EQUIPMENT LEASING & FINANCE
FOUNDATION
Your Eye on the Future

INDUSTRY FUTURE COUNCIL

2024 REPORT

Promoting Innovation and Experimentation in Equipment Finance

About the Equipment Leasing & Finance Foundation:
Established in 1989, the Equipment Leasing & Finance Foundation is a 501c3 non-profit organization dedicated to inspiring thoughtful innovation and contributing to the betterment of the equipment leasing and finance industry.

The Foundation accomplishes its mission through development of future-focused studies and reports identifying critical issues that could impact the industry. Foundation research is independent, predictive, and peer-reviewed by industry experts. It is funded solely through contributions. Contributions to the Foundation are tax-deductible. Support the Foundation by making a 100% tax-deductible gift today at www.LeaseFoundation.org.

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, 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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The Equipment Leasing & Finance Foundation expresses appreciation to the following companies for sponsoring the development of the 2024 Industry Future Council Report:

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EXECUTIVE SUMMARY

Technology plays a large and growing role in the equipment finance industry. Every year, new technologies and platforms are introduced that help lenders engage with current customers, expand their businesses, and manage risk. At the same time, going "all in" on leading-edge technologies can divert a company's attention and resources from present-day needs and the preferences of its existing customer base. Finding the optimal level of innovation is a difficult challenge that requires each firm to develop a strategy that (1) reflects its customers' preferences for personalized engagement; (2) encourages its employees to experiment with new technologies in a structured and coordinated manner; and (3) recognizes and manages the cybersecurity risks that accompany an increased dependence on technological tools.

- **Customer Engagement:** As technology has become increasingly woven into everyday life, customer expectations have evolved in the financial sector. For equipment finance firms, this means that offering a convenient, personalized experience to equipment end-users through digital platforms is more important than it has been historically — and likely to become even more so in the years ahead. Technologies such as Application Programming Interfaces (APIs), Customer Data Platforms (CDPs), and Customer Relationship Management systems (CRMs) can all improve a firm's ability to engage with its customers in a personalized manner. Moreover, workflow automation technologies, particularly those relevant to customer service, contract management, and predictive maintenance, can further enhance customer relations as well as improve operational efficiency.

- **Experimentation:** The equipment finance industry has a track record of being slower to experiment and innovate than other industries. Although the tech world's "move fast and break things" model is generally not compatible with equipment finance, innovation is still critical to the industry's long-term success, and many industry leaders are increasingly willing to experiment with emerging technologies. To build on this progress, firms can develop an innovation strategy that establishes goals for the "optimal" level of innovation and confronts potential barriers to achieving them, such as tech anxiety and resource constraints. While there are many emerging technologies with which firms could choose to experiment, both generative artificial intelligence and blockchain are particularly notable — though both are associated with significant challenges that firms should consider before implementing.

- **Cybersecurity:** The industry's growing dependence on technology means that managing the risk of a cyberattack is critical. Building on previous work commissioned by the Foundation on cybersecurity practices and combatting fraud, the IFC concluded that an effective cybersecurity posture requires a combination of people, processes, and technologies. Indeed, given that a firm's employees are often the weakest link in the security chain, having sound policies in place and both educating and training staff on how to implement them is just as important as investing in a robust suite of security technologies.

I. INTRODUCTION

This year, the Industry Future Council's annual report is focused on technology and innovation. Given the IFC's mission to be the industry's "eye on the future," the opportunities and risks associated with technology developments have long been a central focus of the group. To explore these issues, the IFC, in conjunction with Keybridge, held a series of facilitated discussions on how technology is likely to shape the industry over the next 3–5 years. Through these conversations and related research, the IFC identified areas where technology is expected to have the largest impact.

Section 1 describes how equipment finance firms are using technology to interact with their customers and clients more effectively. The section emphasizes the growing importance of customization and personalization (i.e., providing a tailored customer experience rather than a "one size fits all" approach) and describes promising tools and practices currently used by some IFC member companies and in other industries that could be adopted more broadly in the equipment finance industry.

Section 2 discusses the importance of experimenting with new technologies. Using the "Innovation Curve" as a conceptual framework, the section highlights the need for equipment finance firms to have a formalized innovation strategy and describes common barriers that can prevent firms from experimenting as much as they should. It also provides the IFC's views on generative artificial intelligence and blockchain, two emerging technologies that have received outsized attention in recent years.

Finally, section 3 summarizes the vulnerabilities businesses may face when experimenting with and adopting new technologies. While embracing technological advancements is an important factor in staying competitive and enhancing a firm's business operations, it is vital to ensure that it is being done safely and securely. This section also describes potential strategies for defending your organization against cybersecurity threats.

In developing this report, the IFC hopes to influence equipment finance industry leaders to develop firm-specific innovation strategies that lead to increased experimentation with emerging technologies, thereby better positioning the industry to thrive in the years ahead.

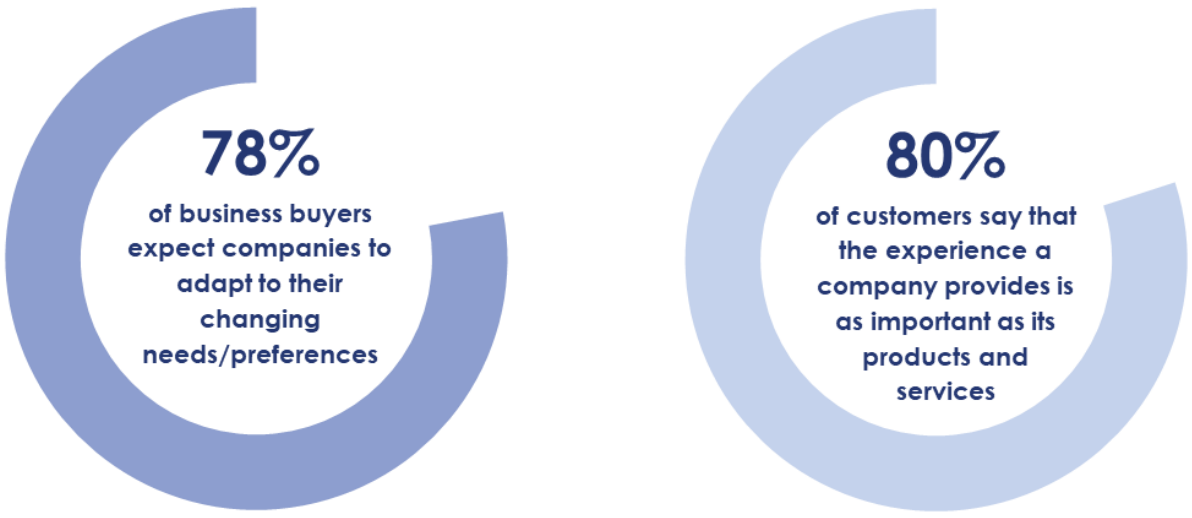
II. CUSTOMER EXPERIENCE AND ENGAGEMENT

Over the last decade, the field of customer experience management has undergone a significant transformation. Across a broad swath of industries, business leaders are continuously integrating digital technologies into their companies and reshaping how they manage internal processes and interact with customers. As the business landscape shifts, it is critical to be able to identify and adapt to emerging trends to keep pace with customers' evolving expectations and remain competitive.[1]

