Does a disrupted Internal Audit (IA) function mean a stronger strategic partner?

IA disrupted by design — the journey has started

Agenda

1. The case for change
2. What will the IA mandate be?
3. How will IA work in the future?
   - Operating model
   - Use of technology
   - Talent of the future
4. The journey has started — emerging trends
5. A call to action
The case for change

Emerging technologies and new business models mean new risks and a bigger focus on upside and outside risks

Adopting a risk lens – upside, outside and downside

Moving from avoidance to optimization, for better business outcomes.

To be successful, organizations will need to shift their focus from simply mitigating risk to embracing new upside opportunities.

Striking this balance requires embedding risk and control into strategic decision making within the front-line businesses and multifaceted approaches to the portfolio of risk.

Organizations will also develop digital capabilities that harness intelligence and deliver insights across the enterprise.

**Upside risks**
- Risks that offer benefits. Risks significant to the organization’s ability to execute its business strategy and achieve its objectives.
  - Potential for innovations to grow consumer bases
  - Increasing market share
  - Acquiring, managing and deriving value from new assets and talent

**Outside risks**
- Risks that offer positive or negative benefits beyond the organization’s control.
  - Actions of existing and emerging competitors
  - Geopolitical and economic megatrends
  - Demographic and environmental megatrends

**Downside risks**
- Risks that offer negative impacts. Risks an organization is focused on eliminating, avoiding, mitigating or transferring in a cost-effective manner.
  - Information security and cybercrime (also an outside risk)
  - Employee fraud, and regulatory compliance
  - Enterprise-resilience technology and business continuity
The case for change
IA may not be able to keep up with the pace of change in the business leaving a risk coverage gap

Change readiness and competencies to manage new world

2000s   Today   Next 10 years

Internal audit

Business management

Risk gap

The case for change
Vision for the future of IA to maintain trust in the transformative age

In the future, IA will be viewed as an air traffic control tower. Technology will enable real-time risk monitoring and timely reporting of high-risk findings to instill trust, support confident decision making and ultimately contribute to increased business value. This operating model will also enable a higher degree of flexible sourcing.
What will the IA mandate be?

The IA mandate does not need to change but it will evolve

- IA will be highly connected, proactive and forward looking in setting its priorities in response to market disruptions

- IA will extend beyond its traditional assurance provider-role and become a strategic and valued advisor

- Assurance will broaden to: challenging the entire risk framework and accounting for upside and outside in addition to downside risks
What will the IA mandate be?
The mandate does not need to change but there will be a better balancing of focus

<table>
<thead>
<tr>
<th></th>
<th>Proactive</th>
<th>Business counselor</th>
<th>Change agent</th>
<th>Partner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anticipative monitor</td>
<td>Focus on future topics (e.g., missing controls, policies and procedures)</td>
<td>Focus on strategic topics and actively engaged in strategic discussions and problem solving</td>
<td>Focus on trends on why things fail systematically and audit against “unknown” rules</td>
<td>Prescriptive and trends</td>
</tr>
<tr>
<td></td>
<td>Future impact of recommendations</td>
<td>Anticipating the future/industry trends and the impact on the business</td>
<td>Deep dive in root-cause/and internal best practices for recommendations</td>
<td></td>
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<tr>
<td></td>
<td>Anticipating how the business model is changing</td>
<td>Fostering change and best practice development and sharing</td>
<td>Initiating change</td>
<td></td>
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<tr>
<td>Analytics and robotics:</td>
<td>Predictive and real time</td>
<td></td>
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<thead>
<tr>
<th></th>
<th>Policing</th>
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</thead>
<tbody>
<tr>
<td>Assurance factory</td>
<td>Focus on non-negotiable assurance and base level of trust and current/past topics</td>
<td>Focus on non-negotiable assurance and base level of trust and current/past topics</td>
<td>Focus on non-negotiable assurance and base level of trust and current/past topics</td>
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<tr>
<td></td>
<td>Current impact of recommendations</td>
<td>Current impact of recommendations</td>
<td>Current impact of recommendations</td>
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<tr>
<td></td>
<td>Raising awareness on current/past topics</td>
<td>Raising awareness on current/past topics</td>
<td>Raising awareness on current/past topics</td>
<td></td>
</tr>
<tr>
<td>Analytics and robotics:</td>
<td>Descriptive and internal data driven</td>
<td>Descriptive and internal data driven</td>
<td>Descriptive and internal data driven</td>
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</tbody>
</table>

How will IA work in the future?
How will IA work in the future?
Have an agile and dynamic operating model enabled by technology and a flexible workforce

- Be agile and dynamic
- Apply more judgment
- Provide dynamic outputs
- Digitally augment its capabilities
- Predict control failures and risk triggers
- Report results digitally

Deploy resources with the right skill sets
Implement a balanced workforce
Build and participate in risk communities

An agile and flexible approach that is in tune with the organization’s strategic direction and priorities and addresses the changing business landscape.

IA will employ a variety of dynamic outputs, on a more real-time basis, and go beyond root cause analysis to provide best practices, sector trends and relevant benchmarks to meet the needs of stakeholders.

No longer focused on look-back activities; IA professionals will apply more judgment in their work and focus their attention on emerging risks and outcomes, not the existence of processes and controls.
Does a disrupted Internal Audit (IA) function mean a stronger strategic partner?

How will IA work in the future?
Technology will augment capabilities and enable continuous controls monitoring

IA functions will digitally augment their capabilities with advanced data analytics, bots and machine learning to handle the volume, speed and complexity of data.

The adoption of continuous monitoring and validation by the first and second lines will shift the focus from detecting to predicting control failures and risk triggers.

IA functions will digitally report their results (e.g., dashboards, text alerts) in real time, providing business insights and strategic advice.

How will IA work in the future?
A flexible, collaborative talent model with more analytical, innovative skills

Effective IA functions will facilitate ecosystem sharing and centralized risk mitigation.

The IA workforce will consist of a balance among full-time employees, third-party service providers, machines and contingent resources.

Creative problem solving, innovative mindset and social intelligence will become more valuable than technical knowledge.
How will IA work in the future?
A dynamic approach is pivotal — operating model, use of technology and talent infuse

Beyond analytics

IA’s use of technology has expanded beyond data analytics and governance risk and compliance tools

Robotics process automation (RPA):
A software solution that runs unattended, working like a virtual employee with legacy applications performing repetitive tasks reliably at the UI level

Artificial Intelligence (AI):
Software-driven intelligence that mimics human cognition, behavior, and thought processing to replicate more complex tasks that include professional judgment and historical knowledge

Other:
Complementary technologies, tools and architectures that can be combined with other layers on the spectrum to automate a business process or human experience
Process Mining
Science to exploit the value of real data

Advantages
► No need to rely on outdated process description
► No need for biased descriptions and interviews
► Reduced extent of documentation
► Identification of previously unknown process weaknesses

What people think: Slight deviations from the standard process

The reality: Actual complexity that would be unknown and manageable without process mining.

Technology Enabled Contract Review (TECR)

Overview
► TECR uses OCR (optical character recognition) to ingest and analyse contracts
► Searches for patterns and shared components and includes key word classification
► TECR could be used to digitise and search audit evidence such as contract documentation or procedural documentation
► This enables the automation of documentation review for key terms/words rather than manual review.

Benefits
► Centralizes contacts into a single environment, extracts key info, analyzes contracts
► Enables enhanced review and reporting capabilities
► Significantly reduces time taken for document/contract review
The journey has started

What some IA functions are doing as they kick-start their transformation

<table>
<thead>
<tr>
<th>Audit Needs Assessment</th>
<th>Develop IA Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify and assess risks beyond today’s scope by leveraging predictive, historical and external data</td>
<td>Deliver through advanced data analytics and visualization enabling efficient resourcing of audit/risk resources</td>
</tr>
<tr>
<td>Be flexible and agile around internal audit planning and responses based on changing assurance and reporting needs</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Execute IA Plan</th>
<th>Communicate Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digitize IA evidence and fieldwork in an integrated, digital platform to drive more insight around themes and trends</td>
<td>Re-think ‘traditional’ reporting content and format to communicate messages in new ways</td>
</tr>
<tr>
<td>Use automation to deliver large volumes of transactional and compliance internal audit areas, enhancing risk coverage and improving efficiency</td>
<td>Automate internal audit reporting leveraging digitized IA evidence and fieldwork</td>
</tr>
</tbody>
</table>
Does a disrupted Internal Audit (IA) function mean a stronger strategic partner?

