motion replays." And if a quarterback did that, what would happen? They would fall in the draft so fast.

**MR. WINKLER:** Given current market conditions, what advice would you give to seed-stage investors and entrepreneurs just starting companies?

**MR. GURLEY:** The earliest stage is probably the most insulated from all of this. My main advice would be just don't rush yourself up to 50 employees or anything like that. If you're starting a company today, the odds that there isn't some type of correction before you get out are really low. So focus on your product. Focus on your customer. Focus on being small and nimble, and you'll probably ride through all this stuff.

**MR. WINKLER:** A year from now, where do you think the Nasdaq is? How many unicorns (private tech companies with valuations of more than \$1 billion) are on that list? Now we've got 125 or so.

**MR. GURLEY:** This year, despite all these unicorns, has been one of the worst years for liquidity in the venture industry. There is no M&A because the unicorns have priced themselves out of the M&A market. So it's all on paper. It's all a myth.

## JOURNAL REPORT | WSJ.D LIVE

# How IBM Plans to Thrive as a Digital Company

CEO Virginia Rometty says it's about succeeding in three areas: big data, cloud and mobility

*How does one of the most venerable companies in the technology industry keep itself current in an age of constant innovation and disruption?*

*The Wall Street Journal's deputy editor in chief, Rebecca Blumenstein, spoke with Virginia M. Rometty, the chairman, president and chief executive officer of International Business Machines Corp., to find out what the company is doing to reinvent itself. Here are edited excerpts of the discussion.*

## A grim picture?

**MS. BLUMENSTEIN:** You had your 14th straight decline in revenue per quarter. And a 14% decline in revenue for this quarter. What's happening at IBM?

**MS. ROMETTY:** Those results show a lot of progress, and more work to be done. We're transforming. We're 104 years old. The reason we're the only tech company still here at 104 is how many times we've transformed.

We've divested \$8 billion of businesses. Because our model is about moving to higher value.

When you move to higher value, you make the right decisions for the long term. Those businesses were commoditizing, or better with others, so we moved out. But it is the right decision for the long term.

Out here everyone understands well the trends around data, cloud, mobility. And we have been focused and investing in those areas.

On data, for us, it is about things like analytics. That's already, as we ended last year, a \$17 billion business that, through three-fourths of this year, was up almost 20%.

Our investments in cloud, past 12 months, \$9.5 billion,

up greater than 65%. Mobility, quadrupled.

And all those form what I would call a foundation of a digital company. Those are already in aggregate, last year, \$25 billion. And they're 27% of IBM. And in aggregate they grew over 30% year to date.

**MS. BLUMENSTEIN:** Talk about your bet on cognitive technology. We hear a lot about Watson. You're making a bet here. And it's taking a while to pay off.

**MS. ROMETTY:** Again, there are three big shifts that have transformed our industry. They're transforming every industry out there: big data, cloud, mobility.

Those form the foundation to be a digital company. But when everyone's a digital company, what's your differentiation? Cognitive. Put simply, if you take a digital business, and you add digital intelligence to it, you get a business that can be cognitive.

It is a business that learns. It is systems in the cloud that can understand all sorts of data. They can reason. And they can learn.

Everyone talks about how much data's in the world. Except actually 80% of it is pretty blind to computers. I mean, it can store it. But if it's a movie, a poem, a song, it doesn't know what it's actually saying or doing.

That is changing now with this era. You can actually take any product or service and put learning inside of it. And it will change the basis of a business. I see it happening.

**MS. BLUMENSTEIN:** How many more acquisitions are you going to need to do? Do you think you need to do something even bigger?

**MS. ROMETTY:** I never look at

an acquisition really by size. I think our history would actually show you we've been very acquisitive.

With Watson, we've announced a whole area around health care. I think health care is absolutely ripe. It's an \$8 trillion industry, lots of inefficiency in it.

It'll be our moonshot, to redo health care. We will make our contribution. And so we've done three acquisitions this year in that area.

In health care, many companies will bring information. They will bring analytics. We will give them a platform of both very sophisticated analytics and cognitive, and more information that's curated in a way a company can use it.

## Answering the skeptics

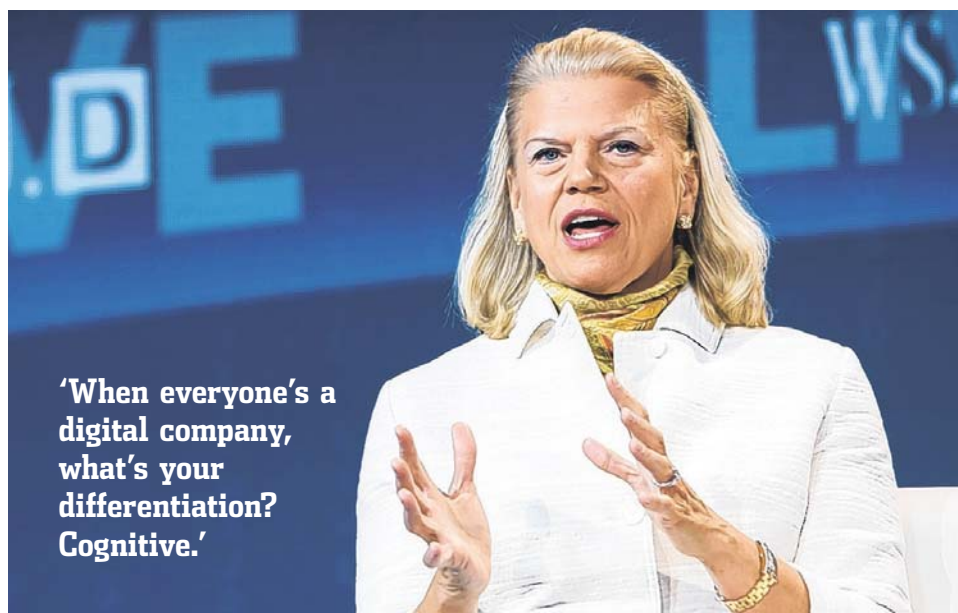
**MS. BLUMENSTEIN:** What do you say to people who just don't buy it? There are many people out there, quite frankly, who think that you're running out of time. And it's just not going to work.

**MS. ROMETTY:** What I say to them is, look at the results. Those businesses ended last year at \$25 billion. And they've grown greater than 30% at constant currency.

I say to them, look at those results: \$90 billion, margins up, in the public eye, transforming. We're going to continue that course because the strategy is right. And that is how you reinvent yourself when you're this age.

**MS. BLUMENSTEIN:** We ran a story about how you are letting the Chinese look at your source code in a secure room. Could you help clarify the situation?

**MS. ROMETTY:** It boils down to one word, trust. For a hundred years, why we exist is because clients trust us. We put no



'When everyone's a digital company, what's your differentiation? Cognitive.'

NIKKI RITCHER/DOW JONES (3)

back doors on our software. We share no data with the government anywhere in the world.

But what is true with trust is you have to reassure many governments, many clients. And there have been procedures in the tech industry for over a decade that, in highly controlled environments, you let a client or a government look at code. Many governments around the world. It's called a highly controlled demonstration.

**MS. BLUMENSTEIN:** You started

*your career at IBM as a systems engineer in 1982. What advice would you give to entrepreneurs who are starting out today? Should they go work for a big tech company? Should they do their own startup?*

**MS. ROMETTY:** You have got to do what you're passionate about. That goes without saying. To a startup today, I would probably give them the same advice I give myself, with one caveat, assuming what you want to build is a company that endures and endures. If you do, you won't try

to protect your past when it is time to move on—which is, again, \$8 billion of divestitures.

You'll never define yourself as just a product. Because if you do, you'll stay wed to something too long.

This is why, when people say, "What's IBM?" I say, "It's an enterprise innovation company."

The ingredients change over the years. So you won't define yourself as a product. And you will steward yourself for the long term. You'll make big bets.

## VOICES FROM THE CONFERENCE



"We are the first generation that's really living its lives in a way where we can be surveilled throughout our lifetime. Such as, who do we communicate with? What do we communicate about? This can all be technically collected and saved forever."

"I don't think we really understand the implications of what this means. It's probably going to be too late when we realize the problems that come from such openness."