Customer expectations have changed in recent years. According to one study, 80% of customers say that the experience a company provides is as important as the actual products and services they provide, and 78% expect companies to adapt to their changing needs and preferences (see Figure 1). In the equipment finance industry, customer preferences are also evolving, not just for the products and services the industry offers, but also in how they interact with lenders and lessors. Convenience is more important than ever, and there is a growing desire for a more integrated and seamless user experience in which the customer can engage with the organization at any time. According to the U.S. Bank 2024 Small Business Perspective, 79% of small business owners prefer digital solutions for banking, payments, and administrative tasks, and 80% favor these services when bundled together. [2] Offering this kind of enriched, customer-centric experience increases customer loyalty, retention, and value, and is increasingly important as the industry competes with digitally agile firms.[3]

> *"The pace of innovation has skyrocketed, [which has] increased the speed at which we need to evolve. The industry is behind the changing pace of customer expectations."*
>
> *— IFC Member*

Figure 1: Ensuring a Positive Customer Experience Is Critical



Source: Salesforce, (2023). "State of the Connected Customer."

Though much of the equipment finance industry has already begun shifting to online customer interfaces, many IFC members believe these advancements are happening faster in other industries. While being a late adopter offers the advantage of observing what works and what doesn't in other industries, it also means that if laggards in the equipment finance industry don't make moves to catch up, the technology gap will only grow. One IFC member expressed that updating customer experience platforms is no longer a choice but a requirement: "If we don't improve, the gap will get larger, and we will lose customers to firms that provide a better experience."

Effective customer engagement varies significantly across the equipment finance industry, and the manner in which new technologies are integrated into customer engagement will differ across firms. As a starting point, however, business leaders should ensure they have a full and accurate understanding of their customers' preferences, needs, and pain points. Based on this information, specific technologies and capabilities can be integrated into their business platforms accordingly. For example, if a firm does most of its business with customers who value a seamless, digital experience, it is logical to focus on enhancing the firm's online customer portal through personalized dashboards, analytical tools, and other enhancements. Conversely, if a firm's customers are predominantly "old school," then investing in the latest bells and whistles is perhaps not worth the expense — instead, the firm may be better off investing in a simpler customer-facing technology platform that can be enhanced over time as their customers' preferences evolve. There is no one-size-fits-all approach to customer engagement, but firm leaders should periodically reassess their customers' technology preferences and adjust their approach as needed. They should also keep in mind that while their existing clients may not value a sophisticated customer portal, investing in this capability may be necessary to expand to new markets and develop new client relationships.

> *"If a company is not thinking about the customer or the customer experience, they will become irrelevant."*
>
> *— IFC Member*

PERSONALIZATION

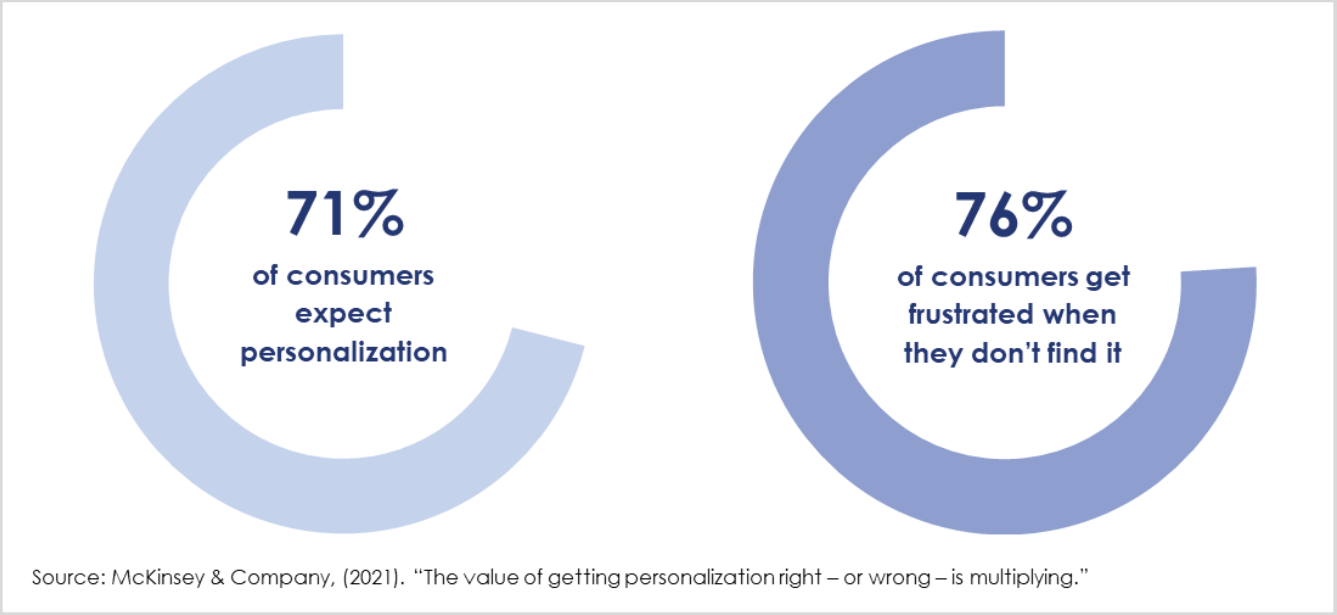
Like other segments of the financial industry, equipment finance firms are heavily impacted by the quality of their relationships with customers, and the overall customer experience impacts the likelihood that they will return in the future. For that reason, industry members are increasingly looking toward increased personalization as a tool to keep customers engaged.

Personalization involves tailoring interactions, products, and services to meet a customer's needs and preferences. This customized approach aims to make each customer feel valued and understood, thereby improving their overall experience and engagement with a business. As online interactions surged during the pandemic, so did personalization practices of e-commerce leaders.[4] As a result, many now prefer personalized platforms and advertisements. In one survey about consumer expectations for personalized interactions from businesses, roughly three-fourths of consumers expect and prefer personalized experiences from businesses (see Figure 2).

As more companies adopt individualized engagement strategies, consumers are more likely to switch to those offering superior experiences.[5] However, improving the customer experience with technology goes beyond having a user-friendly website; it also requires gathering the right information about your

customers and using this data to create better products and a better experience for them — and, ultimately, more revenue and profitability for the business.

