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Treasury in 2017

What We've Learned

December 2017



Today's Presenter



Today's Presenter:

Craig Jeffery, CCM, FLMI
Founder & Managing Partner
Strategic Treasurer

Craig Jeffery formed Strategic Treasurer LLC in 2004 to provide corporate, educational, and government entities direct access to comprehensive and current assistance with their treasury and financial process needs. His 20+ years of financial and treasury experience as a practitioner and as a consultant have uniquely qualified him to help organizations craft realistic goals and achieve significant benefits quickly.



Strategic Treasurer was founded in 2004 by Craig Jeffery, a financial expert and trusted advisor to executive treasury teams since the early 1980's. Partners and associates of Strategic Treasurer span the US, the UK, and continental Europe.

This team of experienced treasury specialists are widely recognized and respected leaders in treasury and risk management technology consulting. Known for their expertise in treasury technology, risk management, and working capital as well as other cash management and banking issues, they efficiently identify issues, creatively explore ideas and options, and provide effective solutions and implementations for their valued clients.





Topics of Discussion



Macroeconomic Conditions

- GDP Growth
- Stock Market Growth
- Economic Confidence Index



Treasury Fraud

- Overall Fraud Experience
- The Prominence of BEC/Imposter Fraud
- Ransomware Makes its Presence Known
- Market Reaction & Considerations



Regulatory Updates

- Section 385 & Sarbanes-Oxley



Treasury Tech Investments

- Widespread Investment in Treasury Technology



Disruptive Technology in 2017

- Blockchain & DLT
- Robotic Process Automation (RPA)
- Machine Learning (ML)
- Artificial Intelligence (AI)
- Banks vs Fintechs



Final Thoughts, Q&A

- Treasury's Response to 2017 Developments



2018 Research Initiatives

- Industry Surveys
- Analyst Reports
- Visual Guides

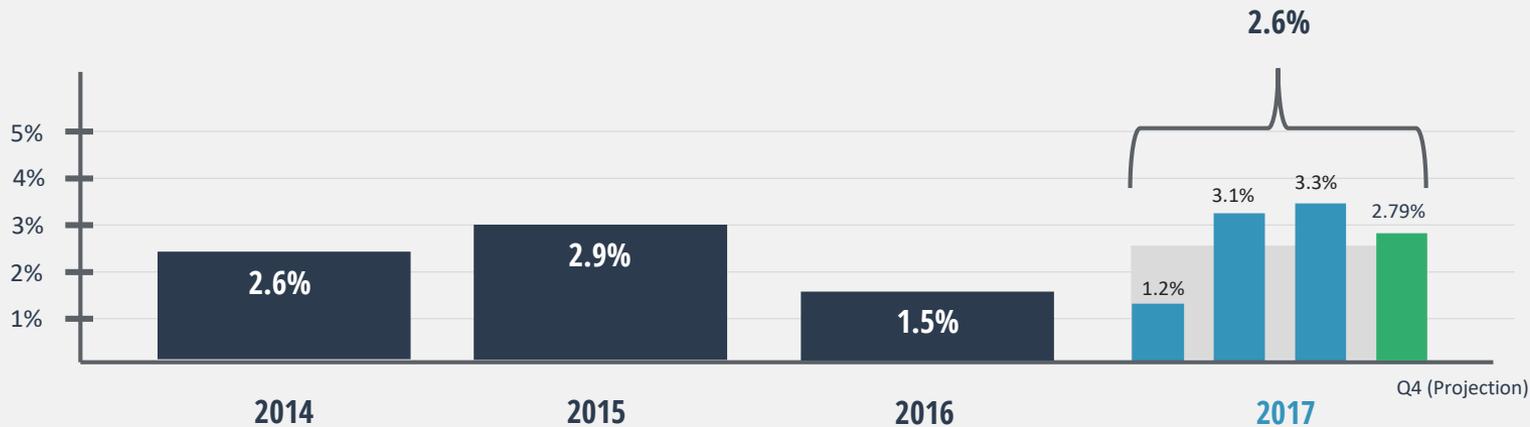




Macroeconomic Conditions: GDP Growth

- GDP Growth in Q2 & Q3 2017 has been higher than last 8 quarters, and Q3 alone is higher than last 11 quarters.
- Average GDP Projection for Q4 2017 (Per the WSJ Economic Forecasting Survey) is 2.79%.