**Mikko K. Hypponen**, Chief Research Officer, F-Secure

# The No-Boss Company

Tony Hsieh, CEO of Zappos, explains how holacracy is supposed to work

*Can you run a successful company without bosses? Zappos.com Inc. is giving it a try with a new management strategy called holacracy.*

*To find out what works, what doesn't and what other companies can learn, The Wall Street Journal's Dennis K. Berman spoke with Zappos Chief Executive Tony Hsieh. Here are edited excerpts of their conversation.*

## Who's the boss?

**MR. BERMAN:** You've put together a new approach at Zappos. Tell us what it's like not to be the boss anymore.

**MR. HSIEH:** Instead of a hierarchy of people that you see in a traditional corporate structure, we have a hierarchy of purpose. In holacracy jargon there are different circles. There's a general company circle. Then each circle has roles in it, and subcircles. Each circle has its own purpose. Each role has its own purpose. Employees can fill multiple roles in multiple circles.

**MR. BERMAN:** What are the one or two things that run differently or better than a hierarchical model?

**MR. HSIEH:** Everything is explicit. The ironic thing is there's actually a lot more structure and we have governance meetings. Each circle has its own governance meetings that list accountabilities and change purpose statements and so on.

At a typical organization, there's three different org charts. The org chart on paper. The real org chart, in terms of knowing who to talk to and politics and influence. And there's the org chart that the company wants to be, in order to perform better. There's tension between the three. Under holacracy, because everything is explicit, those three are much closer together.

**MR. BERMAN:** Someone described your move to holacracy as "to disidentify from your own ego." Tell me



'Employees can freely move around different circles.'

*about that.*

**MR. HSIEH:** Part of it is focusing on the purpose of the circle. In most organizations, the default is you need to get permission or build consensus with the right people, whereas the default under holacracy is, if it's not expressly forbidden, then just go do it.

Employees can freely move around different circles. In a typical company, you report to one manager. And that manager has the ability to hire or fire you. Under holacracy, that is not the case. You can resign from any role at any time, go join another one. But removing you from the role doesn't remove you from the company. The bigger focus is on self-organization and self-management. The things that have been driving me have been how do we have a company that's still here 100 years from now, 1,000 years from now. The default future for most companies is death.

## Forming teams

**MR. BERMAN:** Are there things that other companies might adapt?

**MR. HSIEH:** In most organizations, your job title is your identity. And what we discovered, you know, pre-holacracy at Zappos, is that employees have so much more to offer. They're a full human being that has all these skills, that, if

they're given the right context to collaborate with each other and be creative and help move the company forward, they will do that.

I'll give a non-holacracy example. It was about a year ago at our Q4 Zappos all-hands. Basically 1,500 people, and gave everyone 15 minutes. Go form a team of seven or eight people, has to be people from different departments. In general, all the teams were people that had never interacted or worked together before.

And then we gave them a series of challenges. Over the next two weeks, in their spare time, they had to come up with a video. This was also the time that we made a shift in our strategy, where we focused on our top 20% of customers. Got rid of all sale items and really focused on that new strategy, as well as communicating our move to downtown Vegas and our focus on community and so on.

The challenge was how do you capture all of that change into something that we can show to customers and community members and current employees, future employees? And the winning team, I think the prize was \$50,000. The winning team came up with something that was so amazing and so much better than any ad agency could've come up with, for several times that

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## JOURNAL REPORT | WSJ.D LIVE

# Sony's Future Plans, Business by Business

CEO Kazuo Hirai outlines the company's vision for TV sets, movies, games, cars and more

Since becoming chief executive of Sony Corp. in 2012, Kazuo Hirai has driven a restructuring that has seen the company shed some businesses and focus more on those that promise the greatest growth opportunities. He sat down with *The Wall Street Journal's* editor in chief, Gerard Baker, at the WSJ.D Live conference to discuss Sony's plans for businesses from image sensors for smartphones and other devices to TVs, movies, robots and more. Here are edited excerpts of their conversation.

## Sticking with TVs

**MR. BAKER:** You think one of your core growth areas is going to be making parts for phones and cameras and various other things.

**MR. HIRAI:** Indeed. We've always had cutting-edge image-sensor technology, both in terms of the technology of the sensors themselves, as well as the manufacturing that goes into it. And we have the No. 1

market share. We've had that for a long time. And we want to make sure that that's part of a strategy for continued growth of Sony.

**MR. BAKER:** You're still making televisions. And that hasn't been a core growth area for you, and its profitability perhaps isn't that strong. Is that something you would be looking to get out of?

**MR. HIRAI:** We are committed to the television space. Through a lot of creative products and also a lot of restructuring, cost reductions, efficiencies, we were able to turn the business around to profitability last fiscal year. And because we're not in white goods, it's very important that we have the Sony brand presence within homes. So it's going to be a very important part of our business, going forward.

From a branding perspective, it's very important. And for the technology and a lot of the R&D efforts that we put

into our television business. We still do a lot of R&D to enhance the picture quality. And that has a rub-off effect on, for example, the image quality of our smartphones or camcorders or even our digital imaging products, not to mention some of the things that kind of rub off into the PlayStation business.

**MR. BAKER:** Are you committed to the movie business? Is that something that will be part of Sony for the foreseeable future?

**MR. HIRAI:** Absolutely. Our entertainment businesses are essential growth drivers for Sony Group, going forward. The motion-picture business, as a part of that strategy, is a very important pillar of that growth strategy for Sony overall.

**MR. BAKER:** You've been hiring a number of engineers in robotics. And I think also everybody wants to be in autonomous driving right now.



'Our entertainment businesses are essential growth drivers.'

NIKKI RITCHER/DOW JONES (4)

**MR. HIRAI:** We have some great technology in image sensors that manifests itself in a lot of the digital imaging products and smartphones around the world. And we wanted to see if the technologies that we have also have applications outside of the imaging world, most likely in automotive.

The issue is [auto makers'] requirements, in terms of specs, are quite different from smartphone manufacturers and digital-camera manufacturers. So one of the discussions we're having now is, in order for us to really get into that business, is there a meeting of the minds and meeting of the specs, if you will, of what they require and what we can bring to the table.

**MR. BAKER:** What about other artificial intelligence or robotics in particular?

**MR. HIRAI:** A lot of the robotics that we look at are internal, in the manufacturing process, to see how much we can automate the manufacturing of, for example, the PlayStation 3 or the PlayStation 4 console, and just make it more efficient and reduce cost. And so we have a lot of engineers that do a lot of R&D in that space. We also

are looking at a lot of applications for robotics in the consumer space. But right now it's really just basic R&D. And from a product perspective, it hasn't gone that far.

**PlayStation is still a key growth driver.** **MR. BAKER:** What are the next frontiers in games? I know you've got a virtual-reality headset coming out, is that next year?

**MR. HIRAI:** That's coming next year. Right now we are actually showing it to a lot of people at various trade shows and just getting a lot of fantastic feedback.

**MR. BAKER:** Through PlayStation and particularly through PlayStation Vue, you've been growing in the business of content distribution. Tell us how that's going. PlayStation Vue has been very favorably reviewed as a device to compete with AppleTV or Roku.

**MR. HIRAI:** Over the next several years it is going to become more and more an important part of the growth strategy for our PlayStation business or our network services overall, which therefore has an impact on the overall Sony Group strategy as well.

PlayStation is one of the growth drivers, in addition to entertainment and semiconductors, for Sony. So that videogame business overall is very important to us as well.

**MR. BAKER:** What's going to be the defining product or the defining vision of Sony in five years?

**MR. HIRAI:** What Sony needs to bring to consumers is inspiring consumers around the world. It's a wow moment that you get, when you play a videogame, when you go see a Bond movie or you buy a new TV. We want to be in businesses that provide that sort of wow factor. If that means we do it through creative electronic products, that's great. We do that through our motion pictures, our movies, television, videogames. And we have a financial-services business in Japan. We even started a real-estate business. We looked at the real-estate business in Japan and how real estate is being transacted. And there was a way to do it in a more uniquely Sony way. That has benefits to the customers, to make them really say, "Wow, this is a different way of doing business here."

