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The Foundation accomplishes its mission through development of future-focused studies and reports identifying critical issues that could impact the industry.

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Staying Ahead of Tomorrow

"New technology is cool, but it means nothing if you're not continually delivering increased value to the customer."

-IFC Participant

The Equipment Leasing & Finance Foundation expresses appreciation to the following companies for sponsoring the 2017 Industry Future Council and Report



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About the Industry Future Council Report

Each year, in support of our mission to be "your eye on the future," the Equipment Leasing & Finance Foundation brings together a group of industry executives to form the Industry Future Council. The IFC is tasked with exploring trends, challenges and opportunities, and evaluating how these issues may impact the equipment leasing and finance business for years to come.

The annual IFC Report summarizes these discussions and attempts to bring into focus matters that equipment leasing and finance firms may want to consider as they plan for future growth. It is the hope of the Foundation that readers will benefit from the insights of the IFC and use this report as a thought-provoking resource and planning tool.

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Executive Summary

The speed of change in business today is daunting by any measure. Increases in the pace of change threaten to overwhelm us as we struggle to discern which changes are important to our companies and our industry. It is imperative to find effective ways to stay abreast of change and assess its relevance to our businesses. Only then can we evaluate new ideas, adopt new technologies in an informed way and use them both to improve the customer experience and our ability to finance equipment for millions of businesses.

With this perspective in mind, the Equipment Leasing & Finance Foundation brought together 22 industry executives for the annual Industry Future Council (IFC) session. The IFC convened in Washington, D.C., in early February 2017 to discuss current and future developments pertaining to technology, politics and regulation. Technology developments dominated the two-day discussion. But time was also given to the political environment and the future of financial regulation, since both have potential to affect the way we do business.

Before the meeting, IFC members read two articles and viewed four videos collectively designed to build a foundation for discussing exponential vs. linear thinking, and exponential technology trends. Exponential technologies are those that advance in an exponential way and explode into the mainstream, disrupting industries and changing the way we live. Just as computing revolutionized the 20th century, artificial intelligence, blockchain ledger and virtual and augmented reality are among the technologies expected to alter life in the future.

Successful industry leaders won't use 2017 thinking to plan for 2025. Only by projecting the trajectory of these advancing technologies and using "day-after-tomorrow" thinking can we understand how our world is changing, and along with it, our customers and the outcomes they seek. Customers don't care what's important to us; they care about what's important to them. And if equipment finance companies can't innovate fast enough, customers will turn to others who can meet their needs in new ways.

Forces of change already at work in our industry include managed solutions and the accompanying transfer of risk from customer to finance-provider as a result of managed solutions contracts. Fewer customers want to own equipment; they want only to use it and pay for it when they use it—and when it works correctly. Some lessors insert non-traditional payment terms into lease contracts to satisfy these customers. But doing so makes the agreements performance-based, effectively turning lessors into asset managers. Companies using day-after-tomorrow thinking will devise solutions that will disrupt the industry over the next decade—and, in the process, make a great deal of money for themselves. Meanwhile, industry leaders will be challenged to explore exponential technologies in preparation for financing them and deploying them in their own companies.

Artificial intelligence is already driving trucks and replacing thousands of employees in adjacent industries; why not use machine-learning for complex credit risk-modeling? Healthcare companies and aircraft manufacturers are using products made by 3-D printers; this trend is pushing an uptick in real leases because 3-D technology is changing so quickly. Google and Samsung are advertising virtual-reality products on TV; could finance companies employ virtual reality to help customers? By using day-after-tomorrow thinking, we can arrive at actions we should take now to prepare for the next decade. New business models, new management methods, new ways of going to market: we must make time to think about them now, because truly—tomorrow will be here before we know it. Let's get ready!

Introduction: Understanding What's Already Possible

Imagine financing a new managed solution. It's called "Business in a Box," and the product can be a farm, homecare services for the elderly or any number of enterprises using equipment and technology to create and deliver products and/or services at a profit.

As an example, consider "Farm Package #1," which comes with 100 acres of leased land and all equipment necessary to produce five crops. Artificial Intelligence, or AI, determines when to plant, irrigate and harvest. Self-driving combines work the fields and driverless trucks bring the produce to market. Automated feeding systems and milking equipment tend to your dairy cows, giving your customer time to spend with his/her favorite cow.

The technology and equipment needed to produce such a turn-key farm already exists. Putting the components together in a way that creates a new, fully fundable product, however, uses what Peter Hinssen, a thought leader on innovation and the impact of all things digital on business and society, calls "day-after-tomorrow thinking." Leaders in our industry could use day-after-tomorrow thinking, or "DAT" to restructure the way we go to market and the way we position our finance companies.

But innovation doesn't happen easily in banking and equipment finance. Many of our companies were built for size and scale, designed to produce consistent and reliable outcomes. This older design is incompatible with today's era of innovation and rapid change, and external regulation adds to the pressure. As a result, new ideas are often blocked in the name of cost, consistency and a desire for tight, top-down management control.