Figure 2: Consumers Value Personalization



Source: McKinsey & Company, (2021). "The value of getting personalization right – or wrong – is multiplying."

Potential ways to enhance your organizations personalization techniques include:

- **APIs (Application Programming Interface):** APIs are mechanisms that allow for information to be exchanged across software platforms. For example, several e-commerce websites provide the option to pay via PayPal. When this command is initiated, users are redirected to the PayPal interface to complete the transaction. This functionality is made possible through an API connecting the website to PayPal. IFC members also noted their use of various commercial platforms (e.g., GIACT, Plaid, and MasterCard Open Banking) that provide payment and authentication services using an API. The use of an API allows for optimal customization to ensure customer business and technical needs are met.

  In the travel industry, travelers are increasingly turning to online platforms to find the best deals and book their travel. Aggregator websites consolidate data from various booking websites into a centralized platform for greater convenience in making informed booking decisions. These aggregators use APIs to automate the extraction of large volumes of data from multiple sources at high speeds, enabling the business to focus on deriving actionable insights from this information. The use of APIs in this way allows for real-time data to be accessed so that customers have real-time information on flight and seat availability, allowing them to monitor pricing trends, identify opportunities for discounts or promotions, and select the option that best aligns with their preferences.[6]

  In essence, APIs help to smooth the customer experience. Equipment finance leaders can examine the friction points in their business processes, both internal or external, and examine whether an API could be useful. The ability to access the right information at the right time in a seamless manner is a core need for any professional services firm, and APIs can make this process significantly easier.

- **Customer Data Platform (CDP):** A CDP consolidates valuable customer data from multiple sources to create a centralized customer database, helping businesses manage the entire customer lifecycle more efficiently. The software develops addressable customer identities that can be used to create more personalized user experiences for customers. For instance, a company's CDP may use data from sources like Facebook and its own website to gain deeper insights into its audience and boost their customer engagement.[7] In the equipment finance industry, CDPs could be used to attain data from various touchpoints, such as website interactions, email communications, and social media. This data could then be used to help segment customers based on specific needs, industry, or equipment usage. The business could then offer individually tailored leasing options to customers based on their specific needs. As such, CDPs can help equipment finance firms retain existing customers while also helping them target and acquire new customers.

- **Customer Relationship Management (CRM)**: A CRM system helps manage a company's interactions with customers, specifically in a sales, marketing, and customer support context. In an organization with multiple departments, interactions with customers can become difficult to manage. A CRM centralizes the many streams of data coming in from sales, customer service, and marketing teams in one place for all departments to use.

  Aside from the organizational benefits of a CRM, the software can also be used to automate follow-up tasks after key customer interactions, send automated reminders to necessary teams and customers about when the end of a lease is approaching, and create targeted marketing campaigns based on individual customers' needs. By integrating generative artificial intelligence, a CRM can enhance efficiency by relieving employees of labor-intensive tasks such as drafting customer emails, developing product descriptions, or editing written materials.[8]

  Per one IFC member, CRMs can also support a firm's predictive analytics. Using a CRM, a company can analyze historical data as a lease term reaches its end and identify patterns in customer behavior, including how often customers renew their leases or purchase equipment. For instance, if a customer typically upgrades the equipment once a lease ends, the CRM can proactively suggest new models at specified time periods prior to the lease ending to help with customer retention. A CRM can also pinpoint customers with reduced engagement or those who have provided negative feedback, allowing for the company to initiate timely retention strategies and maintain strong customer relationships.[9]

> *"We cannot undervalue personalization."*
> *— IFC Member*

WORKFLOW AUTOMATION

Beyond personalization, there are several other aspects of the company-customer relationship that could be improved using technology. Traditionally, the equipment finance industry has relied on manual processes throughout the leasing process. While some degree of manual processing may be inevitable for many firms, increased incorporation of automation has the potential to streamline the customer experience, improve efficiency, and streamline business operations.

- **Customer Service**: Automated customer service helps to perform repetitive service tasks without the need for human intervention. AI-powered chat bots or virtual assistants, for instance, can engage users and answer questions in real time. While they may not be able to fully replace a firm's customer service team, these tools can enhance customer satisfaction and reduce purchase hesitations when effectively deployed. Companies can also integrate email and social media autoresponders to acknowledge customer inquiries, which can reduce frustrations related to wait times and improve the overall customer experience. This could be used in the equipment finance industry to speed up the application process when leasing equipment. An autoresponder could provide immediate assistance to customers seeking information on a specific type of machinery, potentially reducing purchase hesitancy and fostering the customer-client relationship. Autoresponders can also send receipts and/or confirmation emails, which can help a customer feel acknowledged and informed, and automated post-transaction surveys can help a company gauge customer satisfaction and identify pain points. Customer service tools are becoming more sophisticated as technology advances, particularly given Generative AI. This technology not only allows for customer questions to be answered more efficiently but relieves the employee of this task, improving both customer experience and employee satisfaction.[10]

- **Contract Management**: Organizations can automate contract management tasks including but not limited to tracking contract status, handling lease termination, managing payments and collections, and generating contracts. For example, DocuSign provides electronic signature technology and digital transaction management services to facilitate the electronic exchange of contracts and signed documents.[11] By automating the processes of distributing, collecting signatures, and storing digital documents, contract workflows can be streamlined. Several IFC members described how DocuSign has simplified agreement processes for their organizations and customers.

- **Predictive Maintenance**: As organizations increasingly incorporate technology into their work environments, it is more important than ever to anticipate and avoid machine malfunctions, quickly identify problems when they occur, and organize maintenance schedules to ensure quality control and safety. Through a combination of AI, Internet of Things (IoT), and predictive analytics, sensors connected to machinery and equipment can unlock valuable insights regarding an asset's performance and determine its projected time to failure. With this information, reaction time to maintenance failures can be reduced substantially.[12] This proactive approach allows organizations to plan maintenance-related workflows more efficiently and minimize downtime.[13]

The operational advantages of automation are evident, but there are also significant employee benefits that accompany automation solutions. A recent Salesforce survey found that 89% of workers who use automation technologies are more satisfied with their job — and 84% are more satisfied with their company — after automation solutions were implemented.[14] By minimizing tedious or monotonous tasks through automation, employees can reclaim time for more productive uses. This benefits both employees, who can engage in more meaningful work, and the company, which experiences greater productivity, efficiency, and profitability.

> *"What used to take weeks now takes days, but competition has turned this to hours (which soon will be minutes)."*
>
> *— IFC Member*

CHALLENGES TO IMPLEMENTATION

Introducing technological advancements into the customer engagement process can introduce a unique set of challenges, as described below.

