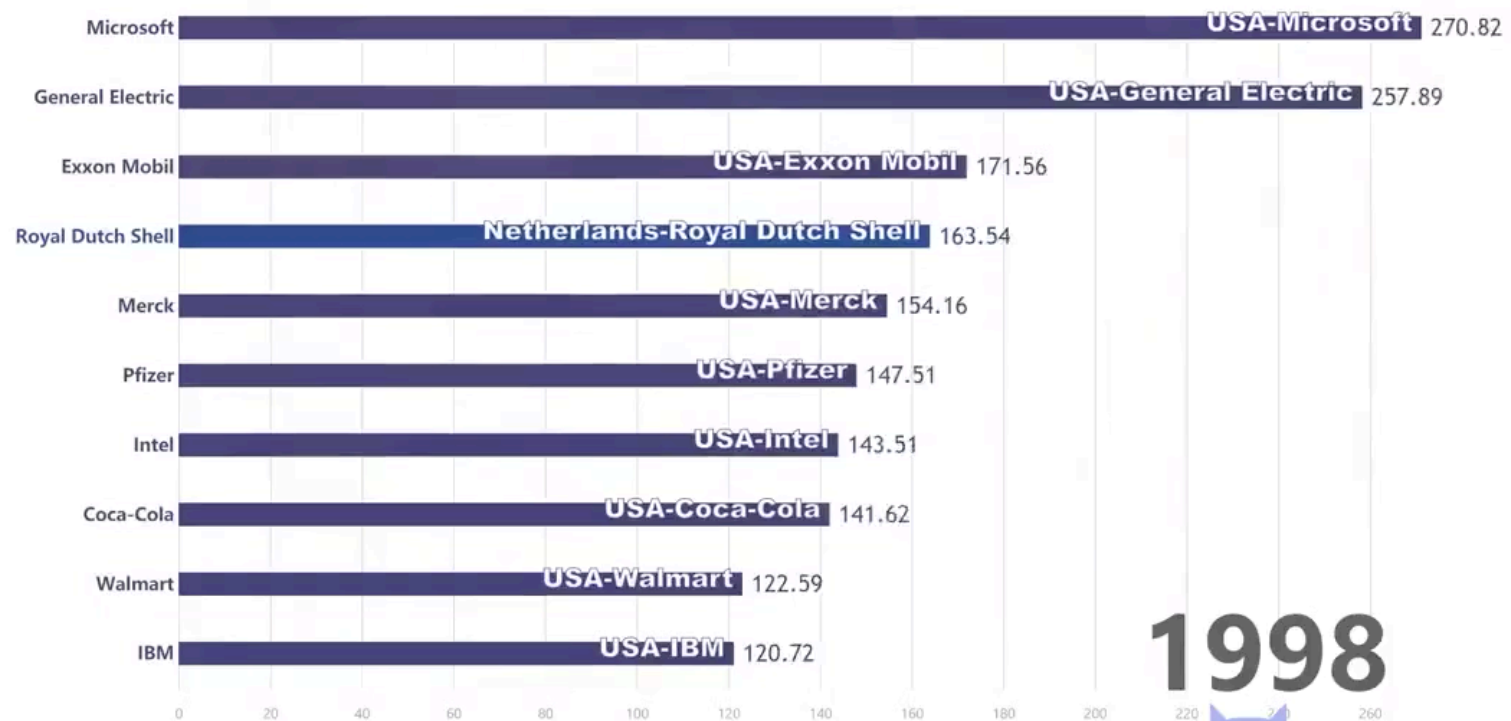


Managing Digital Transformation Risks



Theme: Internal Audit in a Disruptive Environment - Let us be the Peoples' Conscious