How, then, do we as company managers successfully deal with change? Do we stay abreast of emerging technologies and work to deploy new ones? Do we innovate by creating new products, streamlining processes and working continually to improve the customer experience? Do we encourage experimentation and tolerate small mistakes, particularly if they advance the firm's thinking about strategic possibilities?

Individual, personal capabilities of leaders are different in organizations that are flexible and innovative rather than scalebased. Thinking about our individual agility as business leaders, we should ask ourselves: Do we stay informed about political and economic conditions and view change as an instrument for success? Do we challenge our colleagues to think creatively to meet evolving customer needs? Or do we sometimes watch helplessly as our competitors innovate and earn our customers?

This report documents discussions and findings of the Industry Future Council at its two-day conference in February 2017 in Washington, D.C. Deborah Reuben, President of Reuben Creative, LLC, facilitated the conference. Andrew Cotter, Executive Vice President and Chief Information Officer of Somerset Capital Group, Ltd., co-facilitated. A detailed account follows.

IFC Member Survey Results

In preparation for the 2017 IFC Conference, members read specific articles and viewed videos (see Resources) to build a foundation for discussing rapidly advancing technology trends and their potential impacts on the equipment leasing and finance industry. Members also responded to a survey that gauged their expectations about disruptive change and measured their familiarity with exponential technology advances. The survey further asked members about recent technology innovations that have surprised them.

- Almost 39% of IFC members said they believe disruptive change will impact the industry within one to three years, and 37% said the impact will be significant.
- 42% said they believe disruptive change will cause a fair amount of impact, 10% thought there would "some" disruption and another 10% said they thought change would continue to occur incrementally.
- Recent innovations that have surprised members include augmented reality, artificial intelligence in the form of machine-learning, consumption-based business models and blockchain-ledger technology. Members said their surprise stems from the fact that many technologies are advancing rapidly, impacting day-to-day experience and becoming part of regular conversation.

Figure 1 illustrates members' familiarity with new technologies that are advancing at an exponential rate and could disrupt the Equipment finance industry.



Figure 1.

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A Context Map of Current Issues

To set the stage for an in-depth discussion about where the industry is headed, IFC members examined issues confronting Equipment finance companies today. Members captured a lengthy list of items that were classified into seven categories, as shown in Figure 2.

Figure 2.



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In Figure 2, we see that managed solutions and fintech are major industry trends with the potential to be affected by political factors, such as changes in the federal tax system, and economic factors, including rising interest rates and heated competition. Technology factors, which include advancing technologies and security issues, are influenced by customer needs and expectations. In turn, customer needs and expectations are impacted by uncertainties, such as the new Presidential administration and the speed of technology advances.

Forces of Change

Equipment finance companies seeking to develop bold new strategies for the future often find it helpful to understand certain trends already at work. Knowledge of these forces can reveal new opportunities to enrich the customer experience, enter new markets or change our business models. Five areas of change members identified as currently affecting the industry are below.

Technology-Related Innovations

Managed Solutions and Risk Transference

"When I entered this industry years ago, the only managed solution in existence was costper-copy in the office-products segment," said an IFC member. "Now managed solutions can be found in many classes of assets, from building systems to agricultural packages to technology to health care. And the trend is expanding." "Customers no longer want to own the equipment; they only want to use it and control it."

—IFC Participant

The speed with which customers are now demanding managed solutions is also notable, since cost-per-copy remained the only product of its kind for decades. "Now we're moving to cost per hour, cost per an entire suite of imaging services, and cost per anything-you-can-think-of," said another member. "The change has been sudden and it adds new complexities to the lease transaction."

The managed solutions trend is more than a fad; it represents how Millennials experience the world. Environmentally conscious and budget-minded, they want to pay only for what they use—and if the equipment fails during their usage period, they want to be compensated for the downtime. For equipment finance companies, opportunity lies in learning how to satisfy managed-solution customers and still make a profit. Companies that first solve this puzzle may become major disruptors—and make a fortune doing so.

The most important complexity facing lessors that provide managed solutions is death of the hell-or-high-water lease. Leases containing this traditional clause stipulate that at the end of the day, the user must pay—whether the equipment works or not. In the managed solutions environment, however, some finance companies are inserting non-traditional payment terms into lease contracts, making them performance-based. In such cases, all risk is transferred to the lessor or equipment manufacturer. "It's a very different business model than the lending model, and one in which we're becoming more asset managers than lenders," said a member. "And as asset managers, we have to understand how to monetize that asset and make it perform well over the lease term so we can get back all the capital we've invested. It's a model we've seen before, and it cannot be sustained."

Banks, captives and independents are all experiencing customer demand for managed solutions, but IFC members remain unclear exactly how each industry segment will proceed. "I believe banks will withdraw from some of these markets and decide they're better served by providing capital to constrained customers," said one member. "They'll lend money to companies that manage fleets of trucks, for example."