- **Avoiding "engineered insincerity"**: While AI-driven chatbots and automated response technologies are often useful and improve efficiency, there is a risk that they can feel disingenuous or insincere and leave customers frustrated.[15] As such, a company must find a balance when integrating technology into their customer service processes that aligns with customer needs. Providing customers with options when inquiries arise (i.e., an automated, immediate response or slower, human-derived response) is an example of personalization and can alleviate potential frustrations and ensure that their needs are met. The primary goal of implementing technology should be to improve the customer experience, with enhanced efficiency as an added benefit. It is important to not lose sight of the former in pursuit of the latter.

- **Using customer data effectively and ethically**: Emerging technologies have been prevalent in the discussion of ethical business practices. Companies must navigate ethical concerns regarding data and avoid misuse (or perceived misuse), as failing to do so can destroy customer trust and a company's reputation. In practice, this means being transparent with customers about how their data is used, adhering to privacy laws, preventing breaches, and notifying affected parties if a breach occurs. However, one of the risks of using emerging technologies is that potential risks and threats are not always fully understood or recognized until years later.[16] As such, it is important for industry leaders to not only understand what data their companies are collecting and using, but also to remain flexible and ready to adapt these practices as needed based on the evolving threat landscape.

- **Creating a tailored experience:** Given that there is no "one-size-fits-all" customer engagement experience, a company should strive to make engaging with them sufficiently customizable to meet all customers where they are — including customers who aren't comfortable with the technology due to technological acumen, privacy concerns, or other reasons. As a company experiments with new technology, firm leaders should keep their customers front and center and continually assess whether the changes they are making are aligned with the technology preferences of their current and desired customer base.

While technology integration is becoming increasingly important, it is crucial that a company is working towards the appropriate goal: providing an engaging, frictionless experience that is tailored to the customer. An IFC member posed the question "Why would someone want to work with us?" In other words, what sets one company apart from another that provides the same service at a similar price point? Increasingly, the customer experience is a key differentiator, and implementing new technologies to improve it can businesses set themselves apart.

III. EXPERIMENTATION AND INNOVATION

Innovation has been an important element of the equipment finance industry for many decades. When the 1986 Tax Reform Act eliminated the tax credit that made leveraged leases popular, the equipment finance industry evolved, finding more efficient ways of monetizing leasing to make up the lost revenue.[17] In the 1990s and 2000s, the industry navigated the increasing digitization of the finance world and shift to the internet.[18] While historically it has not been an early adopter of emerging technologies, the industry has demonstrated its capacity to adapt when necessary.

At the same time, the equipment finance industry has generally prioritized conducting careful risk assessments and prudent decision-making over experimenting with the latest technologies. Managing risk effectively is of course a foundational element of any financial firm, and adopting a risk-averse posture toward experimenting with new technologies is understandable and often appropriate — put differently, a "Move Fast and Break Things" mindset might have worked at Facebook, but it is unlikely to be a prudent business strategy for an equipment finance firm. However, an unwillingness to experiment can also cause businesses to stagnate in their use of technology, reducing competitiveness and potentially leading to a continuous cycle of playing catch-up.[19] Several IFC members mentioned that although the industry has demonstrated its ability to navigate change, including during the pandemic, the industry has a track record of being slower to experiment and innovate than other industries.

> *"Experimenting is a vital ingredient in innovation and fostering curiosity. It doesn't seem built into the mindset of an industry that's more risk averse."*
>
> *— IFC Member*

As technology- and technology-adjacent companies continue to expand their business into the financial services space, traditional equipment finance firms must be willing to experiment and innovate to stay competitive.[20] To do so, a firm needs a defined innovation strategy that prioritizes experimentation but avoids over-rotating or at the expense of a firm's core strengths. As with most things, the key is finding the right balance, which can be difficult to do in practice.

