Impact on CAs

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Partner
KEN & Co. Chartered Accountants, Bengaluru.

- Practising Chartered Accountant with specialisation in Information System Assurance
- A futurist who specializes in
  - IT Consulting, Information Systems Assurance
  - GDPR & Privacy Law
  - Data Analytics, Implementation and Testing of Internal Financial Controls
  - SOX and SOC (SSAE-16 and 18)
- IS Auditor and Advisor for various BFSI, Sporting Organisations, start-up entities, Tech companies and many more
- DISA & CISA Faculty
- Speaker at National & International Forums of IT and Emerging Technologies
- Author of the book “Digitising CA Practise” and co-author to the Implementation Guide on DCMM 2.0
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1. CHANGING TIMES
Digital Transformation across industry

Print-based Industrial Society to Technology based Internet Society

Industrial Goods to Information Goods

A new generation of Info-nomics coming up – 3Ms

Growing need for Data

Valuation of Data driven Companies on the surge (2x +)

Inherently Dumb to analytically growing Smart

The move towards “Collect to Connect”
Analogue v/s Digital
TWO INSTANCES OF TRANSFORMATION

TRANSPORTATION

HORSE & CART → TRAIN → AUTOMOBILE → AIRPLANE → RIDE-SHARING → AUTONOMOUS CAR → UNKNOWN

PAYMENTS

BARTER → PHYSICAL CURRENCY → FIAT MONEY → CREDIT CARD → DIGITAL PAYMENT → DIGITAL CURRENCY → UNKNOWN
2. WHAT IS INDUSTRY 4.0?
Can You Connect The Dots
INDUSTRY 1.0
Mechanization, steam power, weaving loom

INDUSTRY 2.0
Mass production, assembly line, electrical energy

INDUSTRY 3.0
Automation, computers and electronics

INDUSTRY 4.0
Cyber physical systems, internet of things (IoT), networks
We are technology companies with a ___________ license
100 Year Foresight?

1931

2031
Collaborating with Cobots

According to an analysis by Deutsche Bank, Amazon’s cobots have reduced its operating expenses by 20%, and adding them to newly opened warehouses saves as much as $22 million in fulfillment costs each time.

The industrial robotics market is expected to grow by 175% over the next decade, with a primary focus on collaborative, assisting platforms rather than traditional automated machinery.*

*A. Murphy, 2017, Industrial: Robotics Outlook 2025, Loup Research.
WHAT ARE THESE EMERGING TECHNOLOGIES?
ARTIFICIAL INTELLIGENCE (AI)

- Advanced computer systems that can simulate human capabilities
- The task of getting computers and machines to do tasks that require intelligence when done by humans
Few AI enabled Accounting Tools

It’s the platform for Accounting productivity.

Vic.ai is the next generation of efficiency and accuracy for Accounting firms, leveraging AI trained on hundreds of millions of documents and transactions for unparalleled performance.

No more manual data entry, approvals or ledger postings.
Chatbot VS Search

CHATBOTS
A blockchain is a digitized, decentralized, public ledger of all transactions.

It is described as a “digital ledger” stored in a distributed network.

A distributed, protected journaling and ledger system.

Use of blockchain technologies can enable anything from digital currency (e.g. Bitcoin) to any other value-bearing transaction.
Applications in Finance

- **Asset traceability**: Tracking goods and parts along the supply chain and throughout their life cycle to improve decision making about inventory management and repairs.

- **Finance**: Accelerating settlement times and minimizing disputes and reconciliations through automated, real-time, three-way matching and billing, and seamless cross-border payments.

- **Tax and customs**: Automating and streamlining compliance burdens by executing transactions precisely and reliably while automatically generating documentation.

- **Payments, royalties, and licensing**: Automating predetermined contract terms and enabling faster royalty payments and subscription revenue settlements, while increasing trust in customer data.

- **Identity management**: Authenticating identity on a blockchain for credential, identity, and loyalty and rewards program management.

- **Digital currencies**: Facilitating financial transactions with a decentralized currency that crosses borders and eliminates intermediaries.

- **Records and contract management**: Ensuring that contracts are executed according to listed conditions and enabling consumers to share records across multiple entities, while safeguarding data privacy.