Other members thought the issue might be solved when finance companies purchase firms offering managed service as a major portion of their business. "I agree that we don't want banks servicing MRI machines," said one member. "But while these projects can be highly complex, they're also still bankable products, like solar and wind energy. And if the wind doesn't blow or the sun doesn't shine, the service-providers don't get paid back."

But such agreements are usually backed by a technology sponsor with a third party that can be called upon to make up lost payments. "I think many banks would take these risks if they could from a regulatory standpoint," said a member. Should regulations relax, IFC members thought bank-owned finance companies considering managed solutions transactions might examine two issues: performance risk and their company's appetite for asset management.

Business, Organizational & Process Innovations

Regulatory Restrictions and Capital Trends

If regulations relax and banks are allowed to take on service risks and assume more risk generally, will the fintech model survive? How will financial-services companies fare overall? IFC members agreed that the equipment leasing and finance industry will likely continue—but they were not sure it would prosper. "We've been awash in capital for the last eight years," said one. "I think it's unlikely that liquidity will continue to increase; it will flatten or decrease, triggering events."

"If Dodd-Frank is relaxed and banks are allowed to assume more risk, will the fintech model survive?"

-IFC Participant

Others cited abundant capital still on the sidelines. "Japanese investors are saying the only safe place to put their capital is in the U.S.," said another member. "War and unrest in other nations may make our country the only safe haven for foreign investors."

A stock market rally in 2016 and early 2017 has put banks in a healthier position and reduced the regulatory overhang. If bank regulations ease under the current administration, the entire cost of regulation could also be reduced, members said, putting banks in an even better position to compete with fintechs and independent Equipment finance companies.

The Evolution of Fintech

Fintechs are also changing. Consolidation is occurring even as new entrants continue to appear. At the same time, investors are telling fintechs that if they don't produce a profit, there won't be a next round of funding. But the investor model is no longer the sole driver of fintechs. Equity lending by banks is also part of the movement now, and many fintechs are evaluating the potential cost advantages of partnering with banks, formally or informally. Indeed, partnerships between banks and fintechs are changing the competitive landscape. Thus, fintechs are moving through a normal business cycle— albeit faster than traditional finance companies. In roughly two years, the original fintech person-to-person business model has given way to one that is directed by private equity companies. Commented an IFC member, "Many of the products we provide in financing are about who's taking the risk of lending the capital. If we all had unlimited capital, we wouldn't need fintechs—or banks."

If we could think of fintechs not only as a threat, but also as an enabler, what opportunities might we see and exploit?

Navigating Change in the Political and Regulatory Landscapes

No exploration of the equipment leasing and finance industry's future today is complete without an examination of the nation's long-term fiscal situation and the public's perception of the financial-services industry. To that end, IFC members changed gears at a point in their meeting and asked Andy Fishburn, ELFA's Vice President of Federal Government Relations, to lead a discussion on both issues. To begin, Fishburn posed two problems for IFC members to consider.

Problem 1: Politicians as well as economists widely agree that the long-term fiscal path of the United States is unsustainable. Many economists believe that a broad-based consumption tax such as a national sales tax or value-added tax is a more efficient way to raise revenue than the current income-tax system. How would moving to a tax structure that looks more like a consumption tax and less like an income tax impact the equipment leasing and finance industry? Figure 3 illustrates the erratic and waning pattern of U.S. income-tax revenues.



Federal Reserve Bank of St. Louis

Problem 2: Following the Great Recession, regulations on financial institutions have increased dramatically. Figure 4 shows that the public perception of these institutions has suffered significantly as well, and the nation has become increasingly protectionist and anti-institution, to boot. In light of these developments, full repeal of Dodd-Frank is unlikely. But what are the prospects for the next 10 years of financial-services industry regulations? And how can the industry position itself to increase the chances of positive regulatory change?

Figure 4.



©Gallup, 2016

Discussion Takeaways, Problem 1

- The U.S. is the largest economy in the world, but it is also the most organized country without a value-added, broadbased consumption tax. Corporate taxes constitute just 11% of all U.S. tax revenues. Projections show that within the next 20 years, our national debt will stand at 200% of our GDP. The only efficient way to raise revenue looks more like a consumption tax and less like an income tax.
- Members thought it unlikely that any new federal tax model would be fully consumption-based. Instead, they envisioned a hybrid model containing credits for efficient energy use or other economically desirable situations, with taxes still based on consumption of goods and services.
- Small-ticket leasing is unlikely to be affected, members said, since for most customers in the segment, the need for access to and use of equipment far outweighs any tax ramifications.
- Because large-ticket leasing employs customized financial solutions, debt financing could increase, influenced by the ways corporations invest their capital.
- Leasing equipment would still be less expensive than purchasing, and although certain businesses could disappear under the new tax regimen, one member said he could see the industry recreating those spaces with synthetic business models that would work.