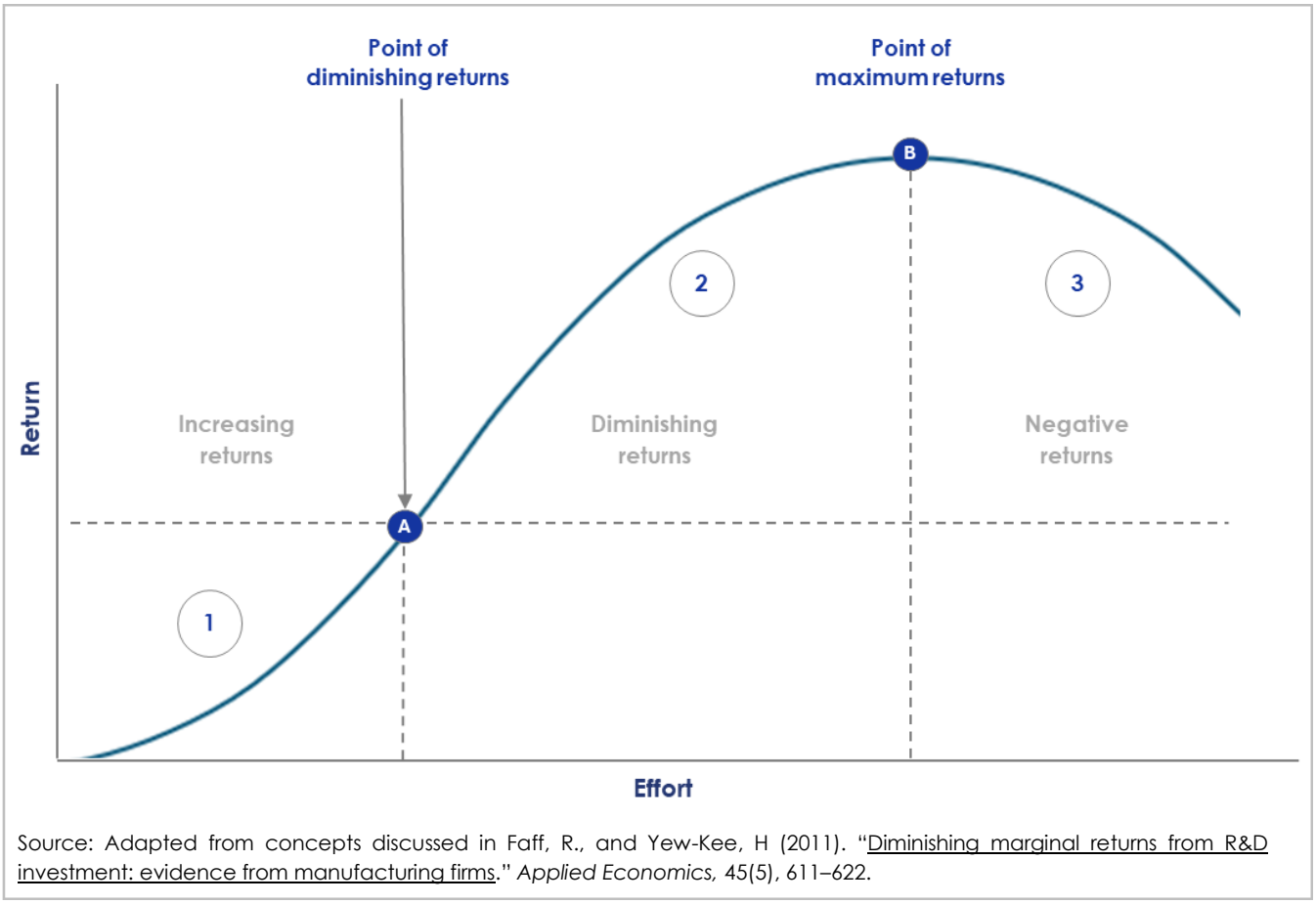
THE CASE FOR EXPERIMENTATION

As shown in Figure 3, one way to think about the optimal level of experimentation at a firm is through a diminishing marginal return model where the x-axis is a measure of experimentation effort (e.g., dollars, hours) and the y-axis is a measure of returns (e.g., sales revenue, customer satisfaction). In this "Innovation Curve," the optimal level of experimentation is Position A, which corresponds to the point at which experimentation yields the highest marginal return.

- If a company is to the left of Position A (denoted as Region 1 in the chart), then additional experimentation is clearly worth it, as the value of the benefits exceeds the costs incurred.
- If a company is to the right of Position A (denoted as Region 2 in the chart), additional experimentation still yields a positive return until it reaches Position B, but marginal returns are diminishing (i.e., additional effort is required to attain the same amount of return compared to the optimal point at Position A).

- Once a firm reaches Position B on the curve, however, they have maximized the returns from experimentation. Additional innovation beyond that point results in *negative* returns (denoted as Region 3 in the chart), potentially because their efforts to innovate have come at the expense of their clients' needs.[21]

Figure 3: The Innovation Curve



Source: Adapted from concepts discussed in Faff, R., and Yew-Kee, H (2011). "Diminishing marginal returns from R&D investment: evidence from manufacturing firms." *Applied Economics,* 45(5), 611–622.

The Innovation Curve can be a helpful tool to frame a firm's innovation strategy in part because it illustrates the importance of finding the right balance between experimenting with new technologies and focusing on core competencies. Conceptually, firms should target Position A and avoid venturing beyond Position B. However, IFC members believe that most equipment finance companies are to the left of Position A and are not devoting enough resources to experimentation.

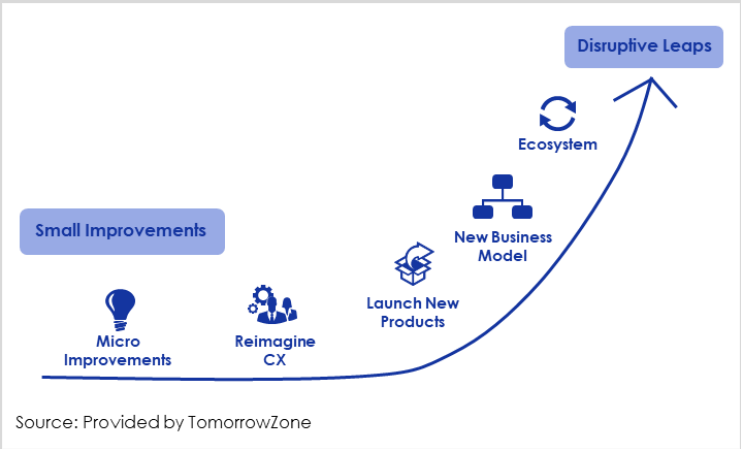
> *"The industry [needs] to embrace a greater level of experimentation. It's a requirement to avoid obsolescence."*
>
> *— IFC Member*

DEFINING AN INNOVATION STRATEGY

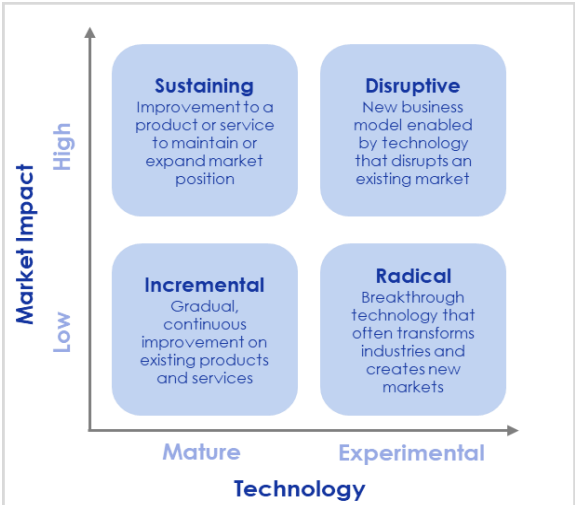
To maximize the likelihood of finding the innovation "sweet spot," firms should consider developing an innovation strategy that reflects where they are on the Innovation Curve. Per the IFC, most firms likely need to devote more resources toward experimentation than they have historically, but what this looks like in practice will depend on the firm. IFC members also stressed that for experimentation to be effective, a company must clearly understand and agree on its goals — without goals, experimentation efforts can become disorganized, scattershot, and less likely to succeed.[22]

To help industry leaders develop their own strategies, IFC members provided some examples of business innovation frameworks (See Figure 4). Each framework provides a company the opportunity to define the type of innovation it seeks, which can help identify appropriate guardrails. Ultimately, a robust strategy has the potential to protect a company from common experimentation pitfalls and move them closer to the point on the Innovation Curve where their experimentation efforts yield the highest returns.

Figure 4: Sample Innovation Frameworks



Source: Provided by TomorrowZone



Source: Satell, G., (2017), Mapping Innovation, and Kylliainen, J,, (2019), Types of Innovation. Cited by Reimagine Advisors, (2024).

Additionally, IFC members noted two common pitfalls that hindered their firms' experimentation plans.

- **Technology Anxiety:** For some businesses, a cautious approach to implementing new and unproven technologies is an intentional choice, as there can be merit in eschewing the role of Early Adopter and instead waiting to see whether a technology is worth the investment before diving in. However, in many cases risk aversion is a default posture rather than a strategic choice — and, potentially, a reflection of tech anxiety. A 2023 survey found that 94% of business leaders believe their organization's senior leadership suffers from tech anxiety,[23] while a separate UK-based survey of business leaders found that two-thirds are afraid to admit when they don't understand technology.[24]

  Hesitancy around new technologies is not irrational by any means, particularly regarding cybersecurity (see Cybersecurity section). Too much hesitancy, however, can prevent organizations from being able to adapt as customer preferences and company needs evolve. Often, tech anxiety is caused by a lack of understanding (or a feeling of being overwhelmed). Keeping up with

technological change is a daunting task for anyone, but especially for executives who have myriad demands on their time and have typically built their careers using more traditional tools. Ultimately, a company's leadership team heavily influences culture and attitudes toward experimentation and innovation, so it is important for executives to set the right tone.