Real GDP: Annual Percent Growth

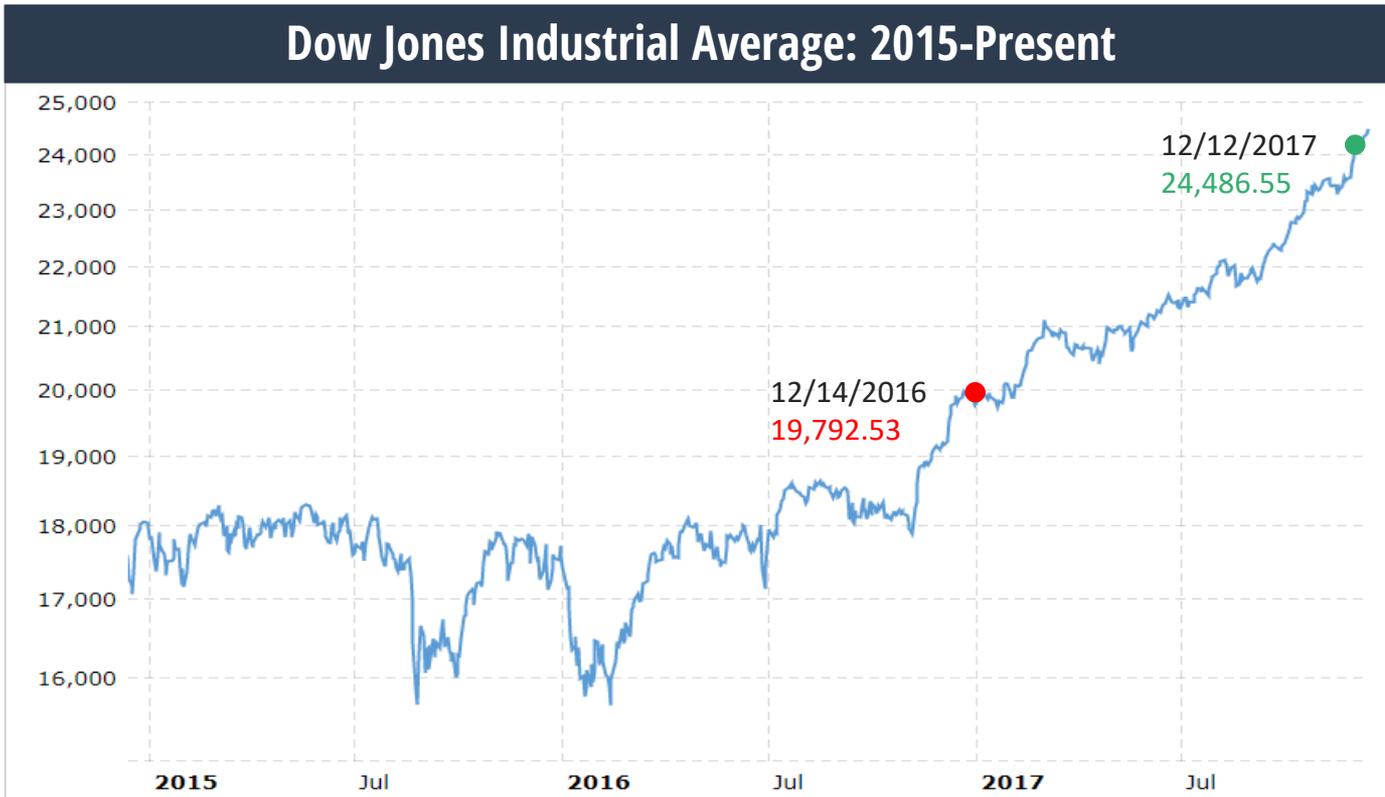


*Source: U.S. Bureau of Economic Analysis



Macroeconomic Conditions: Stock Market Growth

- The Dow Jones Industrial Average as of December 12, 2017 was **24,486.55** representing a **20+% YOY increase** (December 14th 2016).

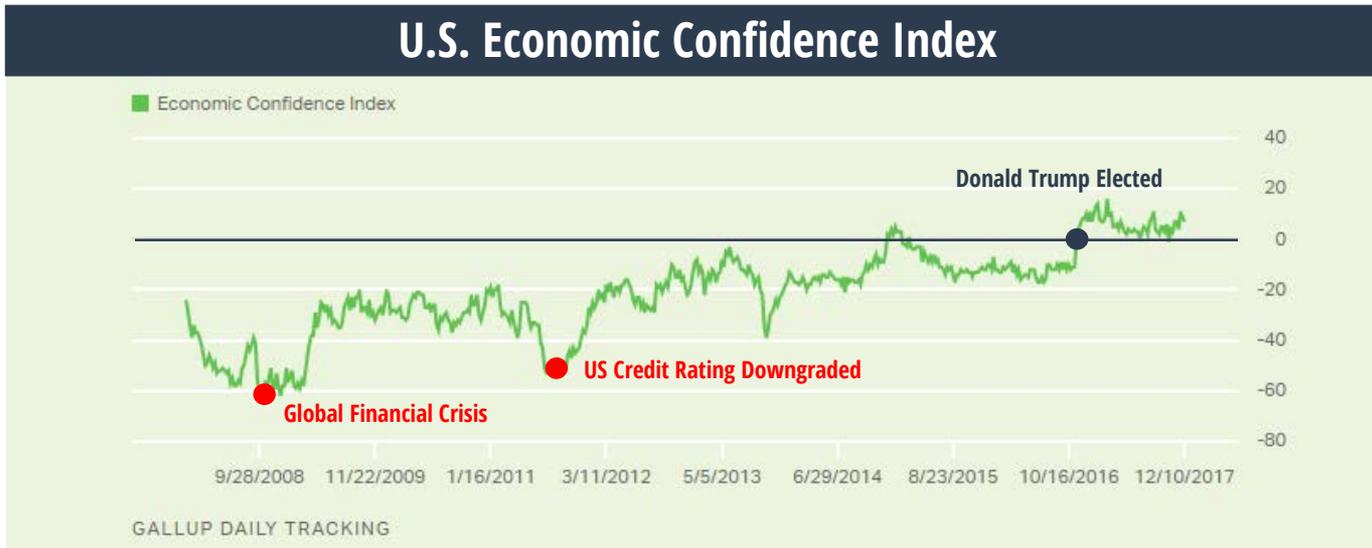


*Data provided by macrotrends



Macroeconomic Conditions: Economic Confidence

- Gallup's Economic Confidence Index is based on the combined responses to two questions:
 - The first question asks Americans to rate economic conditions in this country.
 - The second question asks whether they think economic conditions in the country as a whole are getting better or getting worse.
- Results are based on telephone interviews with approximately 3,500 national adults; margin of error is ± 2 percentage points.





Treasury Fraud: An Industry Pandemic



In 2017, 86% of respondents were found to have experienced either payment fraud, cyber fraud, BEC/imposter fraud, or ransomware attacks within the past two years.



This data pointed to the widespread frequency with which fraud targeted the business environment during 2015-2017.



