



**The Evolving Role of  
Audit Committee and Auditor  
in the Digital Age**



# ***Technology **Disruption*****



### P2P – lending

Peer-to-peer lending (crowd bonds) companies match lenders directly with borrowers through online services.



### Big Data Credit rating

The bank offer loans to individuals based on their creditworthiness analyzed with online data. The credit rating changes in real time.



### Cryptocurrencies

A cryptocurrency is a digital or virtual currency that uses cryptography for security.



### Crowdfunding

A financing method that involves funding a project with relatively modest contributions from a large group of individuals, rather than seeking substantial sums from a small number of investors.



### P2P – transactions

Person-to-person payments (P2P) is an online technology that allows customers to transfer funds from their bank account or credit card to another individual's account via the Internet or a mobile phone.



### Robo-advisors

Human intervention is being replaced by robots especially in the wealth management.

*Bill Gates*

**BANKING IS  
NECESSARY.**

**BANKS ARE  
NOT.**



## NON-TECH INCUMBENTS WANT TO BE TECH COMPANIES



Goldman  
Sachs

**“We are a technology company.”**

**Lloyd Blankfein**

CEO, Goldman Sachs

← Previous Submission

## Goldman Sachs – A Technology Company?

Next Submission →



Written by [Brittany W](#), Posted on [April 26, 2018](#)



In early 2017, Lloyd Blankfein (Goldman Sachs CEO) stated “We are a technology firm. We are a platform.” Goldman Sachs still has a long way to go, but is taking steps in the right direction to effectively employ digital technologies. What does this mean for the future of the traditional investment banking industry? Is human capital still a bank’s greatest asset?

## MANAGING THE ENVIRONMENT CHANGES

**Disruptive technology**  
Cloud, Blockchain, Big data, AI

**Changing  
business models**  
Rise of FinTechs/non-banks

**Increasing regulations**  
KYC, AML, FATCA etc.

**Cybersecurity attacks**  
GDPR/Data Privacy

## MEETING THE CUSTOMER'S EXPECTATIONS

**Changing demography/  
preferences**  
Millennials / GenZ

**Increasingly  
sophisticated customer**

**Demand for  
Self-service banking**

**Concerns  
about Security**





# Traditional Banking



# Digital Banking

Location of transaction

Bank Branch

Anywhere

Mode of transaction

Branch network

Customer **chooses** how

Nature of Products

Mass Products

Tailor-made





***Audit Committee in the Age of Disruption***

# **Audit Committee** in the Age of Disruption



## **Rethinking risk oversight**

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- Is there clarity on top five strategic and operational risks facing the company?
- Is risk oversight properly communicated among the board's various committees?



## **Oversight of Corporate Risk Culture**

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Corporate risk culture must be top of mind for corporate boards, and also for audit committees given their focus on ethics and compliance and the hotline process.



## **Talent**

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- Audit committees must continue to help ensure that technology is being leveraged properly and in a way that complements and amplifies the strengths of their human auditors.
- Does the company have sufficient internal audit resources?



## **Cybersecurity**

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The audit committee can help assess the policies and procedures that management has in place to help prevent corporate espionage and safeguard the ability of the business to continue uninterrupted.