A call to action

Arrival at the future state requires a journey that must start now. No one is out front, so do not look for early adopters.

- Assess the current IA operating model, resource model and technology footprint to identify opportunities to automate and innovate and better position the function for the transformative age.

- Start by making real investments in areas of impact and aggressively attack “low-hanging fruit.”

- Build a business case and start a process of transformation — technology development and deployment, skills sourcing, branding initiatives — to move toward the future state.

Change will require significant education of and communication with all stakeholders.
How Great Companies Stay on Track

Les Muma
Economic Outlook
May 16, 2019

Scott J. Brown, Ph.D.
Raymond James

Topics
The economy: where we are now

\[ Y = C + I + G + (X - M) \]

Labor Market
Inflation
Federal Reserve Policy
Recession?
2020 Election Topics
The Big Picture

\[ Y = C + I + G + (X - M) \]

\[ Y = GDP \]

\[ C = \text{consumer spending} \]
\[ I = \text{business fixed investment + residential investment + change in inventories} \]
\[ G = \text{government consumption and investment} \]
\[ (X - M) = \text{exports – imports} \]

Long-term potential:

GDP growth = labor force growth + productivity growth

Growth in underlying domestic demand is strong
Growth in underlying domestic demand is strong y/y

Job growth has remained strong
The job market has grown tighter

Participation will trend lower as population ages
Wage growth has picked up, though still moderate

Labor force growth has fallen (potential GDP too)
Retail sales: choppy, but a slower trend

Source: Bureau of Census

Residential construction slowed last year

Source: Bureau of Census
Motor vehicle sales have plateaued

Inflation has remained moderate
Trade Policy

Why trade? GATT (post WWII) -> WTO (1995) -- benefits vs. drawbacks

Why does the U.S. have a trade deficit?

Should we focus on the bilateral trade deficit?
China's trade surplus is about 1% of its GDP

Trump Trade Policy

Tariffs on lumber, washing machines, steel & aluminum (section 232)
USMCA (NAFTA 0.8)
China: 25% tariffs on $50 billion (mostly industrial inputs)
10% on $200 billion (inputs, capital goods, consumer goods)
recently raised to 25%
possible tariffs on another $267 billion (consumer goods)

Auto tariffs (section 232 – national defensive?), EU trade conflict

Tariffs are a tax paid by U.S. consumers and businesses. They raise costs, invite retaliation, disrupt supply chains, and curtail capital investment.

Factory output has slowed

Source: Federal Reserve
Manufacturing renaissance or renaissance faire?

Manufacturing Payrolls

- Million
- % of total nonfarm payrolls

Source: BLS

Manufacturing renaissance or renaissance faire?

Gross Jobs Gains and Losses per quarter: Manufacturing (thousand)

- job gains
- job losses

Source: BLS
The Fed expects growth to slow

The Fed expects inflation at or below target
Fed officials expect rates to hold steady (higher in 2020)

Fed Review of Monetary Policy Framework

Town Hall Seminars, Academic Conferences
Chicago Fed Conference June 4-5

Strategy
Inflation Target vs. Price Level Target

Tools
Federal funds rate remains the primary lever
Balance sheet unwind ("quantitative tightening") to end in September based on maintaining adequate level of bank reserves
beginning 4Q19: gradual shift from mortgages to Treasuries
The next downturn – more QE? negative rates?

Communication Policies
How to improve?
The budget deficit is rising

Treasury Budget, $billion (trailing 12-month)

Source: Treasury Department

The budget deficit is rising

Treasury Budget, % of GDP (trailing 12-month)

Source: Treasury Department
Revenues falling as a share of GDP

Entitlements are a rising share of GDP
State and local government jobs still recovering

Long-term interest rates have declined
Yield Curve: flat

Recession odds have increased
Firefighting

“A decade later, the vital question to ask is whether the United States is better prepared today. We believe the answer is: yes and no. **There are better safeguards in place to avoid a panic in the first place** – the financial equivalent of more aggressive fire prevention measures and stronger fire-resistant building codes. **But the emergency authorities for government officials to respond when an intense crisis does happen are in many ways even weaker than they were in 2007** – the financial equivalent of less-well-equipped firefighters and shuttered firehouses... in short, the U.S. economy and financial system today may be less prone to modest brush fires but more vulnerable to a major inferno if, despite updated and improved fire codes, a conflagration were to begin...

Eventually, a threat will be overlooked and a crisis will erupt. As the New York Fed's Meg McConnell likes to say, we spend a lot of time looking for systemic risk, but it tends to find us. That’s when government responders need a safety net, and we’re afraid America’s is even more riddled with holes than it was before the crisis.”

-- Ben Bernanke, Timothy Geithner, Henry Paulson

Global Economy

IMF World Economic Outlook: somewhat slower with downside risks

Key global issues
- aging populations
- slower trend growth in productivity

European Union

Brexit
- October 31 deadline

China
- not just trade disruptions
- rising debt levels
Topics into 2020 election cycle

Income Inequality
  Slower growth overall
  Affordability issues in housing
  Susceptibility to downside risks

Concentration of Market Power
  Monopoly/Antitrust regulation

Climate Change
  Costs of doing nothing
  Costs of dealing with it

Universal Healthcare

Tax Policy

Democratic debates begin in late June

Summing Up
PUTTING CYBER SECURITY INTO BUSINESS TERMS

**Speakers:**
- Aidan Collins, Managing Director, CBIZ, Inc. ACollins@CBIZ.com
- Goran Kovacevic, Director, CBIZ, Inc. GKovacevic@CBIZ.com

**LEARNING OBJECTIVES**
- Understand the challenges of cyber risk management today
- Cyber risk decision making
- Limitations of traditional approaches
- Learn how to quantify cyber risk as a business risk and make well-informed decisions about risk
- Factor Analysis of Information Risk (FAIR)
- Risk analysis process with an example of cyber risk quantification
- Benefits of cyber risk quantification

**AGENDA**
- Failure of traditional risk management
- How do we quantify cyber risk as a business risk?
- Example use case
- How does quantitative risk management help us make well-informed business decisions?
WHY WORRY ABOUT CYBER RISK?

- What is wrong with IT-focused cyber security?

- **Cyber Risk = Business Risk**
  - Cybersecurity is becoming a strategic issue and even an existential risk.
  - A board’s risk oversight responsibilities have evolved to include extensive technology/cybersecurity risk oversight expectations.

Data Breaches by the Numbers

- 3B Yahoo accounts hacked (2016)
- 57M million Uber riders’ and drivers’ information stolen (2017)
- 412M FriendFinder user accounts stolen (2017)
- 148M consumers were affected by the Equifax breach (2017) costing the company over $4 billion in total
- 150M Under Armor user accounts hacked (2018)
- $5B+ ransomware damage costs in 2017, 15 times the cost in 2015
- 61% of breach victims in 2017 were businesses with under 1,000 employees
**ARE WE DOING THE RIGHT THINGS IN CYBERSECURITY?**

What are our top cyber risks and how much exposure do they represent?

Which cyber risk investments matter most?

Are we investing enough (or too much) in cyber risk management?

Do we have enough cyber insurance?

---

**WE NEED BETTER WAYS TO MEASURE RISK AND ENABLE WELL-INFORMED DECISION-MAKING**

“You can’t manage what you can’t measure, and you can’t measure what you haven’t defined.”
LIMITATIONS OF SECURITY MATURITY MODELS

- One measure of risk that can be used to convey risk posture and help set priorities to close unacceptable control gaps.
- It is complementary to, but does not replace formalized risk assessments.
- The relationship between maturity and risk posture is an abstraction.

WHAT IS WRONG WITH TRADITIONAL RISK APPROACHES?

Measuring cybersecurity risk is hard but possible!
WHAT IF WE CAN MEASURE CYBER RISK?