BEC/Imposter Fraud

Experienced BEC/imposter fraud attempts within the past two years (2015-2017).



Payment Fraud

Experienced payment fraud attempts within the past 12 months (2016-2017).



Cyber Fraud

Experienced cyber fraud attacks within the past 12 months (2016-2017).



Ransomware

Experienced ransomware attacks within the past two years (2015-2017).

*2017 Strategic Treasurer & Bottomline Treasury Fraud & Controls Survey





Treasury Fraud: Business Email Compromise Takes Center Stage



79% of respondents had experienced BEC/imposter fraud attempts within the past two years.



This is a fraudulent scheme that consistently targets treasury personnel and others involved in handling payments/disbursements, such as AP.



Losses generally occur when a criminal gains access to an employee email (usually an executive or someone with authority) and initiates a request for a payment.

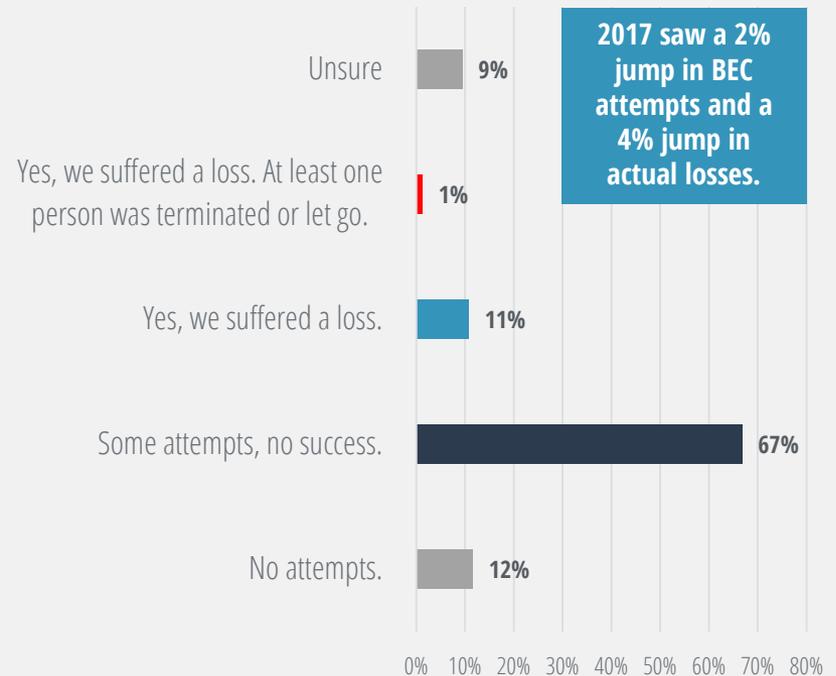


Installing robust security software and restricting employees from using open networks/internet when accessing company email can reduce the threat of emails being jeopardized



Best defense is training employees on how to identify and respond to suspicious emails or communications.

Has your organization experienced any type of impostor fraud / business email compromise attempts in the past two years?



*2017 Strategic Treasurer & Bottomline Treasury Fraud & Controls Survey

Treasury Fraud: Ransomware Makes its Presence Known



8% of respondents had experienced ransomware attempts within the past two years.



30% of organizations were unsure if any activity had been perpetrated against them. Unless an attack is successful, an organization may not always be aware that an attempt has even occurred.



This data was gathered BEFORE the WannaCry ransomware epidemic hit the business environment.

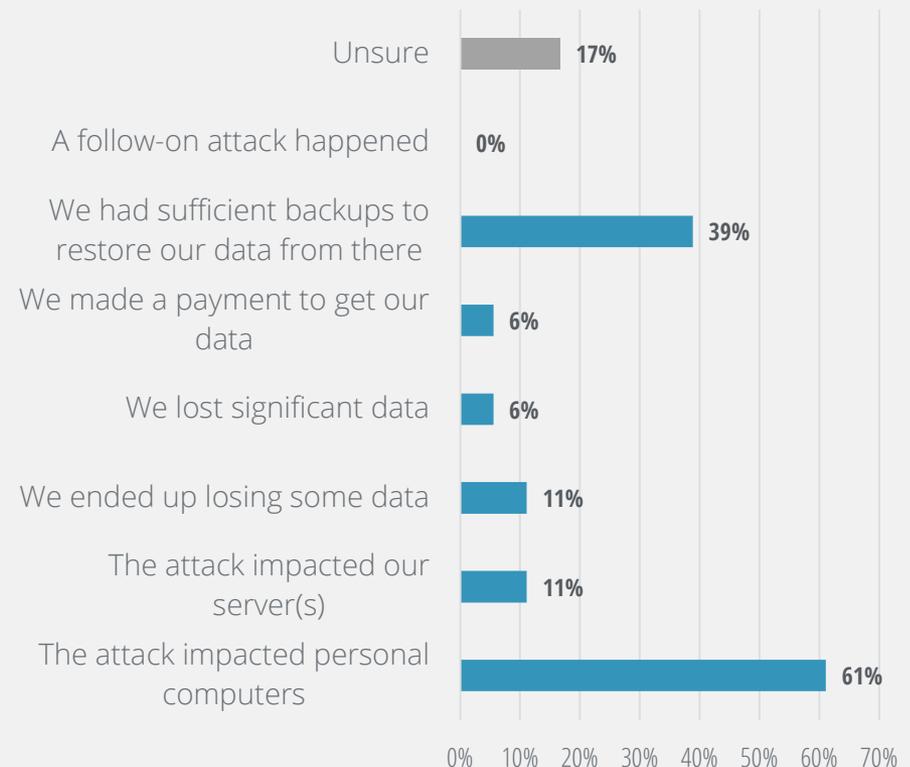


WannaCry, and subsequent “mimicry” attacks, are responsible for much of the business environment’s awareness and understanding of ransomware.