***Internal Audit in the Age of Disruption***

# What we need to **change**



**Manual / Sampling**

Population



**100% Data Audit**

Population



**Silo working**

3rd Line

2nd Line

1st Line



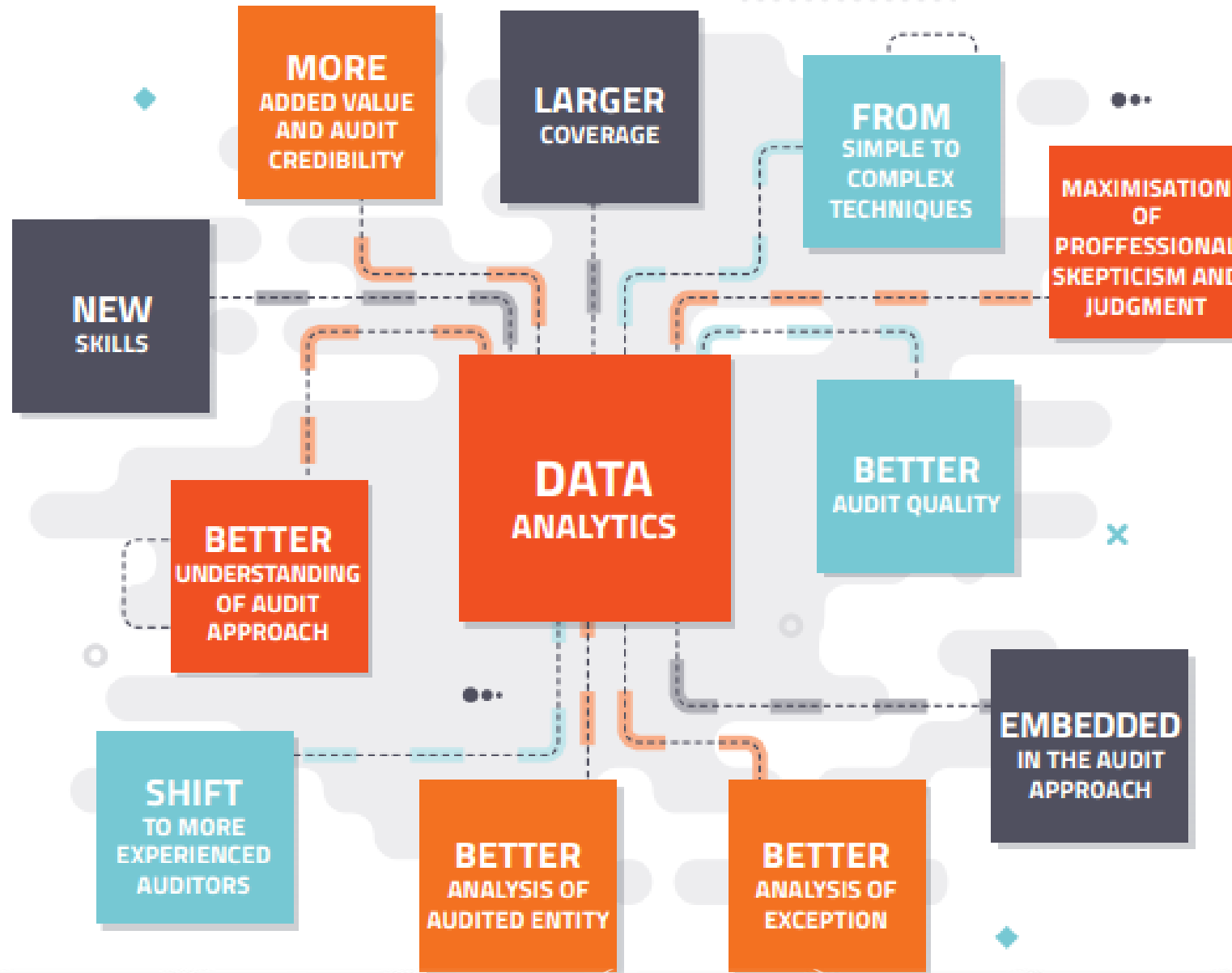
**Collaboration with 1st and 2nd lines of defense**

**Collaborate with**

- Compliance
- Operational Risk
- Financial Crime etc.

to ensure overall assurance for the organization.

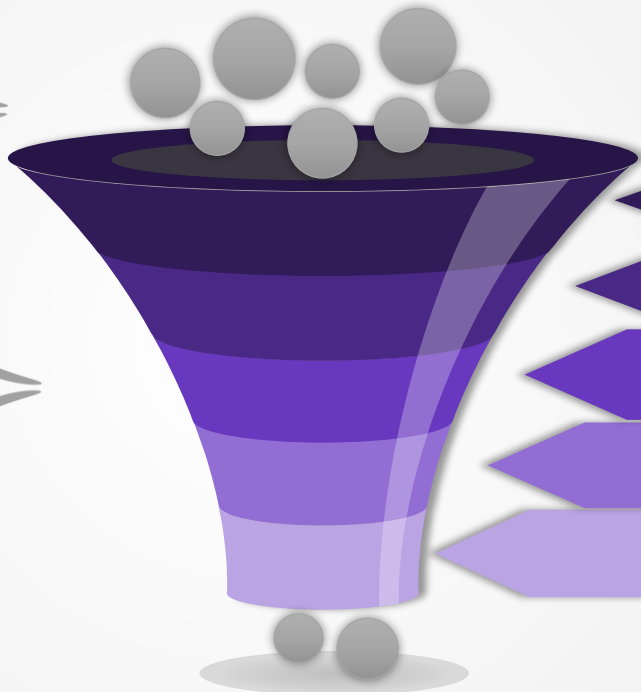
# *Data analytics* become a *Game Changer* for internal audit