"If we move to a hybrid tax model and interest rates rise substantially, perhaps we could offer a better financing solution in which people receive more tax benefits."

-IFC Participant

- Could there be an incentive for purchasers or servicers to buy more leases rather than finance? "In the short-term period of rising interest rates, we're seeing more direct activity and more of it coming from banks," a member said. "But if we move to a hybrid tax model and interest rates rise substantially, perhaps we could offer a better financing solution in which people receive more tax benefits."
- On the other hand, more businesses might shift to a usage-based model in which the lessor owns the equipment and the lessee incurs no taxes whatsoever.
- A capital structure that shifts toward leasing could cause financial institutions to increase their equipment-leasing business. Manufacturers analyzing the situation would likely lease the machines needed to produce their products, and financial institutions would assume that debt. "So the shift of debt from manufacturers to financial institutions would give banks much larger balance sheets," a member suggested, adding, "It will be interesting if that happens, since there is so much current concern in the political sphere about banks having too much debt."
- Yet, nearly all finance companies offer warehouse lines for leasing, and banks have invested heavily in providing funding to independent finance companies. "The question is whether banks will be able to endure if that model becomes more industrial," observed one member. "All types of financing that banks have been frozen out of in the Post-Recession era have been supplanted by creating a warehouse line, providing leveraged finance to companies that do what banks can't do. Will they endure, or will they want their obligors to go out and write a manufacturer like Whirlpool?"

Discussion Takeaways, Problem 2

- Less regulation amid a greater push for transparency would give banks and other finance companies an opportunity to think about what they want to be and what they stand for. Since the Great Depression, U.S. banks have been able to turn to the federal government for a loan in times of stress, and that safety valve should remain in place.
- But many banks have pulled back from lending to small businesses, due to their perception of current regulations, leading critics to claim that banks have lost sight of their original purpose. Rules prohibiting banks from taking risks associated with small companies conflict with the purpose of banks—and regulators and the public must be educated to understand this.
- The finance industry has endured a poor public perception since the Great Recession. Regulators and citizens still worry that banks have insufficient reserves to stay in business during the next economic downturn. They fear more government bail-outs.
- The onus is on us to change this perception. That we are an industry integral to the continuation and success of small businesses specifically and the U.S. economy generally is the message we must convey. Politicians need to know how much financing we do in their districts, and that we should not be lumped in with "big banking."

Exponential Technologies: Impacts and Potentials

Exponential technologies are those that are advancing at an exponential rate. Computer processing power is an example of a technology that is widely believed to advance at an exponential rate. In the 1920s, a computer was any machine that performed calculations in accordance with effective methods. Nearly 100 years later, processing power doubles every 18-24 months. Figure 5 shows the exponential trajectory of computing power from 1900 to 2100 (projected).





Ray Kurzweil, Kurzweil Technologies, Inc.

If we think about the way in which computers with greatly advanced computing power may be applied to corporate tasks and ever-increasingly complex algorithms, it's possible to imagine how broadly exponential technologies may impact the business world in coming years.

The Six D's of Exponential Technologies

Peter Diamandis, an expert on exponential technologies and co-founder of Singularity University (see Resources), theorizes that exponential technologies share six characteristics relevant to business:

- Digitalization
- Deception
- Disruption
- Demonetization
- Dematerialization, and
- Democratization.

Diamandis says that any technology that becomes **digitized** enters exponential growth. Technologies used in finance, medicine, genomics, manufacturing and printing all are now digital. Once digitized, a technology enters a period of **deceptive growth** during which its capabilities double, triple, quadruple and continue to grow exponentially. Yet, in the early

stages of exponential growth, the public's perception of a technology is often that the technology is static. Later in the exponential growth curve, however, the technology appears to be advancing at a blazing rate and becomes **disruptive** to firms operating in industries in which it is adopted. As cameras became digital, for example, photographers stopped using film, disrupting both the camera and the photographic-film industries.

Diamandis goes on to explain that as an exponential technology continues to develop, **dematerialization** of some or many products using the technology occurs. Few of us now use physical GPS devices in our vehicles, for example, because GPS

technology is built into our smart phones. Consequently, we as consumers no longer pay for GPS capabilities, because they're integrated into other technologies and thus are **demonetized** as well as dematerialized. iTunes demonetized the record store. Skype demonetized long-distance telephone-calling.

Once a technology becomes demonetized and dematerialized, Diamandis says, it becomes democratized—or available to virtually everyone—and the technology explodes. Projections showed that by 2016, 1 billion mobile phones were to be in use in Africa. Internet growth is projected to explode from 2 billion users in 2010 to 5 billion or more by 2020, and satellite systems have the potential to connect the

"You can spend 30 minutes on your tablet, figure your costs and get everything you need for your business without going to a bank. Will fintech demonetize banks?"