We expect 2018 statistics involving ransomware activity/attacks to be much higher.

For the ransomware or encryption attack(s) that we experienced these were the results: (Select all that apply)

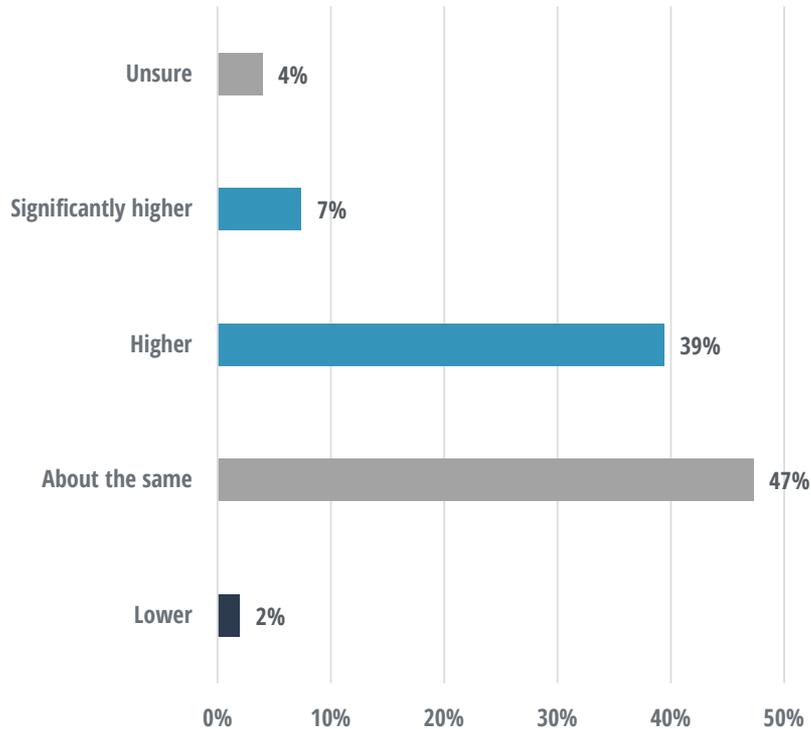


*2017 Strategic Treasurer & Bottomline Treasury Fraud & Controls Survey

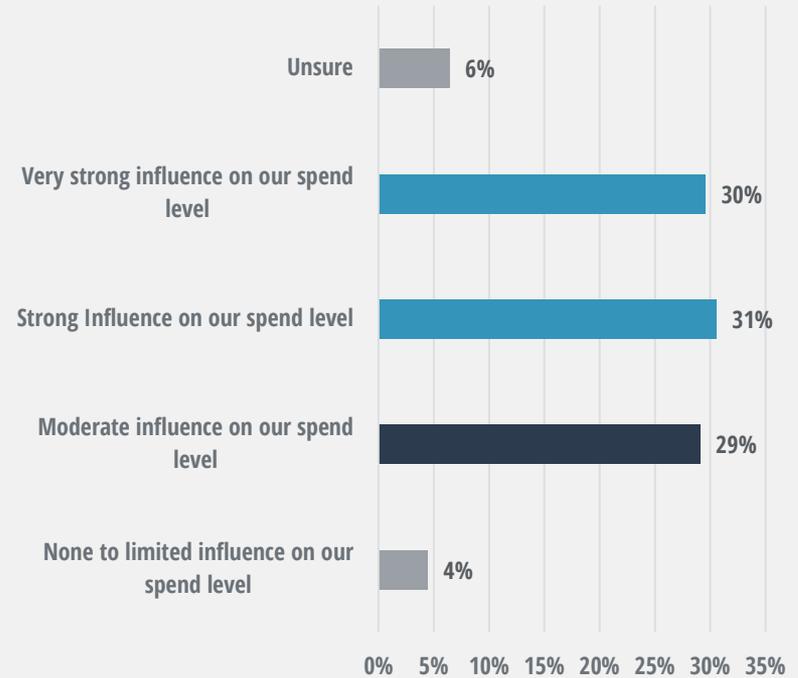


Treasury Fraud: Security Concerns Result in Elevated Investment

Our current payment security concerns, as compared to the prior year, are:



What influence do security concerns have on your current or planned technology spend?



*2017 Strategic Treasurer, Bottomline Technologies & Bank of America Merrill Lynch B2B Payments & WCM Strategies Report



Regulatory Updates: 2017 Developments

Section 385



April 4th, 2016: Proposed Changes

US Treasury and the IRS published proposed regulations under section 385 of the Internal Revenue Code.



October 13th, 2016: Final & Temporary Changes

Treasury issued final and temporary regulations for Section 385 – significant changes are included.



April 21, 2017: Reduced Tax Burden

Administration directs treasury to begin simplification of tax regulation to repeal or revise costly or complex rules.



July 28, 2017: Delayed Documentation Regulations

“Documentation Regulations” under section 1.385-2 delayed by one year to January 1, 2019.



October 4, 2017: Treasury Tax Simplification Plan

Treasury released a report with recommendations for reducing the tax burden that had been imposed by previous regulations

- Part of this plan involves simplifying the section 385 documentation regulations.

Sarbanes-Oxley



August 2017: Whistleblowing Update

August 28th ruling expanded corporate whistleblower rights under SOX, stemming from 2015 case concerning DoD contractor in Afghanistan.



October 2017: Biomed Startups Exempt from SOX

New proposed federal legislation would ease regulatory burden on biomedical startups with <\$50 million in revenues and <\$700 million shares owned by public investors by exempting them from SOX reporting requirements.