The simplest way to ease anxiety around technology is by improving technology literacy through education. This can manifest in myriad ways, including attending internal and external workshops and training courses, or establishing an employee-led Community of Practice that is responsible for leading internal discussions and other education efforts. By prioritizing learning and devoting resources to it, a company can foster a culture of curiosity that encourages technological experimentation.[25]

- **Resource Constraints:** Every firm faces resource constraints, but when it becomes necessary to deprioritize some activities in favor of others, experimentation is often among the first "non-essential activities" on the chopping block. IFC members emphasized that smaller companies are particularly affected by resource constraints. For many companies, investing time and resources into experimenting with a new technology or process can seem like an unnecessary additional burden — when everyone is already busy, who has time to experiment?

  Though limitations abound, even companies experiencing resource constraints can find ways to incorporate technology experimentation into their practices. Recognizing that the margin for error is smaller, companies should take controlled risks with a clear goal in mind. IFC members offered several examples, including establishing a "do not exceed" time limit for researching technologies for improving a business process, then experimenting with the best two technologies they identify. IFC members also emphasized that while failure is an inherent part of the experimentation process, it's important to parse out a "good failure" from a "bad failure" — that is, to define what types of failure are acceptable for a company (e.g., a loss of $100 testing a software that may not work, or the loss of a senior executive's time researching a process improvement that may not be implemented). Establishing an "experimentation budget," whether expressed in dollars or employee time, can spur experimentation that otherwise may not occur.

  In a similar vein, IFC members also discussed ways to "gamify" experimentation, such as by holding employee contests. For example, firm leaders can direct various employees or teams to complete the same assignment using different experimental technologies, identify which groups are the fastest at completing the assignment and/or produced the highest quality results, and determine which technology worked best. Recognizing that extra effort might weigh on employee morale, gamifying experimentation can foster a sense of curiosity around technology and generate a sense of excitement around experimentation.

IFC members noted that while technology anxiety and resource constraints are common impediments to innovation, the size of a firm plays a big part in which of these barriers will be the biggest challenge. Among smaller firms, there is often a desire to innovate, but a lack of resources often makes it more difficult. At larger organizations, resources are more plentiful, but risk aversion is typically higher.

> *"When I think about [successful] innovation, I think of the word intentional."*
> *— IFC Member*

EXPERIMENTING WITH GENERATIVE ARTIFICIAL INTELLIGENCE

Over the last two years, generative artificial intelligence (Gen AI) has burst onto the technology scene. Gen AI is an example of machine learning and predictive analytics, both of which are already used in the equipment finance industry on tasks such as portfolio evaluation, forecasting, and pricing.[26] With the launch of ChatGPT and other popular programs, IFC members described the "buzz" in the equipment finance industry and noted several examples of firms experimenting with Gen AI. At the same time, IFC members believe the industry's use of Gen AI is in its infancy and that the potential relevance and value of the technology to the industry remains to be seen.

While Gen AI has many potential use cases, IFC members discussed six in particular:

- **Underwriting**: Loan origination is a complex process, but increased automation at various points in the data collection, risk assessment, and credit approval processes has streamlined the process in recent years. Gen AI has the potential to make the process even more efficient and potentially improve the quality and consistency of funding decisions.[27] At the same time, an IFC member raised the importance of complying with regulatory requirements when using Gen AI, such as Regulation B (i.e., lenders cannot use a biased algorithm that results in credit discrimination based on race, color, religion, national origin, sex, marital status, age, or because a person receives public assistance).

- **Translation Tools:** Gen AI translation systems exhibit remarkable capabilities in understanding, generating, and translating human language.[28] Gen AI translation tools learn from sentence structures and sequences to better translate context and tone, which sets them apart from other machine translations.[29] These tools could reduce language barriers with customers and employees, potentially widening a company's customer reach and talent pool.

- **Automating Review Processes:** Gen AI has the potential to automate large processes that have previously required manual input, such as reviewing bank statements or writing credit memos. It could be also used to automate aspects of the accounts payable process, such as coding, document management, or "three-way match" (i.e., ensuring the purchase order, invoice, and packing slip are accurate before making payment).[30, 31]

- **Self-Service Customer Platforms:** As discussed in Section II, chatbots powered by Gen AI can automatically answer customer questions, reduce workloads, and offer 24-hour customer service.[32]

- **Scheduling or Email Agents:** Scheduling meetings or responding to emails can take a significant amount of time. Scheduling and email tools powered by Gen AI are dynamic and can recognize patterns, make decisions, and learn from experience. These tools provide a personalized result to each user.[33]

- **Automated Notetakers:** Gen AI notetakers can help teams stay on the same page after meetings and remove the need to have an employee shoulder note-taking responsibilities. They can also yield more accurate and detailed notes with fewer typos.[34]

Though IFC members discussed many ways Gen AI could help businesses in the equipment finance industry, they also discussed its potential downsides.

- **Data privacy / data quality:** Gen AI tools learn from their inputs, so, depending on the platform, inputted data (including proprietary data) could be re-used to generate responses for other users in the future.[35] Before authorizing use of a Gen AI tool, a company should research the product and ensure it understands what information should be excluded from the system. IFC members recommended using synthetic data and/or establishing classifications for different types of data before beginning experimentation to avoid unintentionally compromising their company's or their customers' data.

- **Accuracy and bias:** IFC members noted that Gen AI tools have a known bias to "please the user," which can sometimes lead to false information. Additionally, there are broader concerns that Gen AI tools can adopt the same discriminatory biases as its users, which could exacerbate any existing bias in lending practices.[36,37,38] For some companies, consulting with a Gen AI expert on how to build effective queries to minimize inaccuracy and bias may be helpful.[39]

Although the technology is still in its infancy, the meteoric rise of Gen AI demonstrates its potential to revolutionize how people obtain information. With this in mind, it is advisable for firms to establish a position and/or boundaries on their employees' use of Gen AI when developing an innovation strategy. Setting boundaries for experimentation should be a part of every tech conversation, and while Gen AI lends itself to experimentation, it may not yet have a place in every firm's innovation strategy given its potential pitfalls. For some companies, forging ahead with Gen AI may produce substantial efficiencies or facilitate creative breakthroughs and new products; for others, a "wait and see" approach or limited experimentation may be more appropriate.

INNOVATING AT THE INDUSTRY LEVEL

Beyond individual company innovation and experimentation efforts, IFC members also discussed innovation in the equipment finance industry more broadly. Industry leaders are on the lookout for new technologies that have the potential to transform the industry. Some IFC members noted the potential for equipment finance firms to cooperate on a new initiative involving blockchain technology that could be similarly transformative, though others noted several challenges and complications.