-IFC Participant

"Equipment finance businesses are still in the DECEPTION position."

-IFC Participant

entire world. The addition of 3 billion more people online, all of whom need things, buy things and have ideas, represents tens of trillion of dollars in potential new financing revenue. Which additional technologies and products that the Equipment finance industry uses and/or finances are threatened by demonetization and dematerialization? Which will explode and create epic opportunities?

Gartner's Hype Cycle

Each year, Gartner, Inc. releases a diagram designed to help business leaders understand which technologies are approaching mainstream adoption and the current position of each in its life cycle. Figure 6 illustrates the position on the curve of more than one dozen exponential technologies.

Figure 6.



[©]Gartner, Inc., 2016

According to Gartner, hype cycles consist of five key phases in the life cycle of an exponential technology. These are listed in order, below:

- Innovation Trigger: A potential technology breakthrough kicks things off. Early proof-of-concept stories and media interest trigger significant publicity. Often no usable products exist and commercial viability is unproven.
- **Peak of Inflated Expectations:** Early publicity produces a number of success stories often accompanied by scores of failures. Some companies take action; many do not.
- **Trough of Disillusionment:** Interest wanes as experiments and implementations fail to deliver. Producers of the technology shake out or fail. Investments continue only if the surviving providers improve their products to the satisfaction of early adopters.
- Slope of Enlightenment: More instances of how the technology can benefit the enterprise start to crystallize and become more widely understood. Second- and third-generation products appear from technology providers. More enterprises fund pilots; conservative companies remain cautious.
- Plateau of Productivity: Mainstream adoption starts to take off. The technology's broad market applicability and relevance are clearly paying off.

Deploying Exponential Technologies in Equipment Finance

The large number of exponential technologies in development today is intimidating, and the concept of deploying them in businesses that have been fairly static over the past 20 years can seem overwhelming. But awareness of these technologies is the first step toward productive management action. Figure 6 shows that 18 technologies are expected to achieve mainstream adoption in the next 5-10 years. Knowing this should change our outlook as an industry and our priorities as business leaders. Figure 7 shows 11 advancing technologies that already have applications or potential applications in the banking and commercial finance industry.

Figure 7.



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Artificial Intelligence

Al, or machine-learning, is the capacity for computers to perform operations analogous to human learning and decisionmaking. To better appreciate Al's capabilities, consider the software behind "Google Translate," an application that allows users to type in one language and see the translation in another language. Google Translate's Al software was programmed to observe patterns of translations. Partially as a result of exponentially increasing computing power, the software successfully created its own language so that it could better translate new languages it hasn't yet encountered. In other words, thanks to its ability to learn from patterns inherent in the languages it was taught to translate, the software taught itself to translate additional languages that were not in its original programming. Al software becomes ever more powerful and capable as it continues to learn and expand its capabilities—without additional human intervention.

This phenomenon has become possible because, as shown in Figure 5, \$1,000 of computing power now buys nearly the equivalent processing power of one *human brain*. Exponential growth is expected to increase the processing power of a \$1,000 computing investment to the power of all human brains in less than 50 years from today. This suggests that the potential of AI in business and society is nearly unimaginable from our current perspective. The use of machine-learning for complex credit risk-modeling was just one of many possibilities discussed by IFC members. Other potential applications discussed were in the financial-services verticals of insurance and wealth management.

Blockchain Technology

Blockchain, or distributed ledger, is a new technology with the potential to eliminate the need for intermediates across many industries. Since much of the service provided by banks and financial services firms is effectively that of being an intermediary, this topic was of significant interest to committee members.

How does it work? Think of sending an email with an attachment. Recipients don't receive the original; they receive an electronic copy of both documents. But when we send money electronically, we don't send a copy. If we did, senders would still be in possession of the funds. Blockchain technology works similarly in that we can use it to send money through PCs. Each transaction is saved into an electronic block and connected to previous transactions, then copied into a network-wide distributed ledger involving thousands of separate computers. These blocks cannot be altered or erased.

Blockchain has the potential to revolutionize business. It provides a decentralized platform for exchange and is thought to be highly secure. It allows information to be shared by anyone who is given permission to join the chain. No transaction can be added to the chain without the consensus of all other users, and each transaction is permanently recorded in many locations, reducing or eliminating the potential for fraud or theft.

Users of BitCoin (one form of blockchain) can send money without using an intermediary. Potentially, everyone could use blockchain, drastically reducing the need for banks and disrupting current disrupters. Uber could also be replaced by a blockchain-based, peer-to-peer network of drivers who form their own businesses and do all parts of it themselves.

When blockchain is employed in the equipment leasing and finance industry, how will it impact the business? Will standards evolve as we use the technology? "It's an evolution," said one IFC member. "Previously, when someone came into a bank and withdrew money, the bank would record the transaction in its ledgers. Then we went to central clearing, and I think the same will happen with blockchain. We'll start using it and modify it over time."