Market Capitalization in Billions USD



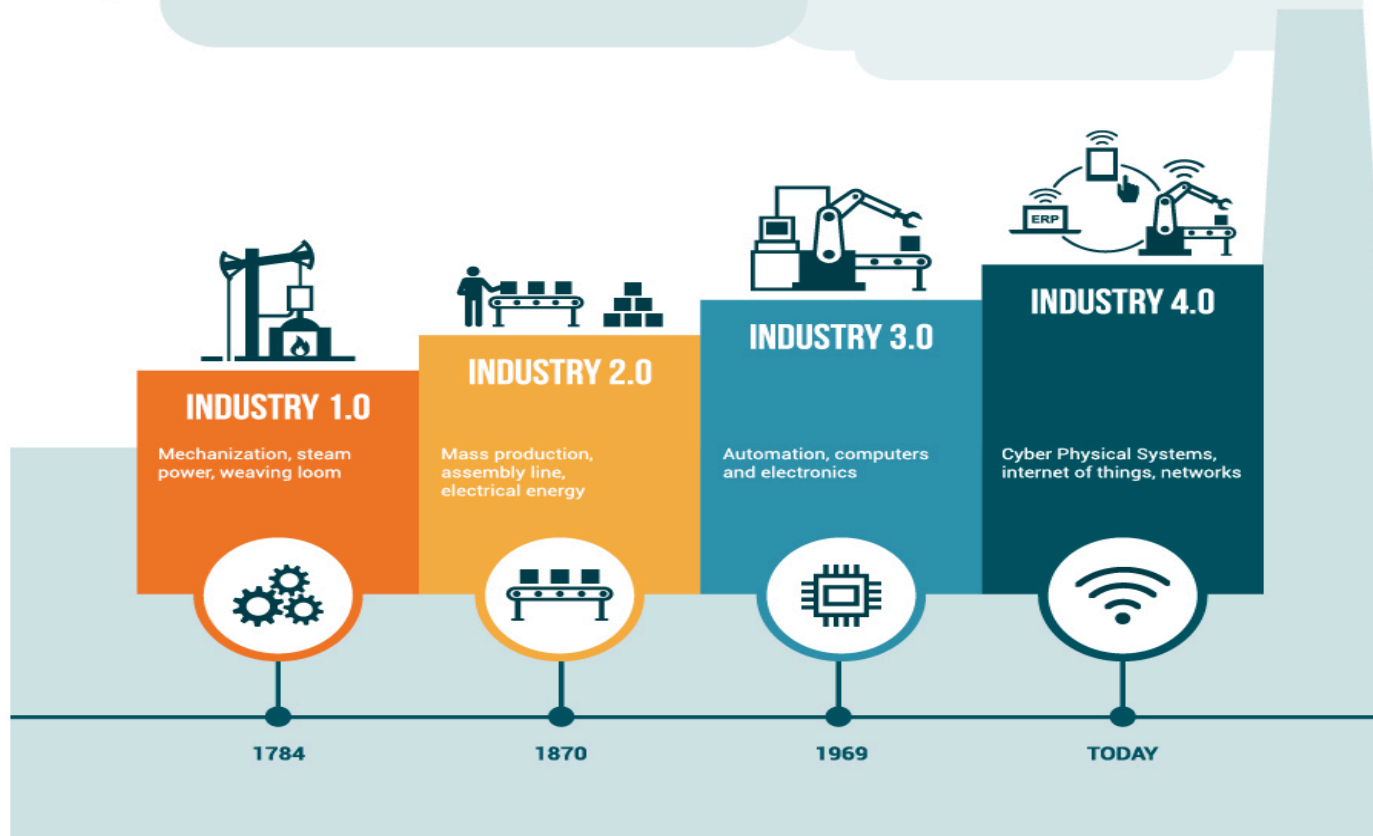
1998



KAPWING

INDUSTRIAL REVOLUTION

TRANSFORMING INDUSTRIES AND INNOVATION



The lines between the physical and digital worlds is blurred creating endless possibilities

The New Digital Era



The equivalent of Charles Darwin' "survival of the fittest" is now "survival of the most digital."