- Understand top risks in dollar terms and focus on the most significant losses
- Prioritize security investments based on a Return on Risk Reduction
- Enable both business and technical stakeholders to make well-informed decisions about cyber risk

### Section 2

How do we quantify cyber risk as a business risk?
**Which of the following are risks?**

| Disgruntled insiders                      | Threat community               |
| Internet-facing web servers               | Assets                         |
| Untested recovery process                 | Deficient control              |
| Network shares containing sensitive consumer information | Assets |
| Weak passwords                            | Deficient control              |
| Cyber criminals                           | Threat community               |
| Source code libraries in high-risk countries | Assets |
DEFINING CYBER RISK

Risk: The Probable Frequency and Probable Magnitude of Future Loss

In other words...
How often bad things are likely to happen, and how bad they’re likely to be when they do happen

Open FAIR™ Risk

- Critical Thinking Framework
  - Terms
  - Definitions
  - Relationships
  - Units of measure

HOW WE MEASURE CYBER RISK?

- Open FAIR™ Risk Modeling:
The critical thinking framework necessary to decompose risk problems into their components, similar to how other business risks are decomposed

Loss Scenario: From the Stakeholder’s Perspective

<table>
<thead>
<tr>
<th>Threats</th>
<th>Assets</th>
<th>Observable Loss</th>
<th>Direct Consequences ($)</th>
<th>And May Have Reactions from Others ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breach, Impair</td>
<td></td>
<td>ThatCause</td>
<td>ThatHas</td>
<td></td>
</tr>
</tbody>
</table>

Primary Losses | Secondary Losses

Productivity, Replacement, Response, Competitive Advantage, Reputation, Fines and Judgments
### Business-Focused Risk Analysis Process

- **Defining preliminary risk concerns:** The Scary Event
- **Refine the risk concern to a specific loss scenario**
- **Estimate risk factors and identify risk scenarios for more detailed analysis**
- **Collect additional risk data, analyze risk scenario and create the analysis report**

### Defining a Risk Concern in Business

**Enterprise Architecture**

- **Business Layer**
  - External Roles and Actors
  - External Business Services
  - Business Processes and Internal Actors/Roles

- **Application Layer**
  - External Application Services
  - Application Components and Services
  - Application Data

- **Technology Layer**
  - External Infrastructure Services
  - Infrastructure

- **Focus is on key business services and technology used for the service delivery**
- **Start with a “risk concern” related to those services**
  - Describe something that management worries about
  - Describe what subject matter experts worry about and are advocating risk responses towards
**Refine the Risk Concern to a Specific Loss Scenario**

- Risk associated with a well-defined loss scenario:
  - A Threat Agent breaches, impairs Asset, whose value the Stakeholder has a duty to preserve, that causes Observable C, I, A Loss
  - That loss has monetized economic consequences or value and may have “fallout” from the reactions of others
  - All from a specific, defined Stakeholder perspective

**Building a Cyber Risk Scenario**

- Threat actor and activity:
  - HACKTIVISM
  - CRIME
  - INSIDER
  - ESPIONAGE
  - TERRORISM
  - WARFARE

- Asset at risk:
  - Business service, technology component (application, data, infrastructure, endpoint device)

- Observable loss due to threat:
  - Confidentiality, Integrity, Availability
INITIALLY ASSESS THE RISK OF THE LOSS SCENARIO

Preliminary, High Level Estimates

Loss Scenario: From the Stakeholder’s Perspective

- Threats
- Breach, Impair
- Assets
- That Cause
- Observable Loss
- That Has
- Direct Consequences ($)
- And May Have
- Reactions from Others ($)

- Losses must be observed to be “real.” No C, I, or A observation, no loss
- Losses have an immediate economic effect measured in dollars, and
  - May have economic implications from others after the immediate effect
- Form the risk question: **What is the probable frequency and probable magnitude of future loss associated with a harmful event?**

WHAT LOSSES TO CONSIDER? FORMS OF LOSS

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Productivity</td>
<td>Losses associated with the reduction in an organization’s ability to generate its primary value proposition (e.g., income, goods, services, etc.)</td>
</tr>
<tr>
<td>Replacement</td>
<td>The intrinsic value of an asset. Typically represented as the capital expense associated with replacing lost or damaged assets (e.g., rebuilding a facility, purchasing a replacement laptop, etc.)</td>
</tr>
<tr>
<td>Response</td>
<td>Expenses associated with managing a loss event (e.g., internal or external person-hours, logistical expenses, etc.)</td>
</tr>
<tr>
<td>Response</td>
<td>Expenses associated with managing a loss event (e.g., internal or external person-hours, logistical expenses, etc.)</td>
</tr>
<tr>
<td>Competitive Advantage</td>
<td>Losses associated with diminished competitive advantage. CA loss is specifically associated with assets that provide competitive differentiation between the organization and its competition. Examples would include trade secrets, merger and acquisition plans, etc.</td>
</tr>
<tr>
<td>Reputation</td>
<td>Losses associated with an external perception that an organization’s value proposition is reduced or leadership is incompetent, criminal, or unethical.</td>
</tr>
<tr>
<td>Fines &amp; Judgments</td>
<td>Legal or regulatory actions levied against an organization. Note that this includes bail for any organization members who are arrested.</td>
</tr>
</tbody>
</table>
Estimating the Selected Risk Factors

- How often is this loss likely to happen in a year?
- How bad is this loss when it happens?

- Use the data you have – there is more data out there than we think
- Use calibrated estimating techniques to improve the estimate’s accuracy
- Accuracy first: 95% confidence in the Min and Max of the estimate, 90% overall – then precision

<table>
<thead>
<tr>
<th>Factor</th>
<th>Min</th>
<th>Max</th>
<th>ML</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss Magnitude</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>Dollars</td>
</tr>
</tbody>
</table>

Techniques in Making Accurate Estimates

- Start with the absurd, a really wide, imprecise estimate
- Focus on what you DO know
- Decompose the problem
- Test your confidence
  - 90% overall
  - 95% at either end
- Challenge your assumptions

Estimates too imprecise are not useful and point to potentially valuable research.
**DETAILED QUANTITATIVE RISK ANALYSIS**

- Risk triage identifies risk scenarios for further detailed analysis based on:
  - Probable significant losses
  - Low level of confidentiality in initial estimates
  - Management selected arbitrary risk scenarios

- Detailed risk scenarios analysis:
  - Collect additional risk data and may include a real-time Loss Event Frequency (LEF) data
  - Depth of analysis depends on available data and level of confidence in estimates

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**Section 3**

Example use case: X&Y Company Online Billing & Support Application
**SCOPE RISK ANALYSIS**

- **Risk concern:**
  - X&Y Company management is concerned about a compromise of the customer online billing and support application (X&Y APP) and theft of customer data by hackers.

- **Purpose:**
  - Determine the level of risk associated with attacks against the X&Y APP.
  - Identify security solutions to reduce risk to an acceptable level.

- **Risk Scenario:**

  **Loss Scenario: From the X&Y Management Perspective**

<table>
<thead>
<tr>
<th>Threats</th>
<th>Assets</th>
<th>Observable Loss</th>
<th>Direct Consequences ($)</th>
<th>Reactions from Others ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hackers</td>
<td>X&amp;Y APP w/ customer data</td>
<td>Confidentiality</td>
<td>Productivity and response cost</td>
<td>Fines/legal fees and reputation cost</td>
</tr>
</tbody>
</table>

**ESTIMATING THE SELECTED RISK FACTORS**

- **TEF:** Data from threat intelligence application
- **VULN:** Data from vulnerability assessment (Web firewall, missing patches, other effective resistive controls)
- **LEF:** ~Once every 3 years (calculated from the distributions of threat event frequency and vulnerability)

<table>
<thead>
<tr>
<th>Factor</th>
<th>Min</th>
<th>Max</th>
<th>Ml</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss Event Frequency</td>
<td>C</td>
<td>C</td>
<td>C</td>
<td>Events/yr.</td>
</tr>
<tr>
<td>Threat Event Frequency</td>
<td>12</td>
<td>25</td>
<td>19</td>
<td>Events/yr.</td>
</tr>
<tr>
<td>Vulnerability Level</td>
<td>0%</td>
<td>3%</td>
<td>2%</td>
<td>Percentage</td>
</tr>
<tr>
<td>Loss Magnitude</td>
<td>C</td>
<td>C</td>
<td>C</td>
<td>Dollars</td>
</tr>
<tr>
<td>Primary Loss Magnitude</td>
<td>$20K</td>
<td>$50K</td>
<td>$35K</td>
<td>Dollars</td>
</tr>
<tr>
<td>Secondary Loss Magnitude</td>
<td>$820K</td>
<td>$4.9M</td>
<td>$2.7M</td>
<td>Dollars</td>
</tr>
</tbody>
</table>
**Loss Analysis Results**

- Maximum: $4.8M
- 90%: $2.7M
- Average: $672K
- 10%: $0
- Minimum: $0

- The maximum aggregate annual loss is $4.8M; however, it’s highly unlikely.
- Only once every ten years do losses from this scenario exceed $2.7M; however, in those once-per-decade exceptional years, when a large loss occurs, the average is around $3.4M.
- The infrequent but high impact annual losses raise the average annual loss to about $672K.