- **Blockchain:** As described in Equipment Leasing and Finance Magazine, "Blockchain is a decentralized, shared electronic register in which transactions between two or more users belonging to the same network are stored in a secure, verifiable and permanent way. Blocks are data containers, much like files, into which can be placed transactions and documents and data associated with them. Once entered into the chain, blocks can be viewed by anyone given permission to access the chain. New blocks can be added by authorized users, but existing blocks cannot be edited, moved or changed in any way."[40]

  Some IFC members believe the industry would benefit from a cooperative effort to adopt an industry-wide blockchain ledger. For example, one mentioned using blockchain to store and verify contracts and during syndication processes in which investors, financial institutions, and other parties are pooling resources. Others believed widespread adoption of a blockchain could increase transparency, efficiency, and security, and potentially lead to faster industry growth by facilitating faster access to capital and increasing liquidity.

Other IFC members expressed skepticism, arguing that unlike other technologies, a blockchain ledger requires broad adoption before it could be implemented in a manner that provided value. They also raised concerns regarding implementation costs (particularly for smaller companies) and potential privacy issues given the need to share company data across a large network of participants. Blockchain technology is known for its strong security features, but some participants worried that many companies would be reticent to provide sensitive business information.

Experimenting and innovating as an entire industry is inherently more complicated due to the need for a critical mass of volunteers to participate. Still, while the barriers to adoption are undeniable, the potential benefits that an industry-wide blockchain would offer to the industry are significant. While the IFC did not reach a clear consensus on the near-term or long-term viability of the idea, industry leaders might consider the following thought experiment: where would experimenting with blockchain technology be located on the Innovation Curve for your firm?

IV. CYBERSECURITY

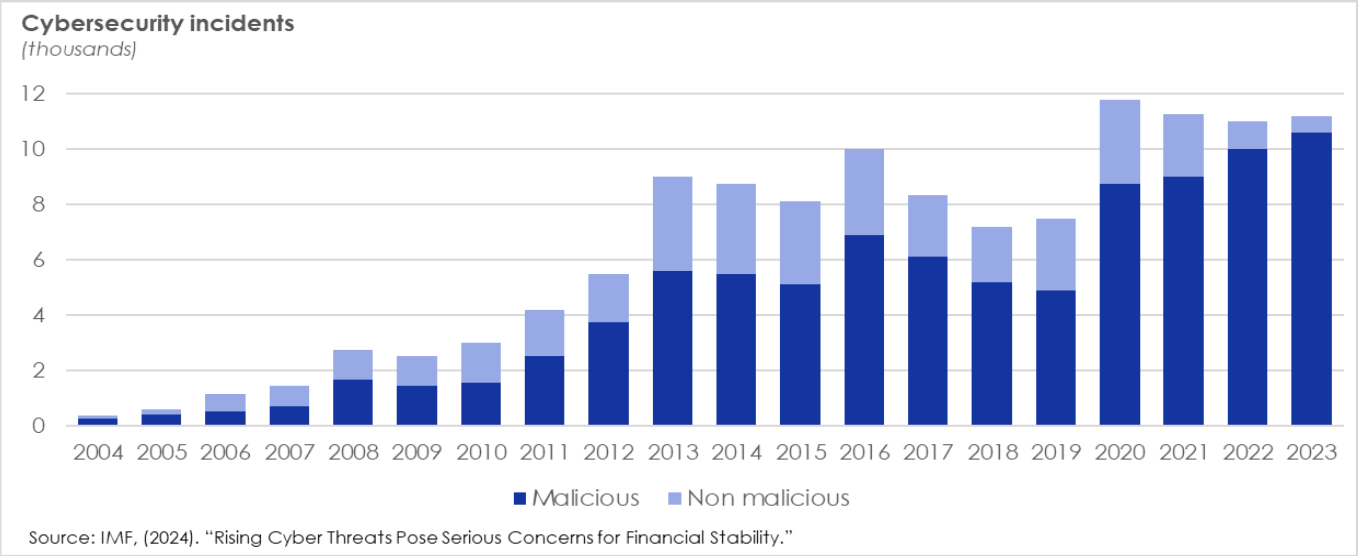
CYBERSECURITY ATTACKS

Over the last decade, as technology and innovation have played increasingly important roles to success in the equipment finance industry, the importance of cybersecurity has also risen. This trend has accelerated following the pandemic, as many firms expanded their online operations. As shown in Figure 5, malicious cyber incidents have increased steadily since 2003, including a roughly 50% jump in 2020 alone.[41] The banking and finance industry is particularly exposed to cybersecurity risks. Over the last two years, fraud incidents in the equipment finance industry have increased by more than 10%,[42] a trend that appears likely to continue.

> *"Continuously evolving and improving the tools we have to defend ourselves against [cybersecurity threats] is something we really have to pay attention to, because this is a costly loss."*
>
> *— IFC Member*

The Foundation has published several reports on cybersecurity risks and creating tools and materials for members. For example, *Cyber Risk and Security in the Equipment Leasing and Finance Industry*, published in 2020, includes an industry threat assessment that discusses common cyber risks in the industry. More recently, the Foundation published *Fraud in the Equipment Leasing and Finance Industry*, which described various types of fraud and offered a series of recommendations aimed at lenders to more effectively mitigate fraud risk.[43]

Figure 5: Malicious Cybersecurity Incidents Are on the Rise



IFC members, supplemented with information from previous Foundation reports on cybersecurity and fraud, highlighted two of the most common types of cyber-attacks.

- **Social Engineering**: Also known as "phishing" schemes, social engineers manipulate a target to gain their trust and then request and harvest confidential information, like financial, customer, or company information. For some cyber criminals, hacking human behavior is easier than targeting a technological system.[44] Due to the simplicity of these attacks, scammers can launch thousands a day.[45] Cybercriminals may use emails or text messages posing as a colleague, IT representative, or lender, often to request victims to reset their password or provide sensitive financial, customer, or business information.[46]

- **Malware**: Malware is code that is written intentionally to harm a computer system or its users. Bad actors use malware to gain access to systems, destroy data, or steal information. Ransomware is a common type of malware and represented 17% of all cyberattacks in 2022.[47] Most ransomware attacks involve a malicious actor accessing an organization's internal network through social engineering (e.g., a link in an email) or software vulnerability.

Irrespective of the nature of an attack, IFC members emphasized that the high losses associated with cybersecurity incidents should motivate equipment finance firms to prioritize cybersecurity. Financial losses resulting from major cybersecurity incidents have increased from $500 million in 2017 to $2.5 billion in 2021.[48] However, non-financial losses can be just as damaging: victimized companies must also endure reputational damage, and customers and suppliers may feel less comfortable working with a firm after their data has been compromised.[49] A firm can also face legal risk if an incident is caused by negligence and can be held liable for costs incurred by customers or third parties. As one IFC member pointed out, investing in cybersecurity measures may seem expensive given that these investments could otherwise be used to help increase revenue, but the costs of a successful cyberattack are likely much higher.