All Things Sensing

Sensing the physical world,
mapping it to digital signals

Temperature, space, and touch
Sense of smell, hearing, and vision



All Things Connected

Data goes online to power machine intelligence

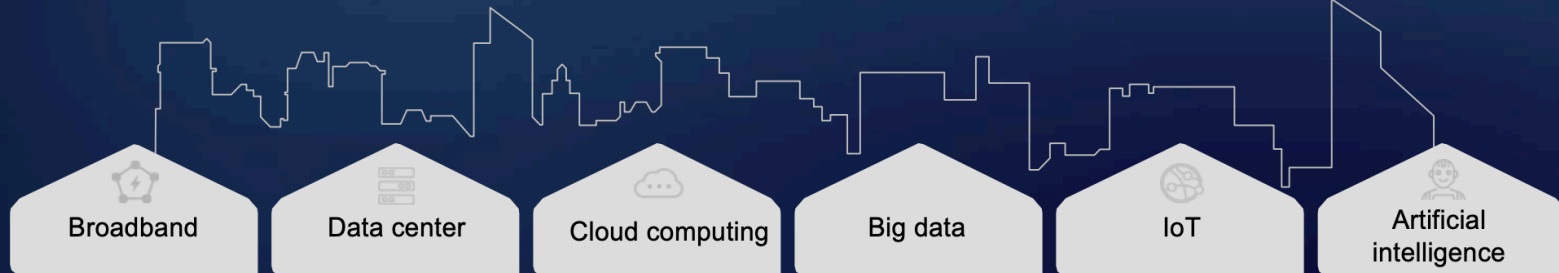
Ubiquitous connection, wide connections,
multiple connections, and deep connections



All Things Intelligent

Big data and AI power new applications

Digital twin
Digital survival



We are entering a new intelligent world

Transformational Technology Adoption

Do you plan to deploy AI, Big Data or Public Cloud in the next 12 months?

Regional Snapshot

	AI/Machine Learning	Big Data	Public Cloud
Africa	15%	36%	26%
Asia	32%	37%	32%
Europe	33%	41%	34%
Latin America	22%	45%	31%
Middle East	19%	32%	31%
North America	23%	33%	35%
Oceania	28%	36%	41%

Industry Snapshot

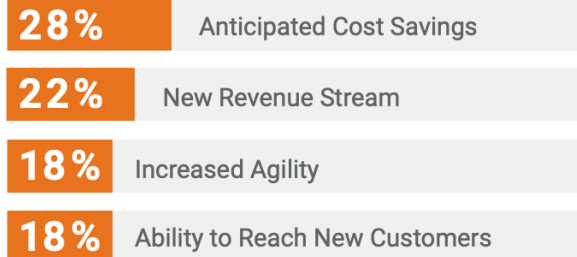
	AI/Machine Learning	Big Data	Public Cloud
Financial/ Banking	30%	39%	29%
Tech Services/ Cons.	32%	33%	37%
Government/ Military	12%	32%	38%

Source: ISACA's 2018 Digital Transformation Barometer Study

Organizations with Plans IN PLACE to Take Steps Toward Digital Transformation



Top Motivators for Implementing an Emerging Technology



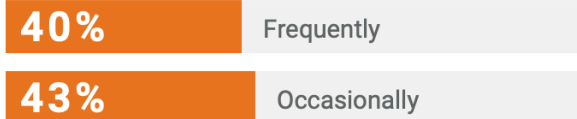
Are Your Organization's Leaders Digitally Literate?

70%
YES

Are Your Organization's Leaders Receptive to Adopting Emerging Tech?

82%
YES

Organizations Evaluating Opportunities with Emerging Tech



The will to transform – Not so fast!

Perceptions on Deploying Public Cloud

52%

Anticipate organizational challenges/resistance

53%

Consider it to be high risk

Plans for the Next 12 Months

12%

Plan to deploy blockchain

6%

Plan to implement augmented/virtual reality

3%

Plan to utilize 3D printing

Does Your Organization Accept Cryptocurrency?

6%

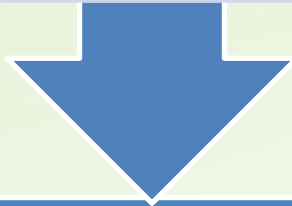
Yes

83%

No future plans

Big Data and analytics

Big data analytics is the often complex process of examining **large** and varied **data** sets -- or **big data** -- to uncover information including hidden patterns, unknown correlations, market trends and customer preferences that can help organizations make informed business decisions.



Risks

Unorganized data
and incomplete
analytics

Data retention
and storage

Cost Management

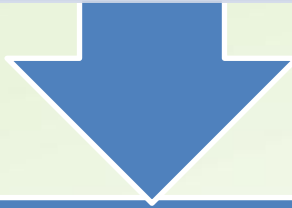
Data Privacy

Data Security

AI/Machine Learning

Artificial intelligence (AI) is a term for simulated intelligence in machines. These machines are programmed to "think" like a human and mimic the way a person acts.

Machine learning is the concept that a computer program can learn and adapt to new data without human interference.