Treasury Technology: Significant Investment in 2017

January 2017

Bellin announced double-digit million euro investment from Germany private equity firm LEA Partners.

Misys & D+H merged to become 3rd largest fintech company in the world (combined \$2.1 billion annual revenue)

Kyriba recently raised \$45 million in a Series D funding round headed primarily by Sumeru Equity Partners

Institutional Cash Distributors (ICD) announces partnership and significant investment from equity firm Parthenon Capital Partners.

TreasuryXpress recently announced a \$5 million funding round headed by MEVP, iSME Capital, & Azure Fund.

GTreasury recently announced a \$42 million funding round from Mainsail Partners.

Treasury Intelligence Solutions (TIS) recently announced \$12 million investment from venture capital firm 83North.

ION Investment Group will be buying controlling stake in Dealogic, a financial content and analytics solution provider. ION formerly acquired Reval in 2016.

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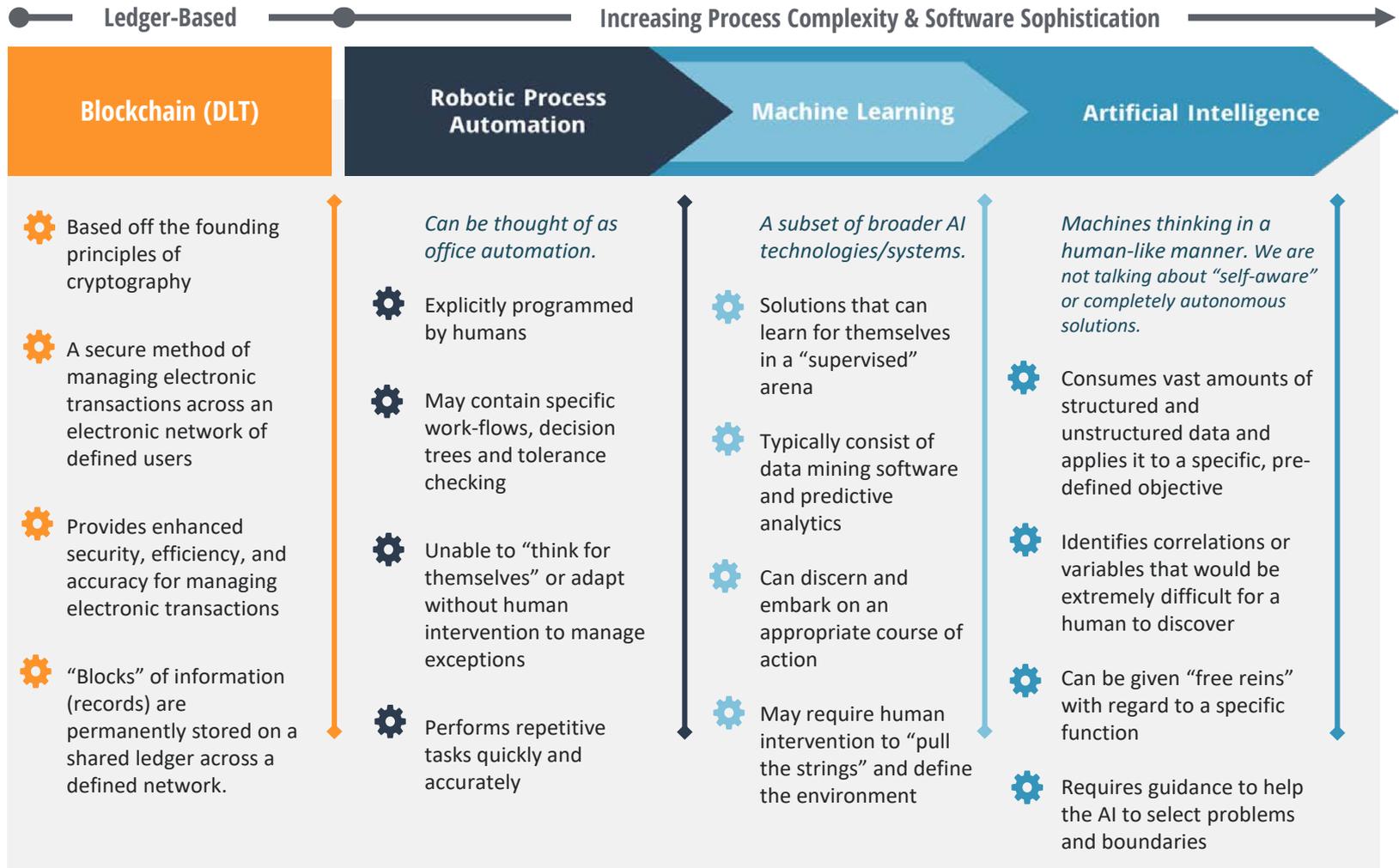
Disruptive Technologies: The Landscape

 Blockchain (DLT)	 Robotic Process Automation (RPA)	 Machine Learning (ML)	 Artificial Intelligence (AI)
<ul style="list-style-type: none"> A cryptography-based shared network that is used to facilitate the secure exchange and documentation of digital transactions. 	<ul style="list-style-type: none"> Explicitly programmed (hard-coded) software to automate repetitive tasks to realize increased speed, efficiency, and accuracy over human capabilities. 	<ul style="list-style-type: none"> A subset or application of AI technology where machines can be programmed to make data-driven decisions in a human-supervised and structured environment. 	<ul style="list-style-type: none"> Systems that are capable of leveraging structured and unstructured data and applying analytical methods to identify anomalies, relationships and solutions.
<ul style="list-style-type: none"> ➔ Faster Payments ➔ eDocumentation ➔ Network Security 	<ul style="list-style-type: none"> ➔ Data Entry ➔ Data Pulling ➔ Systems Integration 	<ul style="list-style-type: none"> ➔ Predictive Analytics ➔ Data-driven Decisions ➔ Smart Workflows 	<ul style="list-style-type: none"> ➔ Forecasting ➔ Investment Strategy ➔ Fraud Monitoring