## VOICES FROM THE CONFERENCE



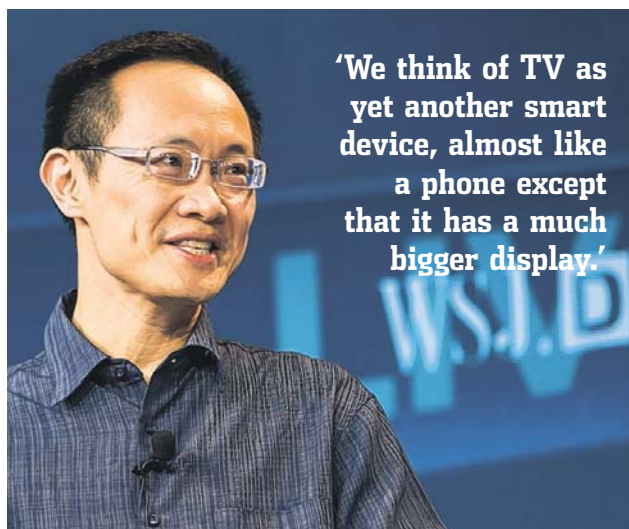
"The market basically is saying to the big media companies, 'Oh my God, everything is going to digital.' Guess what? Every major media company is in digital. They're part of that. They're offering their content there.

"So as the tide is perhaps shifting that way, and we don't know how quickly it's coming, they're still watching our content. They're just watching it in different places."

**Leslie Moonves**, President and Chief Executive Officer, CBS Corp.

# Beyond the Smartphone

Bin Lin, co-founder, says Xiaomi is more of an Internet company, with phones at the center



'We think of TV as yet another smart device, almost like a phone except that it has a much bigger display.'

Xiaomi has surged from a startup to become the dominant player in the Chinese smartphone market. So what does it do now that competition has gotten tougher and the domestic hunger for smartphones may be easing?

The *Wall Street Journal's* Geoffrey Fowler spoke to Xiaomi's co-founder and president, Bin Lin, about the company's diversification strategy—and potential plans to enter the U.S. Here are edited excerpts of the conversation.

## Branching out

**MR. FOWLER:** We know of Xiaomi as a smartphone maker. But you've introduced some products that aren't really smartphones.

**MR. LIN:** One is a next-generation smart-TV set. There's an iBOT-mini, an electronic scooter you can control with your tilting a little bit forward. You can also control it with your phone.

There's a 4K, 60-inch smart TV that we just came up with. There's also an air purifier that we launched about nine months ago. This air purifier allows you to clean all the air in the typical apartment in China in about six minutes. And this thing also connects to your phone. You can turn it on remotely, before you get home.

**MR. FOWLER:** So with all of these products, can you clarify

Xiaomi's ambitions for us? Should we no longer be calling you a smartphone company?

**MR. LIN:** We'd rather be called an Internet company. We sell all these products online directly to consumers. And we are focusing on building out smartphones as the center of all these devices that we launch. Users are able to enjoy a lot of services provided on the phone on these other devices—TV and other things.

**MR. FOWLER:** But the margins that you can make on a lot of these electronics are so thin. Why do you think it's going to help Xiaomi to get into all these businesses like TV where it takes new expertise for your company?

**MR. LIN:** We think of TV as yet another smart device, almost like a phone except that it has a much bigger display. It also has the biggest content libraries. You can stream the videos, you can also play games. Android games can be run very easily on the TV sets. Those are the added services that we're providing other than just selling TV sets.

**MR. FOWLER:** But the idea is all of this is going to revolve around your smartphone.

**MR. LIN:** Yes. The TV connects to the phone very easily. The phone can be turned into a remote control. And you can look up what content you want

to watch on the phone and then say, "Hey, play this on the TV."

## Changing market

**MR. FOWLER:** Let's go back to the phone. The situation a year ago was very different than the one we're looking at now. You were on the rise, your sales were growing at tremendous rates. The last year has been tougher for Xiaomi. What happened?

**MR. LIN:** The China smartphone business is changing from a really rapid-growth, new-adopter market to a replacement market. The absolute growth of the smartphone market this year is flat if not even declining.

**MR. FOWLER:** But are Huawei and Apple beating Xiaomi now and making the phones that young Chinese people want to have?

**MR. LIN:** I have looked at very absolute numbers, specific numbers. We are still bigger than Huawei in the China market. We also grow faster than the rate of growth in the market. The last few quarters we outgrew the market by a lot.

**MR. FOWLER:** You spend much of your time at Xiaomi working on product design. I've got one of your phones here. Using it, it's hard to look at the user experience on this and not see echoes of Apple. How do you start showing the world what Xiaomi designs really are?

**MR. LIN:** For every single tiny similarity between us and Apple, I can probably point out 100 differences between our phone and experience versus other companies.

**MR. FOWLER:** How many phones did you sell in India in the last year?

**MR. LIN:** We sold over three million. We started in July and so far we have sold over three million phones.

**MR. FOWLER:** A number of folks in the audience are asking, "Why not sell your phones in the U.S.?"

**MR. LIN:** It's something we're thinking about.

# Meet Your Body's Microbes

UBiome's CEO, Jessica Richman, wants people to track their microbiomes. So, what is that?

Jessica Richman is the co-founder and chief executive of uBiome Inc., a provider of tests that give people the ability to track their microbiomes, or the collection of microbes that live in and on their bodies.

Although scientists are still trying to understand how the human microbiome affects health, recent research suggests that subtle imbalances in microbial populations—which differ depending on where they are located—may influence digestion, as well as many other body functions.

Ms. Richman sat down with *Joanna Stern*, personal technology columnist at *The Wall Street Journal*, to discuss the value in testing human feces, saliva and snot. Edited excerpts follow.

## Citizen science

**MS. STERN:** So you want my feces, my saliva, my snot. Why are you collecting all of these things from your users?

**MS. RICHMAN:** What we do is we sequence the microbiome, which is this whole new human organ that's recently been discovered. It's about 3 to 6 pounds of your body weight. Ten times more cells than your human cells, and 100 to 500 times more genes than your human genes.

The microbiome is different in different parts of your body [because] it's different to live in your cheek, for example, than it is to live inside your mouth. So what we do is we collect the microbiome from these different areas and then we analyze it to see how it affects your health.

**MS. STERN:** What do I get to learn about my health? About my biomedical information?

**MS. RICHMAN:** I want to be clear. The product that we have now is a citizen's science research tool. It isn't healthcare information. It isn't to be used for medical decisions. Creating new types of diagnostic tests is a long road, and usually this is done through research that is government sponsored and then gets spun out of university.



'We can track how your microbiome changes in response to your habits and lifestyle.'

We decided to involve the public in the scientific process. So we use something called citizen science. People contribute their data and they get to learn how their microbiome changes over time, almost like a tracking device.

**MS. STERN:** And what could it tell someone like me?

**MS. RICHMAN:** We can track how your microbiome changes in response to your habits and lifestyle. We're building a big data set based on that information, and we use that to then develop clinical products that tell you more about health and disease.

It's kind of like Fitbit for your microbiome, right? Until we launched our product, there was no way for the average person to understand what was in their microbiome.

**MS. STERN:** In the three years you've been collecting and crowdsourcing all this data, what have you learned about the microbiome?

**MS. RICHMAN:** We do a lot of studies. Some of them are very serious. We have a study going on inflammatory bowel disease with a company called PicnicHealth, where we're getting medical records to verify diagnosis and then doing a study on the microbiomes of people that have the verified diagnosis. We've also done silly ones like eye crusties—when you wake up in the morning, what's in them? Nobody knows. So we kind of put that out to our crowd.

I think it's just fascinating

that this is the kind of science that you can do now, where anyone on the Internet can use the most cutting-edge DNA-sequencing technology that didn't exist 10 years ago to sequence eye crusties.

Every user gets a copy of their own data. So if you take antibiotics, you can see that the diversity in your microbiome goes basically to nothing within a day. And then you can sort of see how your microbiome recovers from that. Or, if you take probiotics you can see if the microbiome composition has changed.