One thought was that the industry would divide itself into regulated and nonregulated companies to apply blockchain technology as allowed by law. "Will regulators allow banks to participate in blockchain and self-govern themselves around it?" mulled a member. "Or will they want to be involved in the governance of it from day one?" Figure 8 shows the exponential trajectory of blockchain. "Data is the new currency and blockchain will become the regulator of transactions."

—IFC Participant

Figure 8.



Virtual & Augmented Reality

Google and Samsung advertise VR (virtual reality) products on TV. But you don't need the newest technology to create VR; you can take a video of your kitchen with your smart phone and send it to a friend, enabling that person to see everything in the room. "There's already technology that uses holograms to insert you into a meeting," said an IFC member. "One of the speakers at an upcoming healthcare conference plans to attend remotely in hologram-form."

Car shoppers can already virtually experience the new Lincoln Continental without turning the key. Wealth managers are using augmented reality (AR) to analyze data and interact with it. Other companies are considering how best to use AR to replace costly customer visits. How might AR and VR help us engage our customers and immerse them in equipment environments? Might we shorten the path to deal-closing or increase the amount of equipment financed by using VR that allows customers to "live" the assets they want to lease?

Advanced Robotics

The Da Vinci surgical robot has been used successfully for years in the healthcare arena, and it now has company. Newer robots attached to hospital beds transport patients though the hospital for x-rays and provide a cup of water on the way, if the patient requests it. Ship builders and the U.S. Navy use wearable, assistive robotics to enable workers to lift several times their body weight without injury. Warehouse robots follow color-coded floor tape to pick merchandise, bring it to the dock and place it on pallets. "I was in a bicycle shop that bought a used robot for \$15,000 and programmed it to replace a \$50,000 employee who picked up parts and put them into boxes," said an IFC member. How might equipment leasing and finance companies use robotics to gain efficiencies and enrich the customer experience? See "Stories of the Future" to learn about one possible scenario.

Digital Fabrication

Healthcare companies are using products made by 3-D printers. Aircraft manufacturers deploy 3-D technology to get parts quickly. Said an IFC member, "I'm using true leases to finance 3-D equipment because the technology is changing so fast, customers already want to upgrade. It's affecting how I structure my leases."

Mass production and standardization lower prices. But 3-D printing is creating unique customization at a lower price, producing a new market for custom equipment at smaller companies. Observed a member, "Digital fabrication is creating opportunities to finance equipment for smaller companies that might never have competed effectively before."

The Internet of Things

Connectivity in vehicles is expected to prevent many crashes, since cars will be able to talk to each other. Connectivity is also likely to make life more convenient by directing us to vacant spots in parking lots. Tesla has a video in which the driver alights from the car to let the car find a space and park itself. The next stage might involve connecting sensors to smart contracts. Imagine the convergence of IOT and blockchain, facilitating charges for leased vehicles when the allotted mileage is exceeded. Both technologies portend real possibilities for equipment leasing and finance.

Biotech and Medicine

New treatments will arise from sequencing the human genome, an undertaking that has already become dramatically less expensive. How will these developments change the nature of doctors' offices and the medical equipment we finance? How will new medical technology affect our business plans? "There could be impacts to your portfolio if it becomes useless to have long-term contracts for healthcare equipment," said an IFC member. What new level of diagnostics is already available in the palm of your hand, and how is it impacting the medical industry and equipment financing?

Using Day-After-Tomorrow Thinking

All business leaders tend to move through cycles in which "they think briefly about tomorrow and then circle back to take care of all the urgent activities happening today," observed one IFC member. "We often think about tomorrow only in the context of today," said another. "We engage in detailed planning and forecast how tomorrow will look, but it's usually not even close to reality."

How, then, might industry leaders better think about the future, and what actions can be taken now? Peter Hinssen, a thought leader on game-changing transformation, talks about using day-after-tomorrow thinking (DAT thinking) to more accurately plan for the future. Hinssen says the new normal is a world in which everything is connected, and linear thinking no longer works to navigate through the fundamental changes that technology creates.

Today's challenge, he says, is for companies to reinvent themselves—not when they begin to decline and not while they're experiencing peak performance, but while they are still growing. "That's when you have to figure out what your next move will be, and then you can keep reinventing yourself," he says.

To do this, leaders can employ DAT thinking, in which they spend 70% of their time thinking about current concerns, 20% thinking about tomorrow and 10% thinking about the long-term future. But doing so is not a side job; it takes commitment and intentionality. "Use 93% of your time thinking about today and tomorrow, and you won't get there," cautioned Hinssen. Key to having enough time to think about the day after tomorrow is not having too much overhang to clean up from yesterday.

Stories of the Future

To use DAT thinking themselves, groups of IFC members pondered specific technologies, changes that need to occur to reach an ideal state of usage, obstacles that might appear, and ways companies might redesign themselves and work to navigate in an exponential world. The scenarios they devised follow.