# Data analytics Journey

**1** **Create rules**  
for significant areas  
to identify suspicious transactions

**2** **Sharpen the rules**  
by linking the suspicious  
transactions with risk behaviors

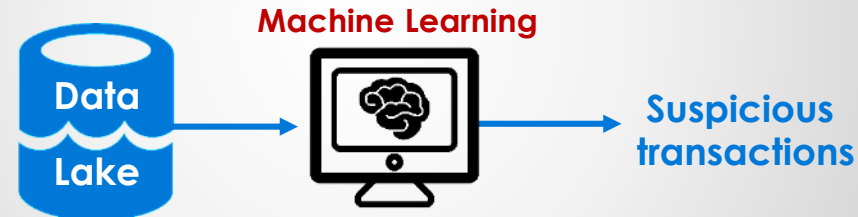


- 1. Results of 1<sup>st</sup> line monitoring (BU)
- 2. Volume of unusual transactions  
i.e. transactions after office hours
- 3. Risk characters i.e. In Mall, Large site,
- 4. No. of incidents
- 5. Other specific relating risks e.g.  
behavior, age, etc.

**3** Link data from Data lake to  
**Run 1 + 2 automatically**

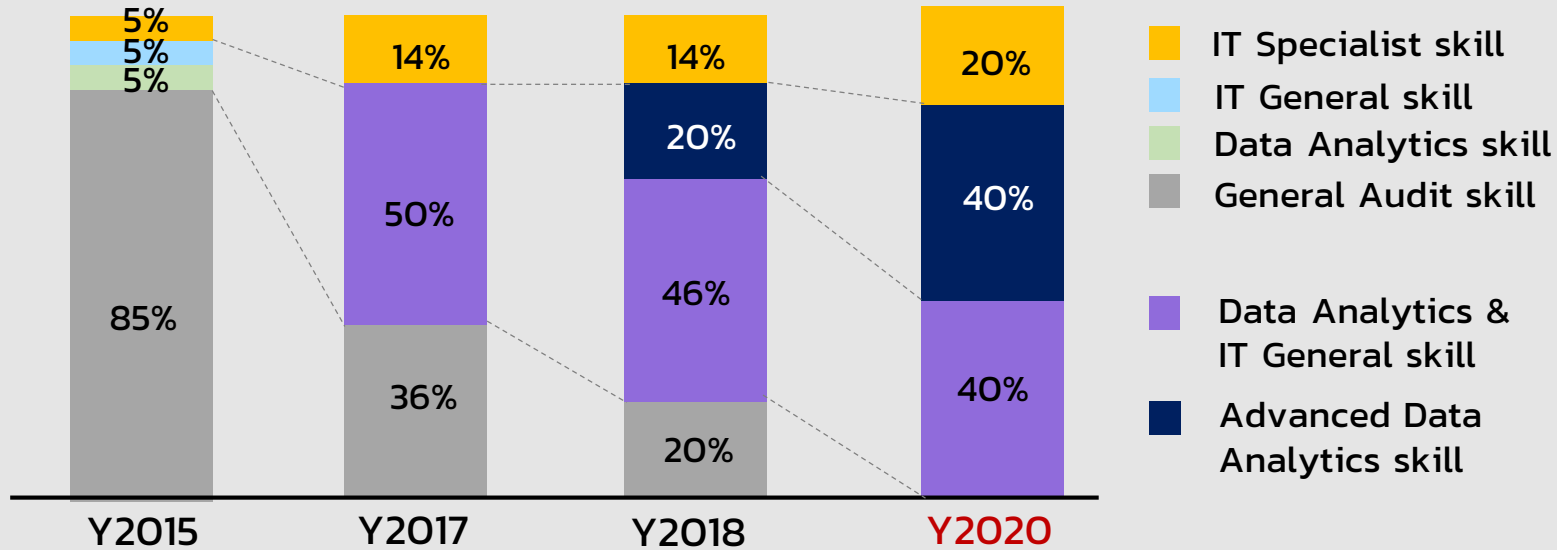


**4** **Use advanced technology**  
to predict suspicious transactions

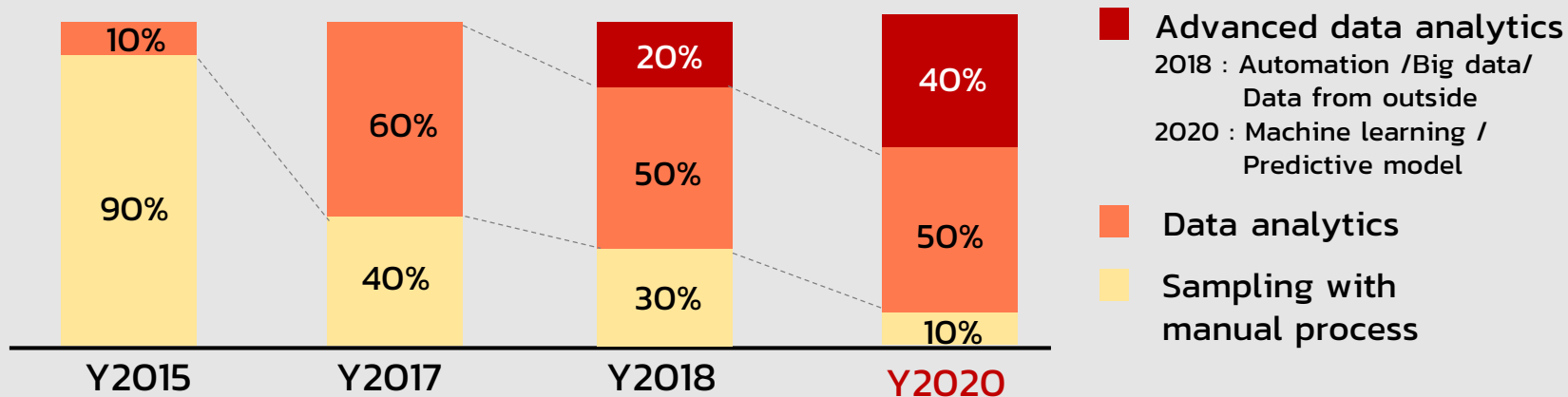


# Audit Capabilities Development

## Auditor skills



## Audit approaches



## Outputs



Data analytics

- ✓ Increase coverage by changing from sampling to 100% audit



Automation

- ✓ Increase efficiency
- ✓ Reduce time by 90%
- ✓ Increase frequency as much as we want

# Ordinary Auditor



# Digital Auditor

Professional of Internal Auditing

Risk assessment and identify control activity

Leverage technology to audit work

Analytical Thinking

Interpersonal Skills

Writing Skills

Influencing

Communication

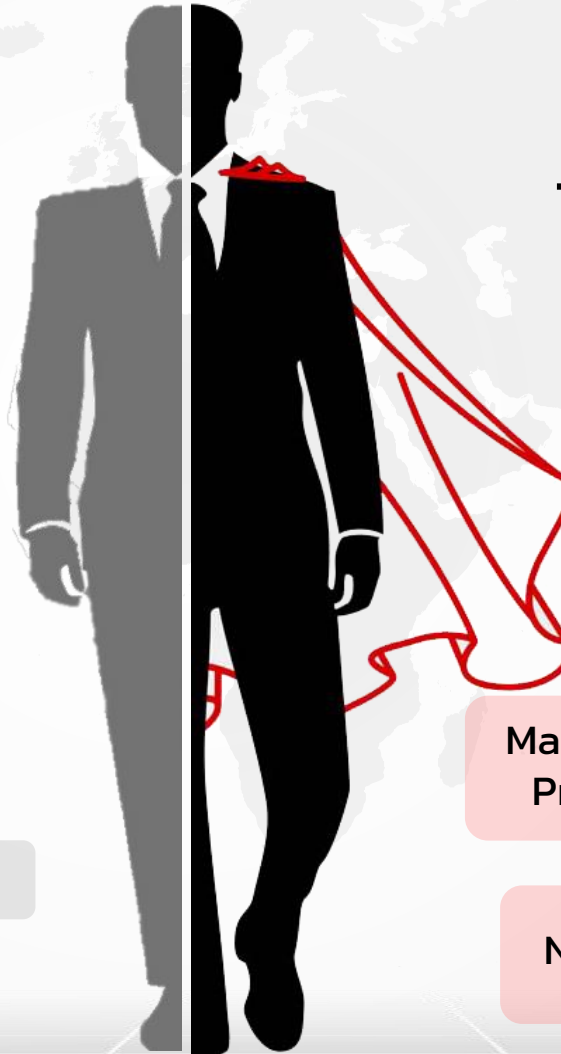
Time Management

Team Management

Driving change

Strategic thinking

Coaching



What is the **NEW capabilities** for Internal Auditor in Digital era?

Robotic process automation (RPA)

Machine Learning – Predictive model

New programming language – Python, R

New cybersecurity trends

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# Conclusion of *Internal Audit* in the Age of Disruption



## Focus on Assurance

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By continuing to focus on risk management, control, and governance, auditors can help ensure that processes are designed and operating effectively – regardless of the speed of disruption.



## Engage with Stakeholders

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Align internal audit's work with the expectations of internal audit's key stakeholders.



## Invest in Training on Disruptive Technologies

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Develop an adaptive, flexible, innovative staffing model to tap into a highly specialized talent pool with technological competence and the ability to rapidly understand and leverage new tools, techniques, and processes.



## Put New Technologies to Work

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Must take advantage of machine learning and data analytics in their audit processes — real-time auditing should be a requirement as organizations implement new business processes.