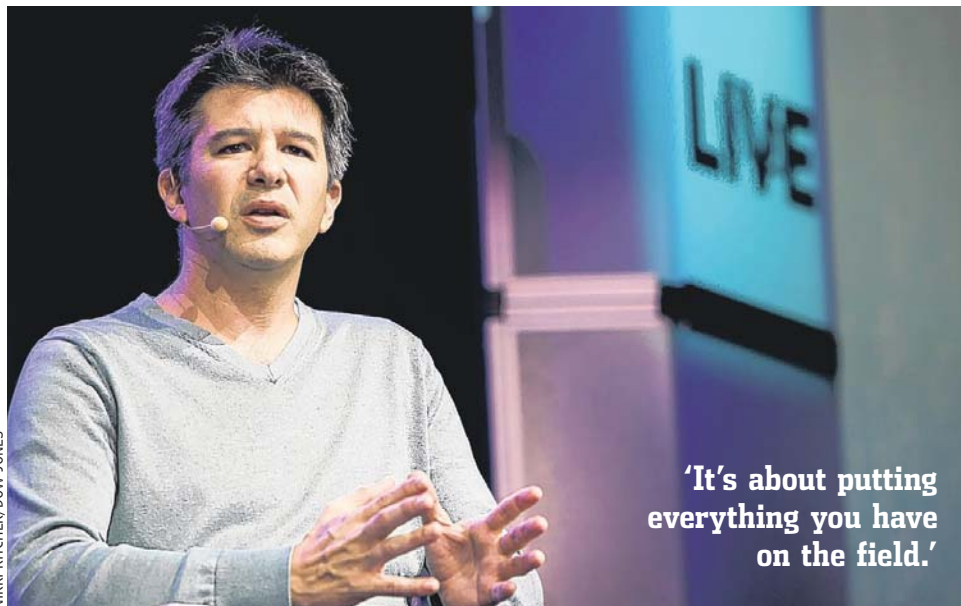
## Public trust

**MS. STERN:** You mentioned that people's results live with you guys. Why should people trust your company with their biomedical data?

**MS. RICHMAN:** Our process is governed by an institutional review board, which governs the protocols that we use to handle the data. So we have to satisfy them that we're handling it correctly in terms of technical standards for storing our data and all that.

And we've taken this very user-centric approach [based on the idea] that users, myself included, don't necessarily want their data on the Internet because who knows what that's going to be used for five years from now. So you can opt in by signing the research consent to share your data, and then you get to see other people's data in return. But if you don't opt in, you can just download your own data and help yourself.

JOURNAL REPORT | WSJ.D LIVE



'It's about putting everything you have on the field.'

MIKKI RITCHER/DOW JONES

# The Mind-Set at Uber

Travis Kalanick talks about passion and resilience

Five years ago, Travis Kalanick co-founded the ride-hailing company Uber Technologies Inc. In a reflection of its popularity and aggressive global expansion, the startup has since become the world's most highly valued private company, at \$51 billion.

Rebecca Blumenstein, deputy editor in chief at The Wall Street Journal, sat down with Mr. Kalanick, Uber's chief executive. They talked about what he learned from his early failures, the challenges of competing in China and pressures to take his company public. Edited excerpts follow.

**Junior high**

**MS. BLUMENSTEIN:** Let's go back to the early days. Your first startups didn't really go that well. You ended up selling one company. You got sued for \$250 billion. You didn't collect a salary for four years. You lived with your parents. What was the most important lesson you learned from this pretty trying time?

**MR. KALANICK:** A lot of folks refer to some of my previous ventures as failures. I take that as an extreme insult. I'm joking, but I think failure is sort of a matter of perspective. We have this culture valued at Uber, which we call the champions' mind-set. And champions' mind-set isn't always about winning. It's about putting everything you have on the field, every ounce of passion and energy you have. And if you get knocked down, overcoming adversity.

If you do those two things, you put everything you've got into it, and you keep getting back up, it's almost impossible to fail. So that's how I feel about it. It never felt like a failure to me.

**MS. BLUMENSTEIN:** You are now the world's most valuable startup. Earlier, I saw you talking to Benchmark's Bill Gurley, who has criticized companies that want to stay private. Is it fair to say you've resisted going public?

**MR. KALANICK:** Look, we're maturing as a company, but we're like eighth-graders, or ninth. We're in junior high, and somebody's telling us that we need to go to the prom. It's just a little early. Give us a few years. Give us a little time, and when the time is right something like that will happen.

Right now we're just too early in our cycle. We're five years old. And if you look at the age of most companies when they go public it's usually later in their life.

**MS. BLUMENSTEIN:** China is shaping up to be an epic battle. You've partnered with Baidu. You're now facing Didi Kuaidi Joint Co., which actually has Tencent Holdings and Alibaba Group Holding united against you. Why are you so into China?

**MR. KALANICK:** Before we went to China a couple of years ago, it just sounded like a very wild, adventurous and maybe not a great place to go for foreign tech companies generally. But we looked at it differently.

It's a journey. There's an adventurous part to it, because there are a lot of things we don't know about China that we have to learn while we're there. And we're learning as we go. But what an interesting problem to solve.

Somewhere around 30% of all of our trips are now in China. That's almost as many trips as what we're doing in the U.S., and we've been there

for a far shorter period.

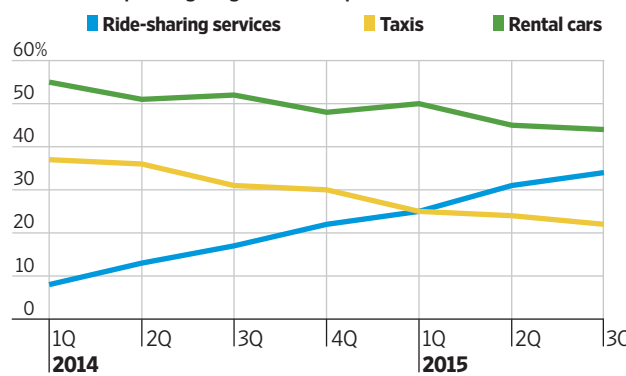
And if you look at the growth charts, I think our biggest city right now—and there are three or four in the running—is Chengdu, which is something like 100 times bigger than San Francisco at the same age.

It's an incredibly exciting and just an amazing place to be. Just huge cities that really need transportation alternatives. And of course drivers, or people who could be drivers, who are looking for other ways to make a living. It's a real sweet spot for us.

## A Hit With the Business Crowd

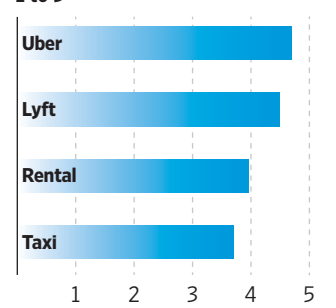
Ride-sharing services have more than quadrupled their combined share of spending by business travelers on ground transportation in the U.S. since the beginning of last year, based on receipts and expense reports tracked by Certify Inc., which totaled 8.5 million in the third quarter of this year. And users rate them higher than the alternatives.

◆ Share of spending on ground transportation



Source: Certify Inc.

◆ Average user ratings in the latest quarter, on a scale from 1 to 5



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**MS. BLUMENSTEIN:** How much a year are you investing in China?

**MR. KALANICK:** We're investing a fair amount of money there. Over time—and I actually think we did say something publicly on this—we're definitely spending a billion dollars a year on that effort.

**Driverless cars**

**MS. BLUMENSTEIN:** Earlier this year, you poached much of the robotics department at Carnegie Mellon in a bid to make a

big push on driverless cars. Google is obviously being very aggressive in this area. How soon is this coming? And are your moves kind of playing defense or offense?

**MR. KALANICK:** There are a lot of really interesting things that happen in society and in cities when [driverless cars] become a reality. There is a reason Google has been investing in this since 2007.

About 30,000 die a year in cars. What if that goes to zero? Think about all the

other injuries on top of that, hundreds of thousands, if not millions. That's just in this country. What about worldwide? You are literally saving millions of lives a year. It's a no-brainer.

This technology is coming. So then the question for us is, does Uber want to be part of the future or are we going to resist the future like maybe the taxi industry before us?

We are a tech company, so our choice is to be part of that.