**Aggregate Enterprise Risk and Loss Types Analysis**

- Aggregate Loss Exposure
  - The aggregation of all independently analyzed risk scenarios
  - Provide a probabilistic view of enterprise risk

- Analysis of losses
  - Where is the greatest exposure?
  - Are we adequately insured?
Section 4

How does quantitative risk management help us make well-informed business decisions?

**RISK QUANTIFICATION BENEFITS**

**USE CASES**
- Understand Loss Exposure
- Prioritize Risk Mitigations
- Assess ROI of Security Initiatives
- Effectively Assess Third Party Risk
- Optimize Cyber Insurance Coverage

**ROI**
- Preserve Business Value
- Maximize Risk Reduction
- Optimize Cybersecurity Investments
- Reduce Supply-Chain Risk
- Facilitate Risk Transfer

**Financial Impact**
- $80M
- $71M
- $9M
- $2M

**ROI**
- $2M
- Current Risk
- Reduced Risk
ASSESS ROI OF SECURITY INITIATIVES

<table>
<thead>
<tr>
<th>INITIATIVES</th>
<th>LOSS IMPACT</th>
<th>Phase 1</th>
<th>Phase 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network Firewall</td>
<td>Frequency</td>
<td>$0.8M</td>
<td>$1.2M</td>
</tr>
<tr>
<td>DLP (Monitoring)</td>
<td>Primary Response</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DLP (Blocking)</td>
<td>Vulnerability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IAM (Processes)</td>
<td>Frequency</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Primary Response</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Current Risk: $4.1M
Phase 1 Risk: $3.5M
Phase 2 Risk: $0.5M

Financial Impact: $0.6M Risk Reduction vs. $0.8M Investment
$3.6M Risk Reduction vs. $1.2M Investment

MANAGE RISK-BASED INFORMATION SECURITY PROGRAM

Analyze Risk
Build Optimized Roadmap
Determine Target Risk
Evaluate Risk Reduction Solutions
Q&A
Attracting and Retaining Your Multi-Generational Workforce

Heather Ceresoli and Kim O’Brien
Taylor White
May 16, 2019

The Generational Divide
Why is this Important?

• Diversity of generational workforce trends leads to differences in:
  • Recruiting
  • Onboarding
  • Retention
  • Motivating
  • Supervising/Developing
  • Succession Planning
  • Training
  • Empowerment
  • Technology
  • Process Innovation
  • Change Management

The Workforce Majority

• Roughly 70%+ of the workforce in 2019
Gen X vs the Millennials –
Common Perceptions

**GENERATION X**
Born 1965-1979
The first Gen Xers turned 50 in 2015
Formative Experiences: personal computers, video games, two income households, financial crashes, 24-hour news.

**COMMON TRAITS:**
- Independent
- Entrepreneurial
- Resourceful
- Skeptical
- Direct

**WHAT THEY WANT:**
- Work / Life Balance
- Independence
- Transferrable skills
- Meritocracy
- Casual work environment

---

**MILLENNIAL**
Born 1980-1995
The first Millennials will turn 50 in 2030
Formative Experiences: smart phones, social networks, helicopter parenting, terrorism, reality TV.

**COMMON TRAITS:**
- Tech-Savvy
- Multi-tasking
- Collaborative
- Self-Confident
- Diverse

**WHAT THEY WANT:**
- Workplace flexibility
- Mentorship
- Meaningful work
- Recognition and encouragement
- Collaborative work environment

---

**WARNING**
ASSUMPTIONS AHEAD
Why all the Focus on Millennials?

- Millennials account for 83.1 million of the US population
- In 2019, Millennials will account for 36% workforce, and by 2025 that number will grow to 75%
- Millennials spend $600 billion in the United States every year, and are expected to have a purchasing power of $1.4 trillion by 2020
- Arguably, one of the most “talked about” generations
- Wide perception gap

Source: 45 Statistics on Millennial Spending Habits in 2019, Lexington Law, January 2019

Millennial Self-Perception

U.S. Millennials view themselves more positively than U.S. Non-Millenials do.

Source: Eilers Consulting Aug, 2017
What Research Tells us about Millennials

- 84% say they want to make a positive difference in the world (vs. professional recognition)
- 66% have nothing saved for retirement
- Millennials are more willing to leave their phones behind while on vacation
- Millennials are willing to trade money for job satisfaction, and do not gauge “success” based upon income
- Millennials are more tied to charitable giving/volunteerism
- They are “hands down” the most diverse generation, thanks to immigration and changing attitudes

Source: 30 Mind-Blowing Facts About Millennials, bestlifeonline.com, Emerald-Catron, April 2018
What Research Tells us about Millennials

• Millennials are not the first generation to be criticized
  • People have been complaining that their “younger generations” are “lazy, self-obsessed, know-it-alls” for many generations
• Millennials change jobs up to 20 times in their careers – significantly higher than any other generation
  • 66% will look to transfer internally first
• Millennial turnover costs the U.S. economy an estimated $30.5 billion annually.
• 78% use LinkedIn for job hunting
• 58% use networking (friends, family & recruiters)
• Prioritize family over work-related agendas

Source: Millennials vs. Gen-X in the workplace: differences and similarities, Survey Monkey, 2019

Attracting Millennials in your Workplace

• Making them comfortable at work:
  • Organize social clubs
  • Host drinks or barbecues
  • Surprise snacks
  • Casual dress code
  • Grant autonomy
  • Offer flexible hours
  • Provide breaks during the day
  • Allow for telecommuting

• Keeping them engaged:
  • Keep them in the loop
  • Ask for their unique input
  • Involve them in decision-making process
  • Provide feedback
  • Create regular training programs
  • Assure them that there is room for growth
  • Be transparent

Source: The 19 Secrets to Attracting Millennials to Your Workplace, Team Localwise
Attracting Millennials in your Workplace

• Have a meaningful vision:
  • Create a guiding mission statement
  • Practice sustainability
  • Showcase workplace diversity

Source: The 19 Secrets to Attracting Millennials to Your Workplace, Team Localwise

What Research Tells us about Gen X

• Currently generate ~31% of U.S. income
• Found 55% of today’s startups
• Outspend all other generations
• Research shows positive Gen X / Millennial relationships in the workplace decreases employee turnover by 50%, and increases productivity by 11%
• Gen X’ers love social media – 81% have Facebook accounts
• An independent, resourceful, and self-sufficient group - they value freedom and responsibility

Source: 13 Stunning Stats on Gen X: The Forgotten yet Powerful Generation, Kelvin Claveria, April 2019
Attracting Gen-X in your Workplace

- Occupy the majority of business leadership roles
- Prefer traditional learning methods – workshops, training courses and seminars
- Just as likely to be comfortable leveraging technology in the workplace (54% vs 56% with millennials)
- Most “connected” generation
  - Social media time averages 40 minute per week MORE than Millennials
  - More likely to stay on their phones during personal time
- Work to live

Source: Generation X – not millennials – is changing the nature of work, Stephanie Neal & Richard Wellins, April 2018

Attracting Gen-X in your Workplace

- Gen-X are 25% more eager to know in advance what’s expected before tackling a work problem
- Mastery of conventional leadership skills
  - Developing new talent & executing business strategies
- Effective at “hyper-collaboration”
- More likely to be overlooked for promotion / slowest to advance
- More likely to “take on heavier workloads”
- Workplace loyalty – only 37% contemplate leaving for advancement
- Crave leadership guidance and coaching (67% / 57%)
- Thrive at the opportunity to experiment with new approaches/innovation

Source: Generation X – not millennials – is changing the nature of work, Stephanie Neal & Richard Wellins, April 2018
Gen X As Leaders?