Disruptive Technologies: Categorization & Classification





Disruptive Technologies: Consolidation of Terms

Blockchain (DLT)	Robotic Process Automation (RPA)	Machine Learning (ML)	Artificial Intelligence (AI)
<ul style="list-style-type: none"> • Definition 1: An open, distributed ledger that can record transactions between two parties efficiently and in a verifiable and permanent way. (Harvard Business Review) • Definition 2: Blockchain technology enables users to share their ledger of transactions. The record of events gets distributed to all participants in a given network, who in turn use their computers to validate the transactions. (SC Bank) 	<ul style="list-style-type: none"> • Definition 1: The use of sophisticated computer software that automates routine and standard tasks normally performed by humans, without the need for constant human supervision. (AFP) • Definition 2: The application of technology that allows employees in a company to configure computer software or a “robot” to capture and interpret existing applications for a specific task or set of tasks. (IRPAAI) 	<ul style="list-style-type: none"> • Definition 1: ML is a type of artificial intelligence (AI) that allows software applications to become more accurate in predicting outcomes without being explicitly programmed. (Whatis) • Definition 2: Machine learning is an application of artificial intelligence (AI) that provides systems the ability to automatically learn and improve from experience without being explicitly programmed. 	<ul style="list-style-type: none"> • Definition 1: Artificial intelligence can provide solutions to problems where the complexity is too great, the information is incomplete, or the details are too subtle and require expert training. (AFP) • Definition 2: In computer science, AI research is the study of "intelligent agents": any device that perceives its environment and takes actions that maximize its chance of success at some goal. (Wikipedia)
<ul style="list-style-type: none"> • ST Definition: Blockchain was originally created to process bitcoin transactions, but is seeing increased use for a full range of financial transactions and ledger-keeping activities. 	<ul style="list-style-type: none"> • ST Definition: RPA involves the use of explicitly programmed software that can replicate and perform the exact tasks they were coded to do. 	<ul style="list-style-type: none"> • ST Definition: ML software is useful for performing a specific task, but does not need to be specifically programmed for every single function it must perform. 	<ul style="list-style-type: none"> • ST Definition: AI solutions are sophisticated, independent tools that can be utilized to perform complex tasks or solve challenging equations that involve vast or unstructured data sets.