Our digital capabilities can help bridge today's world with tomorrow's.

Today, technology can transform every aspect of your company. Now every business is a digital business. Our industry expertise, coupled with our integrated digital capabilities across interactive, analytics and mobility, can help you take advantage of the opportunity to innovate and compete. We can also manage your digital processes or take them to the cloud. All so your company will see tangible results from the virtual world. That's high performance, delivered.

High performance. Delivered.

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# HBO Cuts the Cord: What Happens Next?

Richard Plepler, chief executive, offers his take on what customers really want

Can a cable network move beyond cable? That's what HBO is trying to do with its HBO Now service, which lets people subscribe to the network over the Internet.

For insights into HBO's strategy, and a possible look at the future of cable, *The Wall Street Journal's* editor in chief, Gerard Baker, spoke with HBO Chief Executive Richard Plepler. Here are edited excerpts of their discussion.

## A new vision

**MR. BAKER:** Just in the last year you've taken a really big step. A lot of companies have talked about cutting the cord, and what it all means for traditional cable-TV companies, traditional media companies.

**MR. PLEPLER:** We sat back and took a look at where the ecosystem was going. You have

10½ million broadband-only homes in the United States. Millennials are fast cutting the cord and watching their television and getting their entertainment in myriad different ways. We just said to ourselves, "We want to be available where, when and how people want our service."

We're talking to our traditional partners as well about bundling HBO Now in their broadband-only packages. This is not just exclusive to our new digital partners like Apple and Android and Roku. This also can be a tremendous opportunity for our traditional distributors.

We think there's 10 to 15 million additional homes out there that want HBO. And our job is to make our product, our network available to those people when they want it, how they want, and whatever way they want it. That's why we made the decision.

**MR. BAKER:** You must have had some interesting conversations with the cable companies. That clearly is a threat to their

business, isn't it?

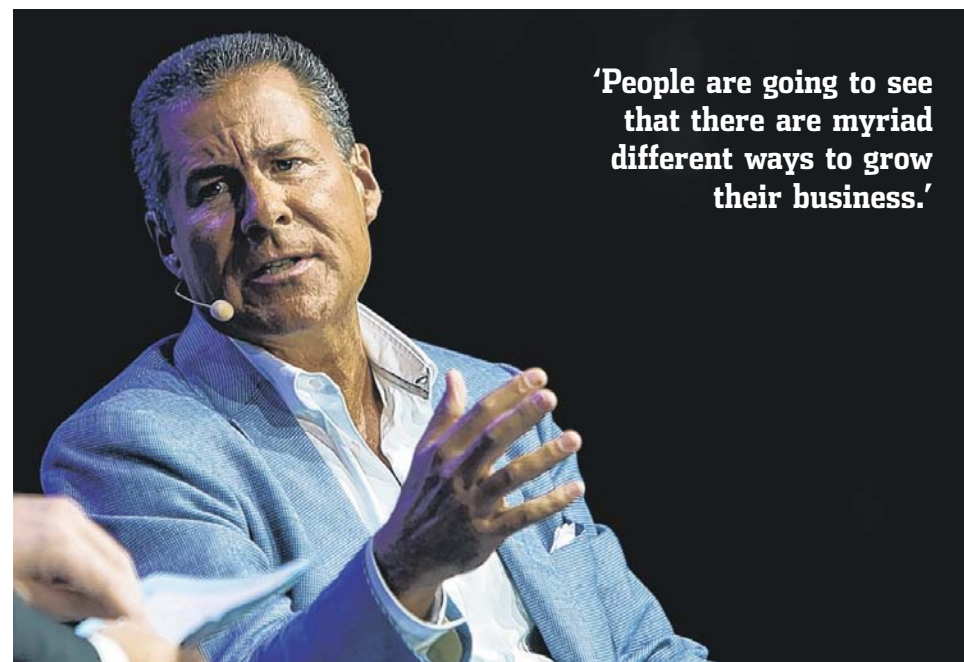
**MR. PLEPLER:** I don't think it is a threat to their business. They have millions and millions of broadband-only customers. So we're saying a very simple thing to them: "Why wouldn't you want to take a product like HBO, make it a part of your package, and share the revenue with us?" We're having better conversations with some than with others.

But I think the proof is going to be in the pudding. People are going to see that there are myriad different ways to grow their business.

## Where we go next

**MR. BAKER:** What do your models tell you about what will happen to traditional cable subscribers under this?

**MR. PLEPLER:** What people really want are bundles that don't have 500 channels in them. They want more curated bundles. That's terrific for us, because as the price of a traditional package goes down, it's much easier for a consumer to think about adding HBO to it.



'People are going to see that there are myriad different ways to grow their business.'

NIKKI RITCHIE/DOW JONES (2)

And when people put HBO in the bundle, 98% of those people are not going to leave the bundle. And that is a very compelling proposition that we make to our partners.

**MR. BAKER:** HBO, when it started, was very traditionally second-run Hollywood movies. You in the last 10 years have done an extraordinary amount of original programming, a model that's been followed by many other traditional cable companies. But everybody is fighting now for that incredibly valuable content, original content.

How is that changing the way in which Hollywood works, and changing the battle for talent for content?

**MR. PLEPLER:** What we say to ourselves over and over again is, "Play our game to our full capacity, and we are going to have more than our fair share of talent coming into the door."

There's wonderful work being done across a panoply of networks and streaming services. And I think that's terrific.

It has not interfered one bit with our ability to do anything and everything that we want to do.

**MR. BAKER:** Content is an expensive business. Is there really going to be enough revenue to go around?

**MR. PLEPLER:** I say all the time, "More is not better, only better is better." Just because something cost \$80 million or \$90 million to do does not mean it's going to be a hit. Some of our best programming, whether it's in the talk-show category like John Oliver or Bill Maher, is not, relative to the cost of an hour series, expensive. And yet it resonates across the zeitgeist, punches above its weight and does an enormous amount for our brand.

This year alone we had at the beginning of the year three of the noisiest projects that we've ever had, "The Jinx," "Scientology" and "Frank Sinatra" were all, relatively speaking, quite cost effective. So the job is not just to spend more money. The job is to spend money strategically. We just announced "Sesame Street," we announced "Bill Simmons," we announced a "Vice" news service. We're trying to make strategic investments that elevate our brand at every turn.

**MR. BAKER:** Tell us a bit about

how digital innovation is changing Hollywood culture. We've talked about distribution principally. How else is it changing the way in which Hollywood works?

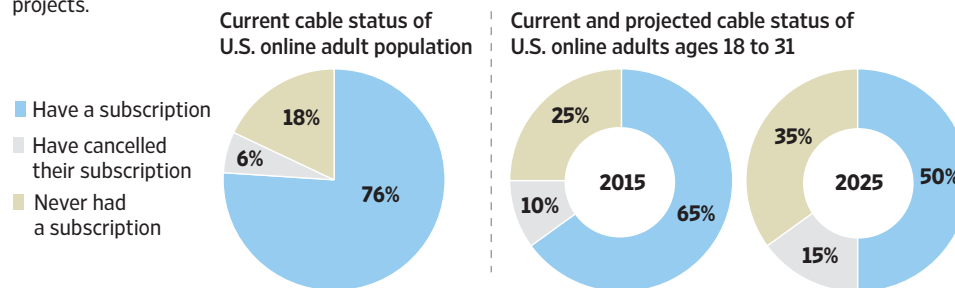
**MR. PLEPLER:** The talent of course loves the idea of being able to paint on a different kind of canvas. So you have somebody as gifted and imaginative as Steven Soderbergh coming in and saying, "I have an idea. I want to do a series of miniseries that ultimately aggregate into a larger story. And I want to do it on HBO Now."

Artists of all kinds, and you'll start to see some of these announcements in the coming weeks, are coming to us and saying, "I want to paint, but I want to paint on HBO Now. I want to do short form, comedians, sports."

Even Bill Simmons, who's obviously going to do a show for the network, is looking at HBO Now as another option for doing kind of short-form programming in his genre. So I think the beauty of this is that the ideas, the IP is going to come from the talent as it always does. And the best ideas are going to come from the people we work with, not from us.