BEST PRACTICES

IFC members emphasized that managing cybersecurity risks is an important part of a firm's innovation strategy, but these risks should not dissuade firms from prioritizing innovation. Through a combination of technology, company policies, and employee training, a company can develop a resilient operational infrastructure that allows firms to innovate safely and securely.

> *"As an industry, we are used to assessing risk. This is just another risk we have to analyze."*
>
> *— IFC Member*

- **Invest in cybersecurity technologies**: Technology is of course a fundamental component of managing cybersecurity risks. Per the IFC, integrating firewalls and encryption software into company systems can significantly enhance the protection of its data. Firewalls serve as a barrier between a firm's network and potential intruders, while encryption protects sensitive information from being exposed should the barrier fail.[50] Account verification solutions also help businesses to protect against fraud and payments risk by using technology to authenticate and verify account ownership, government-issued identifications, and payment methods. One IFC member mentioned their use of a verification solution that assists businesses in verifying their customers' information to reduce the risk of fraud.

  Ensuring that technologies are up to date is also important. IFC members recommend monitoring and performing regular maintenance on technological tools and practices, including ensuring that firewalls and software are up to date, network traffic and incident reports are monitored, and employees are knowledgeable and well-trained about how to use the technology properly. IFC members also emphasized the importance of investing in cybersecurity technologies as soon as possible, as new detection technologies may overlook a threat if it was already present prior to its installation.

- **Develop and implement cybersecurity policies:** A cybersecurity policy is a formal set of documented guidelines on how an organization protects its data, including the rules, principles, and approaches that employees should follow to protect sensitive information, data, and digital assets.[51] Irrespective of size, every equipment finance company should have a formal cybersecurity policy in place, and should ensure that any firm with whom they partner does as well.

  IFC members emphasized the importance of reporting a breach once a firm's system has been infiltrated, as these reports can then serve as a tool for other companies to learn about their weaknesses, improve risk management, and reduce the risk of future incidents. Relatedly, a new federal law passed in 2022 requires 16 critical infrastructure sectors to report cyberattacks and ransomware payments and offers specific protections to incentivize reporting.[52,53] One IFC member explained that the lack of knowledge related to cyberattacks is in part due to the hesitancy of industry members to disclose their vulnerabilities with others, particularly if they have been attacked. While this reticence is understandable due to the competitive nature of the industry, increased information sharing on cyberattacks would enhance collective preparedness.

- **Educate and train employees on cybersecurity measures:** Investing in cybersecurity tools and developing a cybersecurity policy are both critical, but it is just as important to ensure employees are trained on how to spot threats and respond accordingly. Whether through clicking on a malicious link,

using weak passwords, failing to install critical software, or falling for a phishing scheme, employee errors often contribute to a successful cyberattack. In fact, according to IBM's Cyber Security Intelligence Index Report, 95% of cybersecurity attacks are the result of human error. The increase in remote work has led to an even higher incidence rate of cyberattacks, and working from insecure networks, such as coffee shops or public libraries, has left gaps in cybersecurity for cybercriminals to attack.[54] In the words of one IFC member, "people are our weakest link."

IFC members discussed various cybersecurity awareness training and exercises that their companies used to reduce the risk of these breaches. For example, firms can simulate a cyberattack attempt to ensure their employees can recognize a phishing attempt and focus education efforts on those who are more susceptible to them.[55] One IFC member described an exercise in which one group of employees conducts simulated attacks on their organization's systems by identifying and attempting to exploit weaknesses, while a second group develops proactive approaches to prevent attacks. Proactively testing defense strategies and acquiring information on the weak points within an organization allows businesses to keep pace with cyber threats while minimizing the impact of potential attacks.[56]

There are many resources a company can invest in to train your employees on the threat landscape, password and account security, and safe internet and browsing practices.[57] One challenge to is to ensure there is consistent employee participation and engagement, as it only takes one employee making one poor decision to expose the entire firm to a cyberattack. However, with proper communication and a top-down firm culture that prioritizes the importance of cybersecurity, the risk of an incursion can be minimized.

> *"Right now, people are our weakest link."*
>
> *— IFC member*

V. CONCLUSION

In general, the equipment finance industry has traditionally been slow to adopt cutting-edge technology, as there are serious financial repercussions (and, potentially, cybersecurity risks) if a firm invests in the wrong technologies or platforms. However, too much caution can lead to missed opportunities for growth or outright stagnation. For companies to succeed, it is important to stay abreast of technological developments and continually look for opportunities to adopt new tools to better serve customers, enhance efficiency, and facilitate growth.

For many customers, the experience a company provides is an important element in its overall satisfaction — and for some, it can be a true difference-maker in closing a deal. Customers are often looking for personalization, convenience, and enhanced assistance from leasing and finance companies, and technologies such as APIs, CDPs, and CRMs are key to providing this tailored experience.

Creating opportunities to experiment with new processes is an essential component to an effective innovation strategy. There is no one-size-fits-all approach to experimentation and innovation, but most firms invest less time and effort than is optimal. While some firms may find their experimentation practices limited by tech anxiety and resource constraints, there are ways to lessen the impact of these barriers. Ultimately, determining the right level of experimentation is a firm-specific undertaking that requires intentionality and a clearly defined strategy that reflects its current position along the Innovation Curve.

Rapid leaps in technology can provide opportunities for increased efficiency and a better customer experience, but they can also increase cybersecurity risks. It is imperative that the industry continue to invest energy, time, and money into improving their security processes and infrastructure. While creating a secure operating environment and mitigating cyber threats requires adequate resources and direction from firm leadership, the direct and indirect costs of a cyberattack are very high — and, in some cases, pose an existential threat to a firm.

The future of the equipment finance industry is tied to the future of technology. To stay competitive, firms must be willing to experiment with and implement new technologies that improve their ability to serve their customers, and they must do so while effectively managing cybersecurity challenges. IFC members are confident in the industry's capacity to rise to this challenge.

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VI. APPENDIX

METHODOLOGY

This report is the third in a series of reports on the future of the equipment finance industry. This report focuses on technology trends and was written and researched by Keybridge using input from IFC members to guide the content. IFC members participated in a full group brainstorming session, which informed a survey that asked members to rank various technology topics in order of importance. Based on the topics of interest indicated in these results, the group was broken up into four smaller, focused groups on the themes outlined in this report. Each of those groups had a structured discussion about one or more assigned themes. Keybridge then compiled notes from these sessions and used them to develop the themes, challenges, opportunities, and best practices laid out in this report.

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