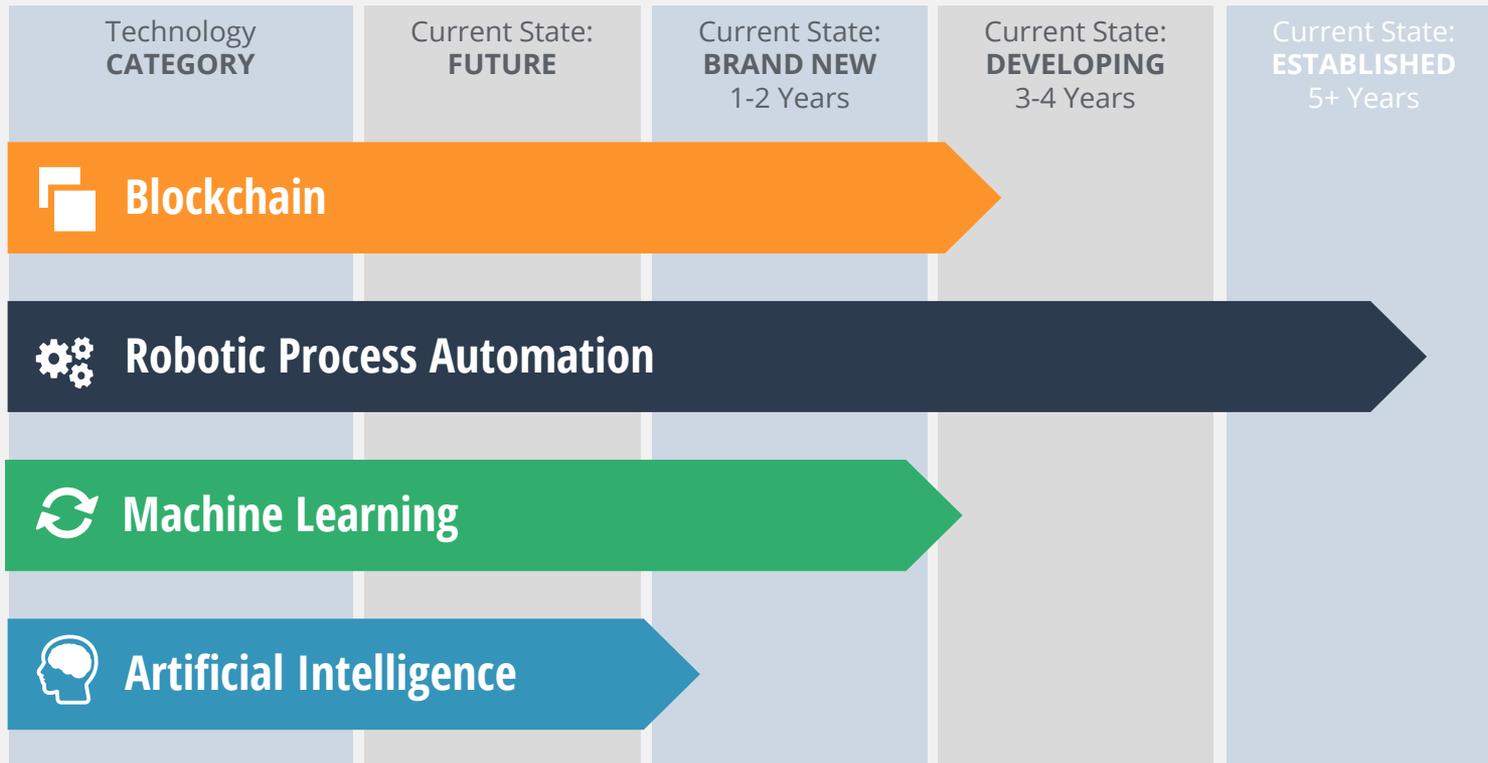
Disruptive Technologies: Analysis

Blockchain	Robotic Process Automation	Machine Learning	Artificial Intelligence
<p>Current State</p> <ul style="list-style-type: none"> Successful use cases and proof-of-concepts have been achieved across multiple areas of finance. <p>Benefits</p> <ul style="list-style-type: none"> Greater control, transparency, and security over electronic transactions due to the distributed ledger. An efficient and secure method of electronic transactions and record-keeping. <p>Challenges</p> <ul style="list-style-type: none"> Developing regulations introduces the risk of implementing a solution that later is found to be non-compliant. Many blockchain vendors are still considered start-ups. This makes choosing a “winning” solution much more difficult. The relative newness of the technology means that much is still unknown about its long-term security, safety, and viability. 	<p>Current State</p> <ul style="list-style-type: none"> Numerous organizations are moving up the functionality curve with RPA activities. <p>Benefits</p> <ul style="list-style-type: none"> RPA is effective for redundant or repetitive tasks where there has typically been heavy manual intervention, and the risk of errors or inaccuracy is high. RPA software can perform repetitive tasks quickly and with greater accuracy than a human employee, which results in greater time and cost efficiencies. <p>Challenges</p> <ul style="list-style-type: none"> It can be difficult to integrate RPA software with existing technology infrastructure, especially if current infrastructure is legacy or outdated. As RPA software explicitly follows human instruction, ensuring the proper programming of the solution up-front is vitally important to avoid costly errors down the road. 	<p>Current State</p> <ul style="list-style-type: none"> ML solutions and applications have begun to see increased adoption via TMS/ERP products and standalone solutions. <p>Benefits</p> <ul style="list-style-type: none"> ML is best used for tasks where data can be classified and organized in structured confines. ML software can intuitively perform tasks using large data sets that would take a human excessive time to analyze and act on. Data mining coupled with predictive analytics ensure that a “best fit” solution to a problem or task is identified and applied. <p>Challenges</p> <ul style="list-style-type: none"> When using unstructured or incomplete data sets, ML software may act on inaccurate or faulty assumptions. The up-front work required to successfully apply the solution towards a unique problem can be complicated. It can be difficult to identify when a ML solution has made a mistake and difficult to correct the logic. 	<p>Current State</p> <ul style="list-style-type: none"> Early in the lifecycle of highly functional AI applications for most areas of finance. <p>Benefits</p> <ul style="list-style-type: none"> AI can complete tasks or problems that are incredibly complex, and must draw upon vast quantities of data to be solved. AI can process data and identify solutions/correlations to tasks that a human would not be able to identify. The result is a greater degree of accuracy in complex problem solving and analysis. <p>Challenges</p> <ul style="list-style-type: none"> Many organizations do not have adequate sophistication or data sets/access necessary to justify use of an AI solution. The cost of such solutions can be extremely high and difficult to implement. There is much still unknown about the application and legality of such solutions.



Disruptive Technologies: Development Landscape

Disruptive Technologies Development Landscape (Adoption)

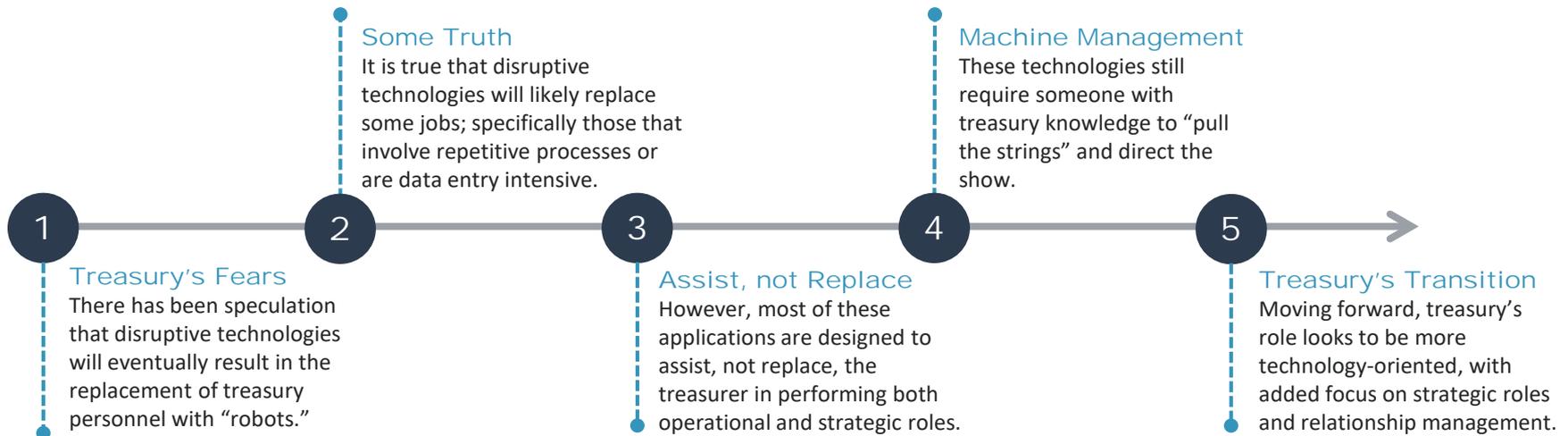




Disruptive Technology: Treasury's Replacement?