Artificial Intelligence: Starting at the customer level, this group planned to use AI to create campaigns to drive sales. Automated applications would bring business in the front door, and automated work with industry data provider PayNet would produce AI-enabled credit scoring. Approval would generate electronic documents, and teams would work in an empowered way to develop efficient solutions. Customers would use a self-service app to draw down credit lines, and blockchain technology would enable collections through automatic ACH debits. "AI would enable the perfect business start-up," said an IFC member. "It probably would be more difficult to implement at an existing finance company."

Blockchain and AI: In this scenario, manufacturer and vendor customers looking to finance are brought together under a new business model articulating a refined network of service providers with flatter-than-usual organizations. All is be used to fully automate each transaction, flatten the network organization and simplify and digitize to make each transaction fully automated. Multiple financial products could be offered, using a digitized platform. This model could be used not only for business, but for individuals looking for specific opportunities, such as transportation. Each user could customize the application and blockchain to suit his or her needs.

Robotics and Sensors: In a case focusing on customer engagement and starting at the point of sale and continuing through fulfillment, robots, drones and bio-sensors are used in both traditional and innovative roles. Customers communicate device to device, using Amazon Alexa, to enable speedy, convenient transactions. Communication through AI is available 24/7. Entire banks of computers use blockchain technology to enable customers to acquire the solutions they desire and record the transactions securely. Equipment choice, credit approval, contract structure and e-signatures are all completed through verbal commands that flow from the customer. Once the lease starts, money flows from electronic payments through blockchain. Lack of leakage or friction dramatically reduces costs. Customer and finance-providers both benefit.

Business in a Box: The story of this team appears in the Introduction, on page 6. Business in a Box could be "an exaggeration of franchising, only better," one group member said. Using AI to determine not only when to plant, but when to fertilize and when to tend to each task should greatly improve the business's chances for success.

Challenges to Progress

IFC members also considered likely future challenges, and discussed potential objections they might encounter at their companies. These objections can be found in the following quotes by IFC members:

- "What gets in the way is that we're so successful."
- "People are reluctant to try something new if they don't think anything is broken."
- "We're so focused on today that for this evolution to continue, we'll have to rethink our entire business."
- "Too often, CEOs are isolated from the implementation of technology."
- "The more senior management is, the more it seems to be stuck in the past."
- "We need more young talent—and we need to make the industry better for them before we leave."
- "If you think you're going out of business and your career will be cratered, that sets you on fire. But if you think what you're doing today will survive a long time, you do nothing. You don't change."
- "We need to educate our people to start reinventing while they're still successful. If they don't start changing now, they'll be crushed."
- "Some of us in the industry are overwhelmed. We don't even know where to begin."
- "We need to make a roadmap."

Conclusions

The technology and events that are now driving change offer solutions for managing this change and evolving our business strategies. As top business leaders, we need to start using at least 10% of our time to think about long-term business strategy. "We're all hindered by our histories," said one IFC member, "and if we keep doing the same things, we're going to get killed."

"We must take responsibility for embedding day-after-tomorrow thinking into the fabric of our companies. If we don't, someone will eat our lunch."

-IFC Participant

We also need to overcome our fear of change. "We can't ignore the future, and as leaders of organizations, we must take responsibility for embedding

day-after-tomorrow thinking into the fabric of our companies," said an IFC member. "If we don't, someone will eat our lunch."

Leading in the face of exponential change means navigating through nonstop volatility, uncertainty, complexity and ambiguity. As thought leader Lisa Kay Solomon has written, it means "transforming surprise into mindful anticipation," and imagining new possibilities where others see obstacles. It also means realizing that opportunities to act on these possibilities could arise sooner than later.

Because new variables always enter the equation, we must learn to think in ways that blend strategic foresight with knowledge of current trends and out-of-the-box brainstorming. Great ideas can come from anywhere, and we must be open to discovering them and using them to innovate.

Lest at times we think that we are progressive enough, we need only remember the Six D's of Exponential Technologies and the companies and products already dematerialized and demonetized by change. As an industry, we have to become comfortable with uncertainty and more ambitious with our vision. By viewing disrupters as enablers, for example, we can learn from their innovations and use them as tools to reinvent our companies. "Fintechs are enablers," said an IFC member. "They offer opportunities for us to partner and provide a more awesome customer experience." "We were the original fintechs," said another member. "But instead of being out there ourselves on the cutting edge, we're reacting to the fintechs."

To reinvent ourselves amid the constraints of regulation, tradition and competition, we must move beyond them in our thinking. We have created new paths around obstacles and challenges before, and we can do it again. Let's start imagining the day after tomorrow now so we can plan how we'll get there.

How to Use This Report

IFC members discussed steps they planned to take after the Conference to begin embedding day-after-tomorrow thinking in their organizations. These steps are reproduced below to help you think about shifting your company toward greater change.