How have Generational Preferences Impacted Recruiting Today?

- Evolving candidate motivations
- Understanding of the “stakeholder”
- Different modes of communication
- Managing the expectation gap
- Balancing social media feedback / branding
- Benefits more of a priority
- Location, location, location
- Broader base of tools / networking sites
- Managing candidate burnout
- Importance of look & feel
- Speed to market
- “Relationships” are even more critical
Taylor White Survey - Criteria & Structure

• 377 survey participants
  • Baby Boomer (1946 – 1964) – 22%
  • Gen X (1965 – 1979) – 40%
  • Millennials (1980 – 1994) – 37%
  • Gen Z (1995 – 2012) – 1%
• Generally comprised of Accounting & Finance talent
• Generally comprised of talent in the Tampa Bay market

Focus of the Survey

• What attracts you to a new Company?
• What attracts you to a new Role?
• What KEEPS you with your existing position?
  • Job satisfaction/commitment
• What has been impactful to you during recruiting/onboarding/retention?
• How likely are you to consider a new position in 3-6 months?
• Perception of the “average” Millennial worker?
• Perception of the “average” Gen X worker?
• Perceived strengths/weaknesses of Millennial vs. Gen X
What Attracts You to a Company –
The Millennial Perspective

Highest Ranking Responses
1. Flexible / Innovative Work Arrangements
2. Benefits
3. Perceived Stability (Financial or Otherwise)
4. Word of Mouth Feedback
5. Location of Offices

Lowest Ranking Responses
5. Corporate Philanthropic / Community Involvement / Corporate Social Responsibility
4. Industry in which the Company Operates
3. Company Size
2. Ownership Structure
1. Recent Press Releases / News

What Attracts You to a Company –
The Gen X Perspective

Highest Ranking Responses
1. Perceived Stability (Financial or Otherwise)
2. Benefits
3. Location of Offices
4. Word of Mouth Feedback
5. Flexible / Innovative Work Arrangements

Lowest Ranking Responses
5. Industry in which the Company Operates
4. Company Rankings / Employee Commentary on Glassdoor or Other Sites
3. Company Size
2. Corporate Philanthropic / Community Involvement / Corporate Social Responsibility
1. Recent Press Releases / News
### What Attracts You to a Company?

**TOP**

<table>
<thead>
<tr>
<th></th>
<th>Overall</th>
<th>Millennial</th>
<th>Gen X</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Perceived Stability</td>
<td>Flexible/innovative work arrangements</td>
<td>Perceived Stability</td>
</tr>
<tr>
<td>2</td>
<td>Benefits</td>
<td>Benefits</td>
<td>Benefits</td>
</tr>
<tr>
<td>3</td>
<td>Flexible/innovative work arrangements</td>
<td>Perceived Stability</td>
<td>Location</td>
</tr>
<tr>
<td>4</td>
<td>Location</td>
<td>Word of mouth</td>
<td>Word of mouth</td>
</tr>
<tr>
<td>5</td>
<td>Word of mouth</td>
<td>Location</td>
<td>Flexible/innovative work arrangements</td>
</tr>
</tbody>
</table>

**BOTTOM**

<table>
<thead>
<tr>
<th></th>
<th>Industry</th>
<th>Corporate Philanthropic</th>
<th>Industry</th>
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<tbody>
<tr>
<td>4</td>
<td>Ownership</td>
<td>Industry</td>
<td>Company Rankings</td>
</tr>
<tr>
<td>3</td>
<td>Size</td>
<td>Size</td>
<td>Size</td>
</tr>
<tr>
<td>2</td>
<td>Corporate Philanthropic</td>
<td>Ownership</td>
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</tr>
<tr>
<td>1</td>
<td>Press Releases</td>
<td>Press Releases</td>
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</tr>
</tbody>
</table>

### What Attracts You to a Company? Other Insights

- **Employee friendly / positive culture**
- **Longevity / quality of management team**
- **Cultural diversity**
- **Ethical corporate reputation**
- **Company longevity**
- **Employee turnover trends**
- **Stock price / growth trends**
- **Clearly communicated vision**
- **Track record of internal promotions**
- **Local HQ**
- **Multi-national or local**
- **Organizational structure**
- **Treatment of veterans / senior workers**
- **Commitment to professional development**
- **Travel requirements**
- **Onsite childcare/support**
- **Office condition / amenities**
What Attracts You to a Role/Dept?
The Millennial Perspective

Highest Ranking Responses
1. Work Life Expectations
2. Opportunity for Promotion / Growth
3. Compensation
4. Opportunity to Add Value
5. Nature of Job Responsibilities

Lowest Ranking Responses
5. Work from Home Options
4. Collaborative Team Culture
3. Fun / Dynamic Team Environment
2. Title
1. Size of Department / Team

What Attracts You to a Role/Dept?
The Gen X Perspective

Highest Ranking Responses
1. Comp
2. Work Life Expectations
3. Nature of Job Responsibilities
4. Opportunity to Add Value / Make a Difference
5. Opportunity for Promotion / Growth

Lowest Ranking Responses
5. Collaborative Team Culture
4. Work from Home Options
3. Fun / Dynamic Team Environment
2. Title
1. Size of Department/Team
What Attracts You to a Role/Department?

<table>
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<td></td>
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</tr>
<tr>
<td>1</td>
<td>Work Life Expectations</td>
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<td>Compensation</td>
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<tr>
<td>2</td>
<td>Compensation</td>
<td>Opportunity for promotion / growth</td>
<td>Work Life Expectations</td>
</tr>
<tr>
<td>3</td>
<td>Nature of Job responsibilities</td>
<td>Compensation</td>
<td>Nature of Job responsibilities</td>
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<tr>
<td>4</td>
<td>Opportunity to add value</td>
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<tr>
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<td>Opportunity for promotion / growth</td>
<td>Nature of Job responsibilities</td>
<td>Opportunity for promotion / growth</td>
</tr>
<tr>
<td>BOTTOM</td>
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</tr>
<tr>
<td>5</td>
<td>Collaborative team culture</td>
<td>Work from home options</td>
<td>Collaborative team culture</td>
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<td>4</td>
<td>Work from home options</td>
<td>Collaborative team culture</td>
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<tr>
<td>3</td>
<td>Fun/dynamic team environment</td>
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</tr>
<tr>
<td>2</td>
<td>Title</td>
<td>Title</td>
<td>Title</td>
</tr>
<tr>
<td>1</td>
<td>Size of Department/Team</td>
<td>Size of Department/Team</td>
<td>Size of Department/Team</td>
</tr>
</tbody>
</table>

What Attracts You to a Role/Department?

Other Insights

- **Work environment**
- **Quality of team**
- **Management style**
- Visibility within organization
- Importance of department within company
- Equity participation
- Dignity & respect
- Autonomy
- Supervisory opportunities
- Internal equity
- Treated as if you are valued
- Dress code
- Expected work load
- Challenge
- Understanding of what it takes to succeed
- Ability to relocate within company, locally or otherwise
What Keeps You with a Company?
The Millennial Perspective

Highest Ranking Responses
1. Supervisor that Listens and Respects Me
2. Flexibility with Schedules and Work Requirements
3. Potential for Compensation Increases
4. Responsibilities Allow me to Make an Impact
5. Perceived Compensation Relative to Market

Lowest Ranking Responses
5. Opportunity to Collaborate with Others in my Department and Within the Company
4. Support of Professional Development (CPE, etc.)
3. Commitment to Innovation and Technology
2. Employee Turnover
1. Fun Culture and Socialization

What Keeps You with a Company?
The Gen X Perspective

Highest Ranking Responses
1. Supervisor that Listens and Respects Me
2. Responsibilities Allow Me to Make an Impact
3. Potential for Compensation Increases
4. Flexibility with Schedules and Work Requirements
5. Perceived Compensation Relative to Market

Lowest Ranking Responses
5. Near Term Promotion Opportunities
4. Support of Professional Development (CPE, etc.)
3. Commitment to Innovation and Technology
2. Frequent, Honest Feedback Sessions
1. Fun Culture and Socialization
### What Keeps You with a Company?