## Wait, What's a Cord?

Roughly a quarter of adults in the U.S. don't subscribe to cable TV, including more than a third of those ages 18 to 31, according to one survey. In 10 years, half of that age group will be cordless, Forrester Data projects.



THE WALL STREET JOURNAL.

## And the Startup Winner Is...

The audience at the WSJ.D Live conference chose a maker of a headset that diagnoses concussions

BY DAISUKE WAKABAYASHI

**MINDFUL SCIENTIFIC** Inc., which makes a headset aimed at improving the diagnosis of concussions, won the startup showcase at the WSJ.D Live global technology conference.

The headset detects electroencephalography, or EEG, signals to measure brain activity. Mindful Scientific says the device sends 350 stimuli to the wearer through audio tones and spoken sentences in a five-minute span and then analyzes the results to detect whether the person has a concussion.

Ying Tam, chief executive and co-founder of Mindful Scientific, said the headset is designed to improve on the current process of diagnosing concussions through a battery of tests, administered by doctors, that aim to detect problems with balance or multitasking. Mr. Tam said those

tests are time-consuming and diagnoses vary based on doctors' experience and knowledge.

The company beat out six others to win the audience vote at the showcase. Each company made a three-minute pitch to a panel of judges including Rupert Murdoch, executive chairman of 21st Century Fox and News Corp; Mark Cuban, an entrepreneur and owner of the Dallas Mavericks of the National Basketball Association; Theresia Gouw, co-founder and managing partner of Aspect Ventures; and music star will.i.am. News Corp owns Dow Jones & Co., publisher of *The Wall Street Journal*.

Mindful Scientific was chosen by Mr. Murdoch and will.i.am as their favorite startup, while Mr. Cuban and Ms. Gouw selected **ARTsys360**, an Israeli manufacturer of 360-degree micro radar systems that can monitor drone traffic in urban areas,

among other uses. ARTsys360 finished second in the audience voting.

Mindful Scientific said it has accepted seed funding and is raising money. Mr. Tam said the company initially will target academics who want to use the headsets in research, and he expects to begin shipping the devices early next year. Longer term, he sees potential customers in sports teams, the military and the broader health-care industry.

Beyond concussions, Mr. Tam said he sees potential for the headset in diagnosing and monitoring Alzheimer's disease and epilepsy.

Mindful Scientific would need to secure approval from the U.S. Food and Drug Administration before it can sell the device to people outside of academia in the U.S. Mr. Tam said this type of device typically goes through a one- to nine-month approval process.

The other contestants were **Arti-**

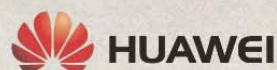


Mindful Scientific CEO Ying Tam (left) and WSJ columnist Geoffrey Fowler

**phon**, which makes a new type of musical instrument; **CleverPet**, maker of a device that aims to stimulate dogs left alone at home; **Co-Sign**, which created a service that allows people to tag products in photos and earn a commission if friends buy those items; **embr labs**, a manufacturer of wearable devices

to make people feel warmer or colder; and **Keecker**, which makes a robot that projects images onto any wall in the home.

*Mr. Wakabayashi is a Wall Street Journal reporter in San Francisco. He can be reached at daisuke.wakabayashi@wsj.com.*



The people make a sport of the sublime. If they could see it as it is, they would be unable to bear its aspect.

By Romain Rolland



## JOURNAL REPORT | WSJ.D LIVE

# What Mark Cuban Would Do if He Ran the SEC

The problem, he says, is that there is a profound lack of trust in the stock market

Mark Cuban is a billionaire investor and owner of the National Basketball Association's Dallas Mavericks. But he may be best known these days as a host of ABC's "Shark Tank," the reality-TV show in which budding entrepreneurs pitch their business ideas to a group of potential investors, including Mr. Cuban.

In an interview with Wall Street Journal Financial Editor Dennis K. Berman, Mr. Cuban offered his take on income inequality and why he thinks the Securities and Exchange Commission is hurting startups. Edited excerpts follow.

## Making business cool

**MR. BERMAN:** What's it like being on "Shark Tank"? It's a huge success, perhaps bigger than anyone anticipated. Is it getting boring or is it still as exciting as ever?

**MR. CUBAN:** It's exciting be-

cause of the message it sends. I don't do the show to get access to deals. I do the show because parents walk up to me and say, "My 8-year-old, my 9-year-old, my 12-year-old, my 16-year-old son or daughter is now interested in business."

They understand how business works. They understand the concept of profits. It's kind of a new-age lemonade stand, where we come into your living room and make business and entrepreneurship cool. And if I can send the message that the American dream is alive and well, I'll do the show forever.

**MR. BERMAN:** Do you believe the American dream is alive and well?

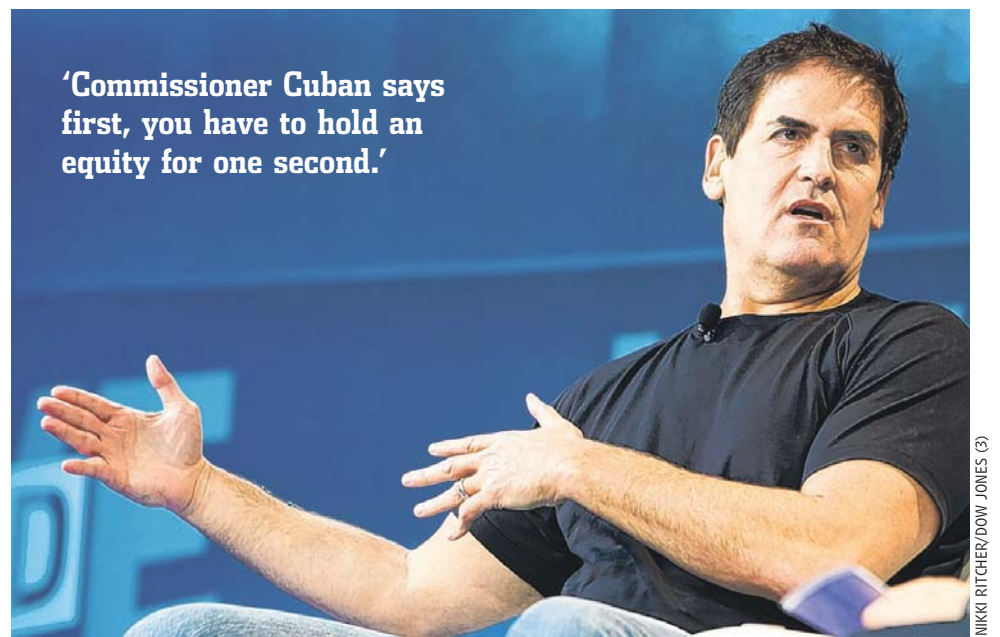
**MR. CUBAN:** Absolutely.

**MR. BERMAN:** Do you think the folks in Washington are making that possible?

**MR. CUBAN:** I think there are a lot of things that go wrong in Washington. The greatest negative impact is that it's hard to go public these days. The number of public companies has been cut in half in the last 20 years. I was talking to the folks from Nasdaq, and they said they only have 2,700 listed companies, and they struggle to stay at 2,700 every year. Every single company that walks in here at some point was thinking about going public. But my buddies at the SEC have screwed it up so bad that it's almost impossible.

**MR. BERMAN:** How has the SEC screwed it up?

**MR. CUBAN:** If you look at what's happened over the past 15 years, we get overregulation because the SEC screwed something up. They didn't catch fraud at Enron and



'Commissioner Cuban says first, you have to hold an equity for one second.'

NIKKI RITCHER/DOW JONES (3)

WorldCom, so we get Sarbanes-Oxley. They don't see the subprime mortgage [crisis]. They don't see Madoff. They don't see Sanford. They don't see what's going on with Lehman. They don't see the shadow banking. And so we get Dodd-Frank.

## One-second rule

**MR. BERMAN:** But aren't those issues separate from the ability to go public?

**MR. CUBAN:** No, they go hand in hand. If the SEC isn't paying attention to what's going on, we're going to have more disasters. Then the way this country reacts to disasters is to create even more regulation, right?