Fear the Machines?

How should treasury respond and react to disruptive technology?



Treasury and technology are teammates, not competitors.

Fear the Machines? No, Run the Machines.

Disruptive Technology Ramifications: Banks vs Fintechs

Changing Landscape: As technological innovations and evolving regulatory requirements impact the financial landscape, the traditional roles and services offered by banks are seeing increased competition from Fintech (financial technology) vendors. With regards to strengths and weaknesses, each sector has their own unique composition.

Banks

- ✓ Tend to already have large client bases and broad market reach to cross-sell new products and services through.
- ✓ Maintain high levels of capital for research and development in new technologies/sectors.
- ✗ Face strict and far-reaching regulatory restrictions. (PSD2, KYC, etc.)
- ✗ Less flexible in their ability to quickly implement new services and technologies.

Fintechs

- ✓ Very flexible when it comes to developing new products and services.
- ✓ Technology expertise means they are generally at the forefront of new innovations.
- ✓ Are not hampered by regulations in the same way that banks are.
- ✗ Often lack any major client base and have more difficulty raising the capital necessary for largescale development.



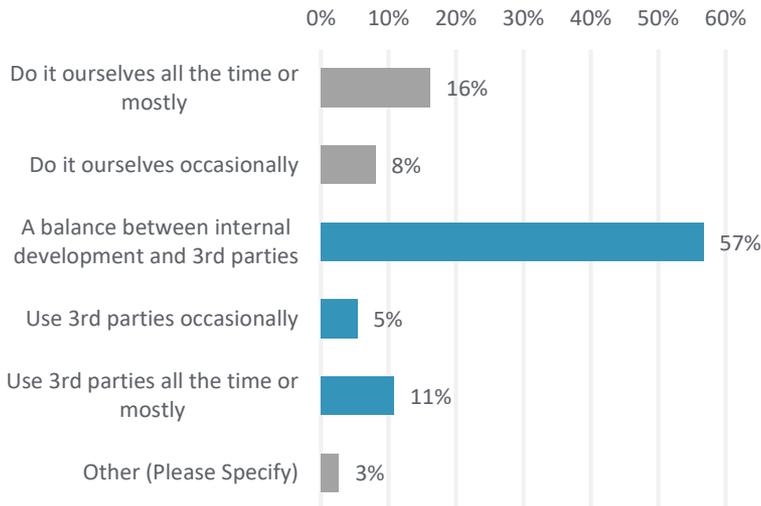
Disruptive Technology Ramifications: Collaboration or Competition?

To Collaborate or Compete? As Fintechs increasingly penetrate the corporate environment, the strategies for banks in maintaining their relevancy center around either collaboration with, or competition against, the new fintech players.



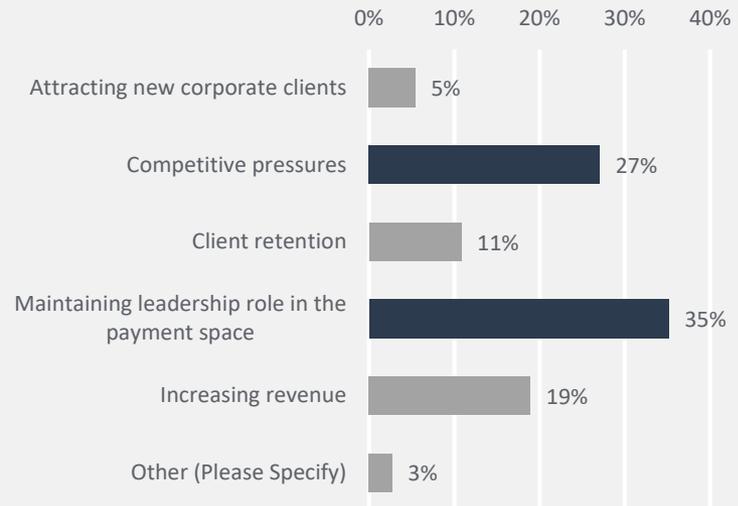
Collaboration

(Banks) For development of payment capability, we:



Competition

(Banks) What general drivers push you to adopt new payment technology?





Final Thoughts: Takeaways for Treasury

- ➔ **Market sentiment and outlook heading into 2018 is overall bullish.**
- ➔ **Treasury Security must be a top priority heading into 2018.**
- ➔ **Security layers should consist of both technology components and policies/training.**
- ➔ **Treasury should be aware of how their responsibilities may shift as a result of developing technology innovations.**
- ➔ **Organizations must stay current on treasury technology and security developments in 2018.**
 - Take surveys & consume results
 - Examine security incidents and receive training
 - Invest in security and IT



2018 Research Initiatives: Surveys & Reports

Industry Surveys

- [Treasury Perspectives](#)
- Treasury Fraud & Controls – Opening Monday
- B2B Payments & WCM Strategies
- Global Payments
- Cash Forecasting
- Compliance
- Supply Chain Finance
- Liquidity Risk
- Treasury Technology Use

Analyst Reports & Guides

- [Supply Chain Finance](#)
- [Treasury Management Systems](#)
- [Treasury Aggregators](#)

- A Visual Guide to Payments in 2018
- A Guide to Disruptive Technology in 2018



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Strategic Treasurer

is a consulting firm advising on treasury, financial risk and risk technology issues. Their seasoned treasury consultants efficiently work alongside financial executives in treasury, finance, and other related areas within corporate, government, education, and not-for-profit entities.