<table>
<thead>
<tr>
<th></th>
<th>Overall</th>
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<tr>
<td>TOP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Supervisor that listens</td>
<td>Supervisor that listens</td>
<td>Supervisor that listens</td>
</tr>
<tr>
<td>2</td>
<td>Flexibility with schedules</td>
<td>Flexibility with schedules</td>
<td>Potential to make an impact</td>
</tr>
<tr>
<td>3</td>
<td>Potential to make an impact</td>
<td>Potential for comp increase</td>
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<td>Comp relative to market</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Near term promotion</td>
<td>Opportunities to collaborate</td>
<td>Near term promotion opportunities</td>
</tr>
<tr>
<td>4</td>
<td>Support of prof development</td>
<td>Support of prof development</td>
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</tr>
<tr>
<td>3</td>
<td>Innovation &amp; technology</td>
<td>Innovation &amp; technology</td>
<td>Innovation &amp; technology</td>
</tr>
<tr>
<td>2</td>
<td>Employee turnover</td>
<td>Employee turnover</td>
<td>Frequent feedback</td>
</tr>
<tr>
<td>1</td>
<td>Fun culture/socialization</td>
<td>Fun culture/socialization</td>
<td>Fun culture/socialization</td>
</tr>
</tbody>
</table>

### Other Insights

- **Quality of supervisors, their interest in me & trustworthiness**
- **Culture**
- **Understanding of / alignment with strategic vision**
- **Peers / quality of talent**
- **Follow through on promises**
- **Tie between expectations and results**
- **Interest in the job**
- **Consistency / improvement with benefits**
- **Feeling valued**
- **On the job perks**
- **Commitment to innovation**
- **Realistic expectations**
- **Autonomy & independence**
- **Defined career path**
Experiences Impacting Employee Satisfaction and Retention

**INTERVIEW / OFFER PROCESS**
- Meeting colleagues / other depts prior to start
- Lunch / dinner as part of interview
- Interview involved DR / peers / supervisors
- Interview process all remote
- Described company structure / vision during interview
- Conversational interview vs. formal tests / behavioral
- Willing to negotiate on PTO
- Signing bonus
- Company “swag bag”
- Given time to make decision on initial offer
- Stayed in touch after offer turn down
- Recruiter preparation / advice

**ONBOARDING**
- Made spouse part of onboarding
- Guided intro to team on 1st day
- Check-in after starting
- Increased pay after 60-90 days

**ONGOING**
- Cross departmental consideration for promotion
- Market comp adjustment due to role change
- Commitment to technology
- Recognition given for performance
- Honesty / frequent communication

**CHALLENGES**
- System generated rejection notice
- Put through irrelevant training
- Promises made during offer, not fulfilled
- Interviewing supervisor left before start
- Made to feel child care responsibilities were an “ask”
- Only gave raise as counter to competing offer
Sticking Power

What is the likelihood of you making a career move in the next 3-6 months?

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<tbody>
<tr>
<td>Most Likely / Likely</td>
<td>34%</td>
<td>27%</td>
<td>35%</td>
</tr>
<tr>
<td>Undecided</td>
<td>20%</td>
<td>19%</td>
<td>22%</td>
</tr>
<tr>
<td>Most Unlikely / Likely</td>
<td>46%</td>
<td>54%</td>
<td>43%</td>
</tr>
</tbody>
</table>

So What Exactly are our Perceptions of One Another?

Top Five Strengths

Top Five Development Needs

Millennials Vs. Gen X
### Perception of the “Average” Worker - Millennial

<table>
<thead>
<tr>
<th>Top Five Responses</th>
<th>By Fellow Millennials</th>
<th>By Gen X &amp; Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Tech Savvy</td>
<td>Tech Savvy</td>
</tr>
<tr>
<td>2</td>
<td>Achievement-Oriented</td>
<td>Entitled</td>
</tr>
<tr>
<td>3</td>
<td>Ambitious</td>
<td>Confident</td>
</tr>
<tr>
<td>4</td>
<td>Confident</td>
<td>Innovative</td>
</tr>
<tr>
<td>5</td>
<td>Team Oriented</td>
<td>Impatient</td>
</tr>
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<table>
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<th>Bottom Five Responses</th>
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<tr>
<td>5</td>
<td>Accepting of Guidance/Feedback</td>
<td>Aggressive</td>
</tr>
<tr>
<td>4</td>
<td>Attention Seeking</td>
<td>Hard working</td>
</tr>
<tr>
<td>3</td>
<td>Entitled</td>
<td>Accepting of Guidance/Feedback</td>
</tr>
<tr>
<td>2</td>
<td>Aggressive</td>
<td>Respectful/Accepting of Authority</td>
</tr>
<tr>
<td>1</td>
<td>Committed/Loyal</td>
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</tr>
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### Perception of the “Average” Worker - Gen X

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<tr>
<td>1</td>
<td>Hard Working</td>
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<td>2</td>
<td>Respectful/Accepting of Authority</td>
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<td>5</td>
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</tr>
<tr>
<td>4</td>
<td>Socially Responsible</td>
<td>Innovative</td>
</tr>
<tr>
<td>3</td>
<td>Impatient</td>
<td>Entitled</td>
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<tr>
<td>2</td>
<td>Attention Seeking</td>
<td>Attention Seeking</td>
</tr>
<tr>
<td>1</td>
<td>Entitled</td>
<td>Tech Savvy</td>
</tr>
</tbody>
</table>
So...What Does all this Tell Us?

• Assumptions regarding our differing perceptions and motivations may be somewhat exaggerated...although there is a need for more cross-generational understanding
• More and more...recruiting talent is about providing the “candidate experience”
• To remain competitive, we MUST evolve recruiting/onboarding/retention strategies
• Don’t forget....Gen Z is coming!
“Every artist was first an amateur.”

Ralph Waldo Emerson
Intrapreneurship vs. Entrepreneurship

**Intrapreneur** noun
ina·tra·pre·neur
a corporate executive who develops new enterprises within the corporation

**Entrepreneur** noun
en·tre·pre·neur
one who organizes, manages, and assumes the risks of a business or enterprise

Innovating to develop ideas that create real value to your customers & convincing leaders to give you resources to bring ideas to life

PwC: Our Innovation Story
You have to systematically create confusion; it sets *creativity free*. Everything that is contradictory creates life.”

Salvador Dali

**The Creativity Gap**

Only 1 in 4 people believe they are living up to their *creative* potential

75% Of respondents said they are under pressure to be *productive* rather than creative at work

Source: Adobe Global Creative Gap Survey, 2017
Top 10 Skills

In 2015
1. Complex Problem Solving
2. Coordinating with Others
3. People Management
4. Critical Thinking
5. Negotiation
6. Quality Control
7. Service Orientation
8. Judgement & Decision Making
9. Active Listening
10. Creativity

In 2020
1. Complex Problem Solving
2. Critical Thinking
3. Creativity
4. People Management
5. Coordinating with Others
6. Emotional Intelligence
7. Judgement & Decision Making
8. Service Orientation
9. Negotiation
10. Cognitive Flexibility

Source: Future Jobs Report, World Economic Forum

Bringing Creativity & Innovation to Life

Research gives us insight into what matters most.

Ideation helps us visualize a place to start.

Prototyping tests our ideas in front of customers fast.

Implementation brings our best ideas into reality.

Shifting from knowing to learning.
Now, let’s try it!

Pain Points & Research

“How Might We...

Improve the efficiency of the TSA security process for travelers?”
Now, let’s try it!

Ideation

- Brainwriting
- Sketching
- Sorting

What We’ve Learned

Leadership at all Levels
Empower your teams to generate ideas and make decisions from a place of ownership.

Be bold! Don’t wait to be asked.

Innovation Across Silos
Reach across the aisle to solve problems from the user’s perspective, regardless of team ownership.

Continuous improvement & automation.

Bring Business Strategy to Life
Develop & communicate a clear business-led strategy that your teams can rally behind.