So if you say to somebody out there, "OK, why won't you go public?" it's always the same answer. It costs a lot of money because of the regulation involved.

**MR. BERMAN:** So you're commissioner of the SEC for one day. What is the opening pronouncement from Commissioner Cuban?

**MR. CUBAN:** Commissioner Cuban says first, you have to hold an equity for one second. Believe it or not, that changes the entire tenor of the markets. Because right now, with

algorithmic trading, there's also something called latency arbitrage, where everybody just tries to trade faster and faster, and that has nothing to do with investing.

Does anybody here think the stock market is safer today than it was 10 years ago?

**MR. BERMAN:** Show of hands. That's zero. But I think that's separate from the idea of American prosperity. You're talking about very technical issues that may or may not have anything to do with standard of living.

**MR. CUBAN:** No, no, no, no, no. If the No. 1 place for this country to create capital for companies to go is the stock market, and people here don't think it's safe, they're not going to invest in it, one. If it's too difficult to go public, companies obviously aren't going to go public. And if you don't go public and you can't raise capital just to grow, then you have to sell or you go backward.

And I know I'm on a major soapbox here, but we talk about income inequality. Say you're a family that makes \$40,000 a year, and you're saving \$200 a month, or \$2,400 a year. In five years, you probably have \$12,000.

You put it in the bank, and after five years, you have \$12,200. Think about that. How are you going to keep up with the 1%, guys like me, guys like [Rupert] Murdoch? How are you going to keep up?

It isn't from saving anymore. That's a huge problem. And normally, in the past, we would have said, "Put your money in the market," widows-and-orphans stocks. Put a stop-loss [order] on there. Put a sell on it. Now the SEC and the markets will tell you that you shouldn't even put a stop-loss on things because it's too dangerous with high-frequency and algorithmic trading. So if the normal people in this world are really [working hard], doing what they're supposed to do, living frugally, saving money, they're f—ed because they don't trust the markets.

**MR. BERMAN:** So where do you put your money?

**MR. CUBAN:** I'm lucky. I can hire a lot of smart people, and I get to invest in a lot of companies. And I continuously hedge. I literally have hedges that were personally designed for me that, in the event the fall in the market accelerates over a period, the value of my hedge goes up.

## VOICES FROM THE CONFERENCE



"The reality is the technology exists now to extend life and have people live healthier, happier lives. Not to be kind of immortal, that's not what I'm talking about. But just if we distributed the technology that we have now.

"So the average lifespan in this country is 75 to 80; in western Africa, it's 40, which is what it was here 100 years ago. Just by distributing what we have already, without creating any new technology, we can extend life. You can double the

lifespan of people on this planet.

"There's a lot of talk about redistribution of wealth. But redistribution of health to me is a lot more important, and a lot more interesting, and can make a bigger impact on the world."

**Bill Maris,** President and Chief Executive Officer, Google Ventures

# It's Only a Matter of Time

Adm. Michael Rogers on how long before there's a digital Pearl Harbor in the U.S.

As director of the National Security Agency, Adm. Michael Rogers is on the front lines of U.S. efforts to thwart cyberwarfare and cybercrime.

Adm. Rogers sat down with Dennis K. Berman, the financial editor of The Wall Street Journal, to talk about the cyberthreats that concern him most and efforts by tech firms such as Apple Inc. to build products that protect user data from law enforcement. Edited excerpts follow.

## Where the threats are

**MR. BERMAN:** So how long until we have a digital Pearl Harbor here in the U.S.?

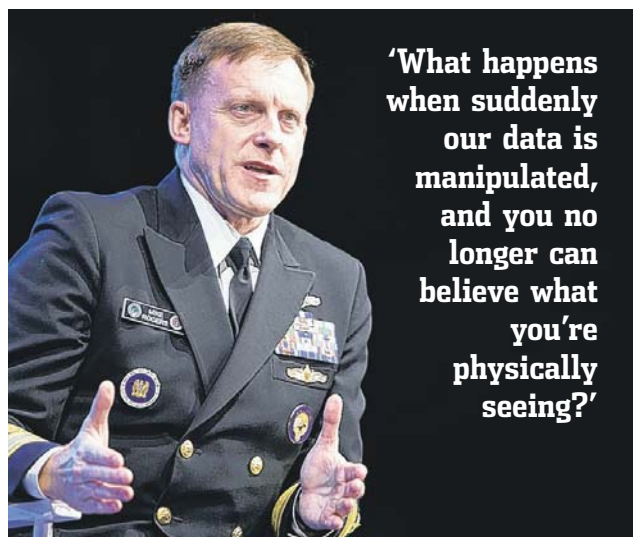
**ADM. ROGERS:** It is only a matter of when before someone uses cyber as a tool to do damage to critical infrastructure within our nation. I'm watching nation states, groups within some of that infrastructure. At the moment they seem to be focused on reconnaissance, but it's only a matter of time until someone actually does something destructive.

The second trend that concerns me, historically to date we've largely been focused on the extraction of data and insights, whether it be for intellectual property for commercial or criminal advantage. But what happens when suddenly our data is manipulated, and you no longer can believe what you're physically seeing?

And the third phenomenon when I think about threats that concern me is what happens when the nonstate actor, take ISIL for example, whose vision of the world is diametrically opposed to ours, starts viewing the Web not just as a vehicle to generate revenue, to recruit, to spread the ideology, but as a weapons system.

**MR. BERMAN:** Do we need to go on offense in ways that we haven't before?

**ADM. ROGERS:** I think clearly we have got to change the current dynamic. To date, most nation states, most groups, most individuals, have come to



'What happens when suddenly our data is manipulated, and you no longer can believe what you're physically seeing?'

the conclusion that there is little price to pay for the actions they've taken.

## Encryption debate

**MR. BERMAN:** What's your view on end-to-end encryption? Some in law enforcement say it allows criminals and spies to keep their activities secret.

**ADM. ROGERS:** Strong encryption is in our nation's best interest.

**MR. BERMAN:** Impenetrable encryption?

**ADM. ROGERS:** That isn't what I said. Strong encryption is in our nation's best interest. The challenge is, the technology around us is changing, and for the first time in a long time, we see an environment where criminal actors, nation states, groups, are able to harness the power of that technology in a way that defeats the ability to generate insight. The challenge is, how do we create an environment within a framework that we as citizens are comfortable with that enables the importance of these two imperatives [security encryption and the ability to generate insights as to criminal behavior and threats to our nation's security].

I'm a big believer that if we put our minds to this, we can figure out a way to do it.

**MR. BERMAN:** You said something interesting at dinner. It's the idea of a court-martial for someone who clicks on a phishing attack email.

**ADM. ROGERS:** In the Department of Defense, we provide hundreds of thousands of people with weapons. We remind them, "We are giving you this capability for a specific purpose. You will use it only under specific situations for specific purposes. And you will ensure that that weapon is safeguarded at all times and you are accountable for it."

We recently caught the Russians penetrating the Joint Staff network in the Pentagon. It boiled down to four individuals who clicked on a link in an email. I asked them, "What was going through your mind?" Because when I looked at the email, I said to myself, "Why would you have opened this? It makes no sense" And the answer I got was, "It was early in the morning. It was a Monday. I'm just blowing through my emails."

If someone had said to me, "Hey, it's lonely on post. It's the middle of the night out in the middle of nowhere. I just pulled my gun out because I wanted to quick draw," we would never accept that. So why are we willing to accept this kind of behavior in the cyberworld?

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JOURNAL REPORT | WSJ.D LIVE

# Here's What Facebook Sees in the Mirror

Chris Cox, the company's chief product officer, says the core is about two fundamental ideas

*Sometimes it seems like Facebook is the Internet. On Aug. 24, Facebook Inc. said it had one billion users in one day—or roughly one in seven people in the world—on Facebook. And then there are the company's other platforms, including WhatsApp (900 million users and growing), Instagram (400 million, give or take) and Messenger.*

*Chris Cox, Facebook's chief product officer, spoke with The Wall Street Journal's global technology editor, Jonathan Krim, about expanding Facebook's reach, dealing with privacy issues and providing a version of Facebook for the workplace. Here are edited excerpts of their talk.*

## Directory and medium

**MR. KRIM:** If you were starting today with all of those platforms and assets, what would the elevator pitch be for Facebook? How would you describe what the company is?