- Read the articles and watch the videos listed in the Resource section. Share them with others in your company and schedule a meeting to discuss how exponential technologies might impact your firm. What effects could they could have on your processes? Your products? Your markets and your profitability? How might using some of these technologies enhance your company's role in the equipment finance industry?
- Poll your employees on ways to improve company procedures and processes. What processes could be eliminated? Which tasks could be designated to AI, allowing employees to focus on other priorities? Could Virtual or Augmented Reality be used in your business in the future?
- Consider forming a team to drive change more broadly across your organization. Identify employees who think outside the box and provide opportunities for them to use DAT thinking. Ask about the results and schedule times for team members to present their thoughts and ideas to the broader company to help transition your culture to a more flexible and adaptable structure.
- Arrange workshops at which all employees are asked to think about the future and experiment with DAT thinking. Record the results and test good ideas for implementation. Hold more workshops and repeat.
- Use two-way mentoring to teach young talent about the industry and more experienced talent about technology.

Resources

Artificial Intelligence:

https://www.youtube.com/watch?v=nwx96e7qck0&list=PLD9GoDzwSMTYwHs3fyprH9HZBKlpz-ro

Autonomous Vehicles:

http://uk.businessinsider.com/amazon-prime-air-drone-delivery-service-completes-first-transaction-uk-england-2016-12?r=US&IR=T https://player.vimeo.com/video/188105076 (TESLA - start at 2:15 mark)

BioTechnology and Medicine:

The Tricorder Xprize: https://www.youtube.com/watch?v=8rxCF41Cg20 MOTH: https://www.airvuz.com/video/572ce6750e798271837ce7af

3D Printing:

New type of 3D printing inspired by the movie Terminator 2: https://www.youtube.com/watch?v=I3TgmvV2EIQ

Blockchain Technology:

Don Tapscott explains blockchain and its potential for revolutionizing commerce: http://www.ted.com/talks/don_tapscott_how_the_blockchain_is_changing_money_and_business#t-1117972

Day-After-Tomorrow Thinking:

Peter Hinssen discusses leadership and thinking about the future in an exponential world: https://www.youtube.com/watch?v=Qu6Y534sRv0

Exponential Computing:

Brad Templeton shares with a financial services audience the recent advances in exponential computing and impacts for multiple industries: https://www.youtube.com/watch?v=G9gfNR0Eiyo

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Exponential Leadership:

Lisa Kay Solomon envisions navigating successfully in an exponential world: https://singularity hub.com/2017/01/11/how-the-most-successful-leaders-will-thrive-in-an-exponential-world/

Exponential Technology:

Peter Diamandis explains the Six Ds of Exponential Technologies: http://videos.singularityu.org/2015/05/peter-ds-6-ds-of-exponentials/

Exponential Thinking:

Mark Bonchek examines digital business models to explore creating an exponential mindset: https://hbr.org/2016/07/how-to-create-an-exponential-mindset

Gartner's Hype Cycle:

http://www.gartner.com/technology/research/methodologies/hype-cycle.jsp

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About the Facilitators

Deborah Reuben

President Reuben Creative, LLC

Deborah Reuben, CLFP is the Founder and President of Reuben Creative, LLC a consulting firm specializing in strategic leasing and lending process and technology consulting. A 21-year industry veteran with a broad professional background in both financial services (Wells Fargo and TCF) and the financial software industry (HCL and Linedata Capitalstream), she has coached teams and executives, developed processes, and spearheaded solutions that have helped banks and financial organizations leverage cutting-edge technologies to stand out in their industries.

An active member of the Equipment Leasing and Finance Association and frequent speaker at industry events, she served in the past as ELFA Operations & Technology Excellence Award sub-committee Chair and currently serves as chair of the ELFA Operations & Technology Committee.

Known for connecting the dots in ways that no one else can, her unique industry experience, creative approach, and keen eye for future trends enables her to bring forward thinking insights and original ideas to the table. In her consulting work, she coaches and advises leaders who desire to implement technology to achieve their business goals and enjoys helping teams understand technology possibilities, stretch their imagination of what could be, and chart a course for transformative change.

Andrew Cotter

Executive Vice President, Chief Information Officer Somerset Capital Group

Mr. Cotter is primarily responsible for providing vision and leadership to develop and implement information technology initiatives related to the business, financial, and operations systems that are critical to core organizational functions. Through collaboration with business leaders and select vendor relationships, Mr. Cotter establishes, plans, and administers the overall policies and goals for the information technology department, as well as helps business operations utilize information systems to improve efficiency.

Prior to joining Somerset, Mr. Cotter owned a full service technology services organization, distinguishing itself through a unique mix of hardware, software, networking and internet skills with wide range of customers.

Mr. Cotter earned his Bachelor's in Architectural Studies and Design from the University of Massachusetts at Amherst, in 1998.



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