Business-led & citizen-led innovation.
Key Takeaways

1. Leadership at all Levels
2. You don’t have to be an expert
3. Talk to your customers
4. Anyone can cultivate creativity

Thank you
Ideation breakout: How to generate ideas

**From Ideation to Prototyping**

1. Start with a **problem** (consider a pain points exercise to determine what’s most challenging to the team)
2. Turn your problem into a **research question** to further understand and define your **key insight**
3. Turn your key insight into a **“How Might We” question**
4. **Diverge**: Leverage brainwriting to generate many ideas (brainwriting 101, 6-3-5 technique, 10x10)
5. **Sketch** your ideas
6. **Converge**: Narrow down to the best ideas
   - Benny Hill Sorting or other voting methods
   - Idea Portfolio
7. Begin **prototyping** your best ideas to test with customers!
Intrapreneurship Insights: Unlocking the Power of Ideation

A “How To” Guide from Ideation to Prototyping

1. Start with a **problem** (consider a pain points exercise to determine what’s most challenging to the team)

2. Turn your problem into a **research question** to further understand and define your **key insight**

3. Turn your key insight into a **“How Might We” question**

4. **Diverge:** Leverage brainwriting to generate many ideas (brainwriting 101, 6-3-5 technique, 10x10)

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**Group Exercise 1: Brainwriting with “3-2-1”**

*Leveraging the template below, generate ideas on our “how might we” question of “How might we improve the efficiency of the TSA security process for travelers?”*

*Round 1: On the first row, generate three ideas in one minute; pass your paper.*
*Round 2: Review ideas from round 1, and on the second row, generate three new or improved ideas in one minute.*

<table>
<thead>
<tr>
<th>Round</th>
<th>Idea 1</th>
<th>Idea 2</th>
<th>Idea 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Round 1</td>
<td></td>
<td></td>
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<tr>
<td>Round 2</td>
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</tr>
</tbody>
</table>
Group Exercise 2: Sketching

Select your favorite idea from exercise 1. Sketch the idea using the space below. Add a tagline or headline to your idea to explain it.
Blockchain and Cryptocurrency: Regulatory and Tax Update

USF Accounting Circle CPE Conference
May 2019
Samuel Armes and Peter Temko

Peter Temko’s Background

Education: BS Accounting USF - St. Petersburg, MBA Georgia Southern University, Statesboro GA

Experience: ERP consultant, Oracle Corporation - Financial Applications Functional Consultant
Controller & CFO, Small, private, distribution and manufacturing companies
CPA firm for CFO, accounting, and tax services
Demystifying Taxes for Cryptocurrency

Most of the tax implications of cryptocurrency is covered by existing tax law. But there are some new characteristics of Cryptocurrency that have not been dealt with in existing tax law.

Understanding the tax implications can make it easier for businesses to formulate a strategy for incorporating cryptocurrency into their overall business strategy to expand their sales and market penetration.

Cryptocurrency Taxes

The current tax environment starts with IRS Notice 2014-21

- Cryptocurrency = Property and follows all of the current tax rules that apply to property.
- That means no foreign currency gain or loss of any kind.
- Depending on circumstances, self-employment tax and the distribution of 1099s of various types may be required.
More things to think about beyond the 2014-21 notice

FBAR (Report of Foreign Bank and Financial Accounts) applies. Requires reporting of accounts totaling $10,000 or more that are held outside of the United States. Cryptocurrency not specifically specified, but centralized foreign cryptocurrency exchanges act just like traditional foreign exchanges that fall under this reporting rule.

FATCA (Foreign Account Tax Compliance Act) applies too. For single filers, requires reporting of accounts totaling $50,000 or more.

While foreign based exchanges where you have an “Account” clearly fall under these guidelines, what is not so clear -

Decentralized exchanges? Probably not, Grey Area! No successful ones with enough liquidity …… yet

Even centralized exchanges can be difficult to figure out where they are located and can be difficult to report.

Events that are not taxable

- Purchase of Cryptocurrency
- Receipt of gifts
- Transfers that remain in your possession

As can be expected, this is a very short list
Taxable Events

- Receiving for Sales, just like receiving any payment = taxable income.
- Holding for any length of time and/or using for retail purchases. Depending on length of time it was held, short or long-term gain.
- Trade/swap for another cryptocurrency. Again, depending on length of time it was held, short or long-term gain.
- Gifts Given – will depend on where you are in your lifetime giving limit
- Air drops - Income
- Atomic swaps - Short or Long term gain, but tracking could be difficult.

More Taxable Events

- Hard Forks
- Mining/Masternodes
- Individual receiving for services - earned income
- Individual received as pay from employer, W-2 income with all typical payroll taxes paid
Businesses Accepting Cryptocurrency

If converted directly to Fiat, no additional tax exposure. Holding exposes business to short/long term capital gains, just like holding stocks.

POS systems that allow “other” payment options, like Clover can be set up to accept cryptocurrencies.

For business that invoice customers, they have several options. They can setup wallets, use services like bitpay, and some systems, like quickbooks have incorporate the acceptance of payments directly.

Businesses Accepting Cryptocurrency

Accepting cryptocurrency also requires putting policies and procedures in place to determine how they will be accepted, stored, and converted.

Holding cryptocurrencies requires a good understanding of the risks in storing in exchanges, hot wallets and cold storage.

Where cryptocurrencies are stored after conversion to fiat (USD) is also another risk that should be addressed.
Pros and Cons

Pros of accepting Cryptocurrency

- Potential for being seen as forward thinking and gaining additional sales
- Potential reduction of processing fees
- No charge-backs
- Payment settle in seconds to hours instead of days
- Gain experience to develop best practices before your competition does.

Pros and Cons

Cons of accepting cryptocurrency

- Potentially seen as being associated with the negative press of cryptocurrency
- One more payment layer to have to account for
- If keeping cryptocurrency, managing risk/reward/hedging strategy
- No standard tax forms generated (like from a retail brokerage account), you have to calculate tax liability from all transactions, or hire someone to do that for you. Some exchanges have a 1099-k you can generate, but always note that if you deposit/withdraw/spend/receive any coins from outside the exchange, the 1099 may not reflect the correct tax treatment.
Questions

email: peter@temkofinancial.com
LinkedIn: Peter Temko

Samuel Armes’ Background

Education: BS Economics & BS Finance USF
Experience: United States Special Operations Command - J36
United States Department of State
Florida Legislature
Lobbying Firm
Founded the Florida Blockchain Business Association
Blockchain and Crypto Regulation

Does the industry need regulation and guidance?

Can you regulate a technology? I.e. Tokens

Regulation on the fringes? MTL and MSB’s

Who’s Taking the lead, States, Federal Agencies, or Congress?

Environment in Florida?

Federal Agency Divergence

The Commodity Futures Trading Commission (CFTC) views cryptocurrencies as a commodity

The Securities and Exchange Commission (SEC) insists they are securities

The Internal Revenue Service (IRS) treats digital money as property.

The Financial Crimes Enforcement Network (FINCEN) says bitcoin is money used for money transmission.
Congressional Inaction

HR 2144: Token Taxonomy Act (Davidson, Warren (R-OH-8)

To amend the Securities Act of 1933 and the Securities Exchange Act of 1934 to exclude digital tokens from the definition of a security, to direct the Securities and Exchange Commission to enact certain regulatory changes regarding digital units secured through public key cryptography, to adjust taxation of virtual currencies held in individual retirement accounts, to create a tax exemption for exchanges of one virtual currency for another, to create a de minimis exemption from taxation for gains realized from the sale or exchange of virtual currency for other than cash, and for other purposes.

State Initiatives

New York:

- Receiving virtual currency for Transmission or Transmitting virtual Currency, except where the transaction is undertaken for non-financial purposes and does not involve the transfer of more than a nominal amount of virtual currency;
- Storing, holding, or maintaining custody or control of virtual currency on behalf of others;
- Buying and selling virtual currency as a customer business;
- Performing Exchange Services as a customer business, or;
- Controlling, administering, or issuing a virtual currency
State Initiatives Cont.

Wyoming:

- Created a fintech sandbox to provide regulatory relief to financial innovators from existing laws for up to 3 years.
- Authorizes a new type of state-chartered depository institution to provide basic banking services to blockchain and other businesses.
- Authorizes the first true “qualified custodian” for digital assets which is a bank.
- Recognizes direct property rights for individual owners of digital assets of all types (virtual currencies, digital securities and utility tokens)

Florida Focus

Money Transmission and the Espinoza Case

Paying Taxes in Bitcoin: Seminole County Tax Collector

Blockchain Identity

Stable Coin possibilities?

Tax Certificates?
Florida Focus

In 2013, Espinoza, username Michelhack, was selling his bitcoin on localbitcoins.com for cash.

Espinoza’s argument for Count 1—the unregistered money transmission and/or payment instrument seller --- Count 2 & 3 for Money Laundering

On Count 1, the trial court found that neither Bitcoin, nor Espinoza’s conduct required him to register with the State as a money services business.