**MR. COX:** The core of Facebook is about two fundamental ideas. The first is being a directory, which is where Facebook gets its name. The past 10 years have been about taking down barriers to let new groups of people come onto Facebook: Let's make it work for people outside of college. Let's make it work for people outside of the U.S. Let's make it work for non-English speakers. Let's make it work on mobile. And now the fundamental challenge is, how do you make it work on a 2G connection, on a Moto E, in Hindi?

The second piece is as a medium. Just how do you express your experience to somebody else? If you look at Messenger and WhatsApp, you have intimate, high-frequency communication with people you care about a lot. If you move up, you have groups and events, which are about communicating with hundreds or thousands of people at a time.

And then if you move up to news feed and Instagram, you have an even higher scale of audience. And depending on where you look in the world, you have people using those things in very different ways.

**MR. KRIM:** But you're building almost a throwback to a walled garden, where you're asking users to stay in the Facebook environment almost all the time. You have an announcement about Instant Articles today, right?

**MR. COX:** Yes, we're rolling out Instant Articles this morning to every iPhone user, and beginning the Android beta, as well as launching with about 1,000 articles a day that are going to start rolling out with a bunch of partners: Box, Slate, Huffington Post, BuzzFeed, Daily Mail.

**MR. KRIM:** Do you want Facebook to be the Internet?

**MR. COX:** The main Facebook



app, we think about it as how do you get the most important things you see each day? So if you think about a world where there's thousands of things happening in any moment in time—photographs, news articles, things your friends are saying—how do we build a service that lets you get the 10 things that matter to you?

For me, today, the thing that mattered was a Chicago Tribune article: The 7-Eleven on Green Bay Road is shutting down, after 25 years. This was the 7-Eleven where we all went—a big part of my childhood.

I don't read the Chicago Tribune regularly. But a friend of mine from high school posted this article. And because my friend was there, because news feed did a good job, because it was fast, because it was working on my Android phone—if we do 122 things right, we can connect me to a story that matters to me. And I view that as the thesis of news feed and of the Facebook app.

**MR. KRIM:** Does it matter to you whether you stay in Facebook to read that article, or you go someplace else?

**MR. COX:** Not from the mission perspective at all. The reason we've built Instant Articles is

because performance on mobile phones is the most important feature. If you look at a Facebook user in Myanmar today, they could be waiting 40 seconds to a minute from tapping on an article, here's what's going on in Rangoon this evening, to it appearing. If we can lower that barrier, it is a huge service, we think, to both the publication writing the article and to the user of Facebook. That's why we're doing Instant Articles.

## Privacy pal

**MR. KRIM:** There's been concern about privacy everywhere, but with Facebook in particular. How do you guys think about that, and what, in your mind, is the biggest thing that you need to change and fix?

**MR. COX:** The thing we're focused on the most is communicating regularly with people directly about the things that we understand them to care about the most. So you may have noticed we have this blue dinosaur who started appearing pretty regularly to help people understand privacy basics: "Hey, just wanted you to know this is how your profile looks to people that aren't your friends." And to do it in a warm, consistent way and get really good at it.

**MR. KRIM:** So you think communication is the key to all of this, and you don't need to revise your policies?

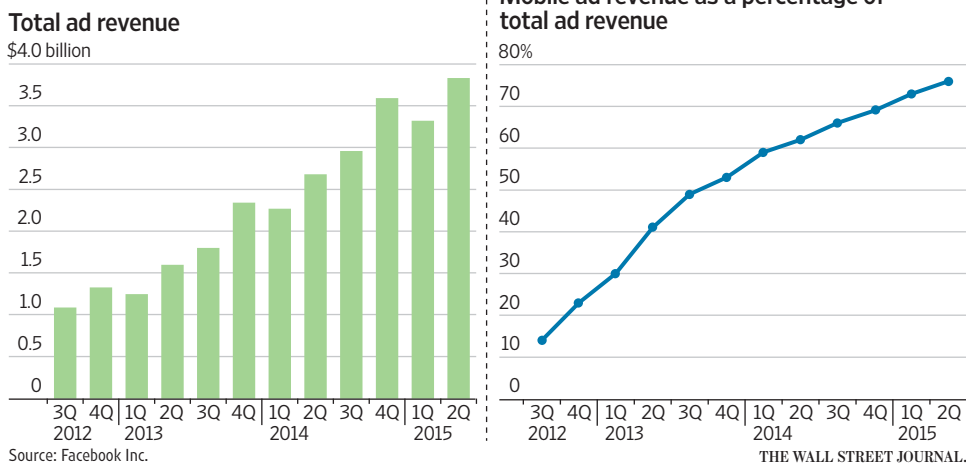
**MR. COX:** There's the substance, which is the policies being good and protective. And then there's making sure that when there's a misunderstanding, which is a lot of what we see—you know, a huge meme will go around Facebook, and it's like, man, people believe that. It's not because the policy's wrong. It's just because the communication needs to be better. So we're working on the right way to be present inside of the product.

**MR. KRIM:** Here's a question from the audience that came in through the app. Employees are spending hours of time on social media while at work. Rather than reducing the workday, how can Facebook add value to work?

**MR. COX:** We're working on an experience called Facebook at Work, based on what we observed some companies, including ourselves, doing. It lets you have groups and the news feed and a profile and all of the things you do when you're on Facebook, except that it's locked down to just the people you work with.

## Mobile Takes the Wheel

The surge in Facebook's advertising revenue in the past three years has increasingly been driven by mobile ads



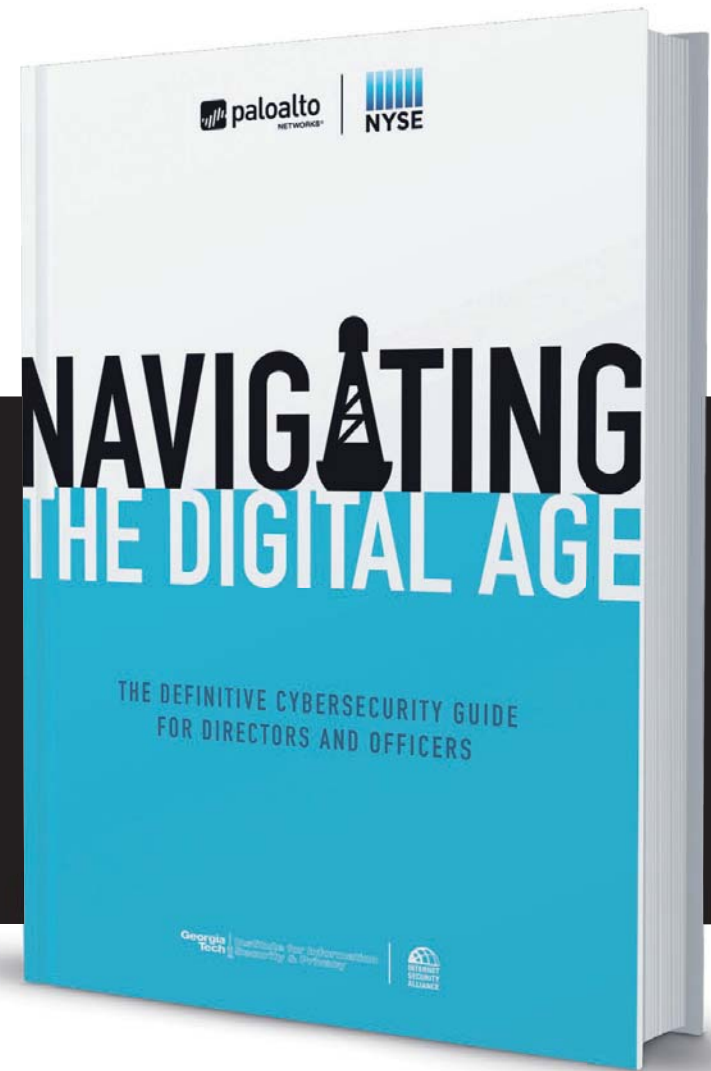
Source: Facebook Inc.



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