Risks

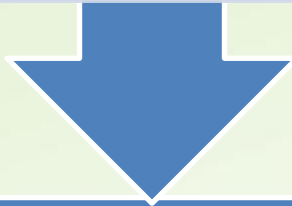
Flawed Algorithms

Cultural Resistance

Expanded cyberthreat Landscape

Cloud Computing

Cloud computing is defined as a “model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction.”



Risks

Greater dependency
on third parties

Increased complexity
of compliance with
laws and regulations

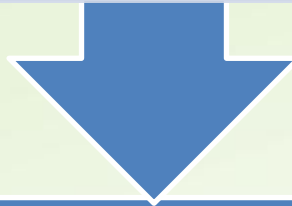
Reliance on the
Internet introduces
security and
availability concerns

Ownership of data
concerns

Data stored with
competitors

Internet of Things

IoT is a scenario in which objects, animals or people are provided with unique identifiers and the ability to automatically transfer data over a network without requiring human-to-human or human-to-computer interaction.



Risks

User Privacy

Device
Management

Device
vulnerabilities

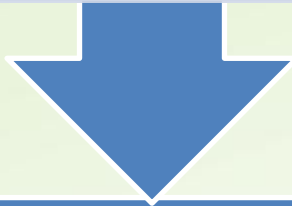
Health and
safety

Regulatory
Compliance

Blockchain

A blockchain is a public, distributed and immutable ledger of peer-to-peer transactions

A **blockchain**, is a growing list of records, called blocks, which are linked using cryptography. Each block contains a cryptographic hash of the previous block, a timestamp, and transaction data (generally represented as a hash).”



Risks

Governance

Error Reversal

Privacy

Attacks on
Blockchain

Regulatory
Compliance

Executive Buy-in Helps Organizations Remain Committed

Understanding Transformative Technologies

Organization resistance

Continuing impact of digital literacy

How organizations Perceive and mitigate risk

Balancing cybersecurity, privacy and digital transformation

Fueling digital transformation



Cybersecurity audits

- Cybersecurity framework
 - Identify
 - Protect
 - Detect
 - Respond
 - Recover
- Cybersecurity Governance
- Cybersecurity Operations



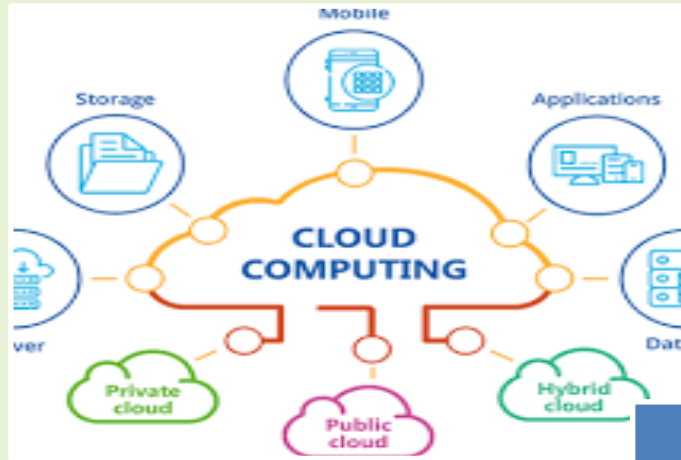
Data Privacy Audits

- Privacy Management
- Data Management and Collection
- Data Security
- Third party Compliance and Contractual Agreement
- Incident management and Escalation



Mobile Computing/Payment Audits

- Money Laundering/ Terrorist Financing
- Bring your own device
- Third party risks and contractual compliances
- Incident Response



Cloud Computing Audits

- Identity management
- Security incident management
- Network perimeter security
- Systems development
- Project management
- IT risk management
- Data management
- Vulnerability management

- It is not an understatement to say that the audit team of today will likely not exist, in its current form, within the next 5-10 years.
- Today's auditors will become more aligned with enterprise objectives, and to do so, they will need to not only welcome technology changes, but be able to master those new technologies as well as the ways in which those changes can improve enterprise operations and processes.
- The line between audit as a continuous process and enterprise operations will blur and eventually vanish, as identification and correction time frames compress dramatically, and corrective actions can be taken in real- or near-real-time.
- It is at this point that the future of audit—and auditors—becomes intertwined with the future of cyber resilience and information and cybersecurity.
- The advancement of technologies like AI and machine learning, augmented and virtual reality, and distributed ledger technologies like blockchain all will likely play roles in evolving auditing.



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