The State of Florida appealed and lost, Judge Pooler said, “This court is unwilling to punish a man for selling his property to another,”

Florida Focus

Florida’s Third District Court of Appeal ruled in favor of the State of Florida

“The State of Florida appeals the trial court’s order granting Michell Espinoza’s motion to dismiss the information charging him with three counts”

“Bitcoin is money or a money instrument”

Florida passed Senate Bill 1024 creating a blockchain committee
Resources - Taxes


Bitpay - https://bitpay.com Make sure to look at fees charged.

Alternative to payment processor is to have your own wallet, like edge http://edge.app but then you also need a good policy on if/when you will convert to fiat and have an exchange you can do that at!

Resources- Taxes

US based Exchanges Coinbase Pro, Kraken, Gemini

https://pro.coinbase.com

https://www.kraken.com/en-us

https://gemini.com

Exchanges above do have the ability to setup business accounts
Resources - Regulation


http://www.3dca.flcourts.org/Opinions/3D16-1860.pdf

https://medium.com/@sashahodler/florida-money-transmission-after-the-espinoza-case-98fa706b0805

https://coincenter.org/page/federal-cryptocurrency-regulation-tracker


Questions?
Blockchain and Cryptocurrency Accounting and Audit Update

Prepared for USF Accounting Circle
May, 2019 – University of South Florida
By: Kara R. Haas, CPA, CFE, CITP

Background

- 2004-2011 - niche firm of SaaS and retail point-of-sale
- 2008 - current - Accounting and IT consultant for NASA Exchange, Kennedy Space Center
- 2018 - accounting and advisory blockchain and cryptocurrency
- 2019 - Research Analyst
  - Focus areas: stablecoins, Asia-Pacific market, gaming, publicly traded crypto companies
Goals for today

• Assessing risk
  • Cryptocurrency and Blockchain
  • Money Laundering

• Importance of existing standards, guidelines, and laws

• Apply professional skepticism in an emerging market

• Evaluate a project or opportunity to determine level of involvement

• Resources and references to access in absence of guidance

bitcoin not Blockchain
The Death of Thinking

“Law, contract, and economic rationality provide a necessary but not sufficient basis for both the stability and prosperity of postindustrial societies: they must as well be leavened with reciprocity, moral obligation, duty toward community, and trust, which are based in habit rather than rational calculation. The latter are not anachronisms in a modern society but rather the sine qua non of the latter’s success.”

Francis Fukuyama

Ignorant or Complicit

• “It is likely that the financial acumen of the accounting profession, and the ease with which accountants can identify suspicious financial activities, limit their vulnerability to being unwittingly exploited to facilitate the concealment of beneficial ownership.”

• “It also suggests that criminals and complicit professionals may be unwilling to involve an accounting professional unless their complicity can be assured in advance.”

FATF – Egmont Group Report, Concealment of Beneficial Ownership, July 2018
Fyre Festival Syndrome

- Late Adopters
- Social Media
- Technology replacing routine tasks
- Regulation
- Enterprise use cases
- Startup clients

Cryptocurrency Ecosystem and Risk

- Stablecoins
- Exchanges, ATMs
- Related Parties, Governance
- Unlicensed Activity
- Access to Capital
- Token Economics
- Revenue Models
- Users of Financial Statements
- Organization
- Accepting cryptocurrency
- Firm
- Stakeholders
- Profession
Standards vs. Guidance

- Accounting standards
  - Accounting for bonds, discounts, derivatives, intangible assets
- Auditing standards
  - assess the environment, internal controls, the entities operations and governance, possibility of illegal acts
- Attestation standards – Agreed-Upon Procedures
- Nonauthoritative and technical guidance
  - COSO Integrative Framework, FATF

Understanding Money Laundering

- Placement – the introduction of illicit funds into the system
- Layering – efforts to conceal
- Integrate – convert funds to appear to be legitimate transactions

- AML efforts – US
- AML efforts – International
- Jurisdictions with limited AML efforts
### Evolving global and technological landscape

- Placement – jurisdictional separation
- Typical cash-intensive businesses – casino, nail salon, restaurant, club
  - Centralized exchanges, unlicensed money service businesses
  - Smurfing to structure
- Layering – confusing the audit trail
  - Shell bank accounts, multiple transfers, tangible assets and resale
  - Shell companies
- Integrate – stores of value, preferably liquid and bearer instruments

### Beneficial Ownership

- Shelf company - dormant
- Shell company – entity without significant or substantive assets and activities
- Front company – disguises illicit activity
- Probing the risk
  - Reluctance – information, sources, third parties
  - Jurisdiction and communication of connected persons
  - Use of intermediaries
Risks coming to a start-up near you

- Historical vs. Current start-up environment
- Traits and indicators
  - Substance and purpose of transactions
  - Frequent buy/sell of investments
  - Multiple bank accounts
  - Unconcerned with losses and fees
  - Team assessment - experience and specialized skills
- Source of capital
- Concentration of revenue or expenses
- Governance structure: entities, owners, directors

BSA AML KYC

- Bank Secrecy Act (1970) – Treasury Department
  - >$10,000 recordkeeping requirement
  - Currency Transaction Report (CTR)/Suspicious Activity Reports (SAR)
  - Financial Crimes Enforcement Network (FinCEN) (1990)
- The PATRIOT Act (Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act)
  - Intent and importance behind these laws and regulations
  - 2/3 of crypto money laundering occurs in deposits and trading*
Stablecoins

- Minted, backed by fiat or an asset
- Fiat backed stablecoins - peg 1 token : 1 USD (EUR, CAD, KRW)
- Attestations
  - Demand
  - Discounts and Giveaways
  - Related Parties
  - Reporting and Disclosures
- Custody - lending

Trading and Redeeming

- Wash trading
  - Creating fictitious demand and opportunity for arbitrage
- Mirror trading
  - Transactions with seemingly no economic substance or benefit
- Trans-fee Mining and Reverse Mining
- Related parties
  - Exchanges with native tokens
- Acceptance/Redemption
  - Foreign governments, projects, exchanges
Accounting
- Legal versus accounting treatment
  - Debt vs. equity
- Customer funds
- Multiple blockchains
- Multiple tokens - shared governance
- Token supply models
  - Monetary and Fiscal Policies
  - Restrictions and Abuse

Acceptance Policies
- Firms - Independence
- Considering the source
  - “Get paid in bitcoin or not at all”
  - Fiat Off-ramp exchanges - KYC will decline accounts with ties to gambling
  - Likely outlets - OTC, big-ticket items, charities with purpose
- Risks to non-profits and charities
  - Donor frauds - overpayment, preferred vendor, specific services
  - Portfolio management
  - Liquidity
  - Weak KYC discovered at point of liquidation
Access to Capital

- Startup environment 0–60 in 60
- Initial Coin Offerings (ICO), Initial Coin Distributions (ICD)
- Initial Exchange Offerings (IEO), Security Token Offerings (STO)
- Consumer Tokens, Non-Fungible Tokens
- Dual token sales
- Reverse Mergers
- M&A on the blockchain

Assessing Risk – Look Up and Out

- Trust and Company Service Providers (TCSP)
  - Ownership
  - ATM client
    - Convenience Store
    - Retail Shop
    - Strip Mall
On Chain Considerations

• Chain Analytic Companies
• Custody and storage
• Wallet Structures and Hacks
• Anonymizers – Coinjoin
• Cryptodusting

Preparing for the future by contributing today

• Identify core strength
• How technology enhances
• Your contribution to the technology
• Artificial Intelligence
  • Privacy
  • Ethics
  • Teaching the bots
  • Assessing the weaknesses
Resources – AML and Money Services

- Federal Financial Institutions Examination Council (FFIEC) https://www.ffiec.gov/
- Florida MSB – Statute 560 http://www.leg.state.fl.us/Statutes/
- Open Corporates / Open Ownership

Resources – Accounting

- Armanino LLP – Cryptocurrency Guides
- Big 4 – Cryptocurrency and Blockchain Sections
- PwC – Plan B
- AICPA – Blockchain Technology and Its Potential Impact on the Audit and Assurance Profession
- SEC – Comment Letters and Remarks September 2018
To Blockchain or Not Blockchain

Questions

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