- **Audit and compliance**: Enabling real-time transaction-level assurance and providing additional transparency to stakeholders.
CLOUD COMPUTING OVERVIEW
Financials Statements are post-mortem

Predictive insights need of the hour

See into the future

Turn mountains of data into nuggets of insight

Take action with confidence
IOT

- Physical objects that have embedded network and computing elements and communicate with other objects over a network.
- Objects, animals or people are provided with unique identifiers and the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction.
- Usage of Wearables, sensors etc.
Robotic Process Automation

Accuracy
Extreme accuracy and uniformity – much less prone to error or typos

Improved Employee Morale
Workers can dedicate more time to engaging, interesting work

Low Technical Barrier
No programming skills necessary to configure a bot

Productivity
Process cycles times are much faster compared to manual process approaches

Compliance
Bots follow regulatory compliance rules to a tee and provide an audit trail history

Reliability
Bots tirelessly work 24/7 without interruption

Non-Invasive Technology
No disruption to underlying legacy systems, reducing the burden on IT

Consistency
Routine tasks are performed the same way each and every time
In Finance

April 29, 2020

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HOW IS 4.0 LINKING US?
WHAT CAN A HUMAN DO?

U & me

- Feels
- Protects
- Repeatedly Performs
- Available anytime
- Decisions supported by Data
- Remembers
- Thinks

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HOW HAS INDUSTRY 4.0 REVOLUTIONISED IT?

- Feels - IOT
- Remembers - Blockchain
- Thinks - AI
- Protects - Cyber Security
- Repeatedly Performs - RPA
- Available anytime - Cloud
- Decisions supported by Data - Analytics

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Penetration Of Tech In Our Profession

Adoption over Time

- Blockchain
- Artificial Intelligence
- Robotic Process Automation
- Data Analytics
- Cloud Computing
IMPORTANCE OF ANALYTICS FOR AUDIT
WHAT IS DATA ANALYTICS?

- **Generic term for Computer Assisted Audit Tools and Techniques (CAATTs)**
- **Collection of tools, techniques and best practices to access and analyse digital data.**
- **Empowers auditors to use technology to audit digital data**
- **Access to 100% of the data and to analyse data to infer insights from information**
**TYPES OF ANALYTICS**

- **Prescriptive Analytics**
  - advice on possible outcomes
  - *Why do airline prices change every hour?*

- **Predictive Analytics**
  - understanding the future
  - *How do grocery cashiers know to hand you coupons you might actually use?*

- **Descriptive Analytics**
  - insight into the past
  - *How does Netflix frequently recommend just the right movie?*
WHY DATA ANALYTICS?

- Identifying unknown risks
- Deeper insights into business
- Creating Profiles
- From Hindsight to Foresight
- Multi-Dimensional approach
- Declining audit relevance using traditional methods
“The greatest enemy of knowledge is not ignorance, it is the illusion of knowledge.”
~Stephen Hawking
COMMON MYTHS

- It is only for Large Companies!
- Applied only when there is humongous data
- Require Complex Tools
- Need to be a Data Scientist
- Driven by Maths & Statistics
- Require huge qualifications
- Heavy Investment!
- It is all about algorithms
TYPES OF DATA THAT CAN BE ANALYSED

Structured data
- Sales records
- Payment or expense details
- Payroll details
- Inventory records
- Financial reports
- Found in accounting software, databases, spreadsheets, etc

Unstructured data
- Email and instant messages
- Payment text descriptions
- Social media activity
- Corporate document repositories
- News feeds
USING ANALYTICAL TOOLS
- **Excel**: Spread software of Microsoft has various features useful for auditors.
- **General Audit Software**: Add-in for Excel with specific CAAT functions.
- **General Audit Software**: Data Analysis Software with specific CAAT functions
- **Application Software**: Standard and Ad-hoc Reporting and Query features available or specific functionalities designed for auditors.
- **Specialised Audit Software**: Audit software designed to work in specific software.
STEPS INVOLVED IN ANALYTICS
STEPS INVOLVED IN USING DA

Curate
- Transforming data in a standard structure to be usable
  - Ex: Harmonise, Split text to columns etc

Profile
- Validating data at a macro level
  - Ex: Column Statistics, Stratifying

Analyse
- Examining the data in detail to discover essential features
  - Ex: Sampling, Outliers, Filter

Investigate
- Observing or querying the data in detail
  - Ex: Statistical queries, RSF, Benford Law

Document & Report
- Documenting & reporting
  - Ex: Audit log, Indexing

Oct 23, 2019
CASE STUDY

• An e-commerce company having more than 10,000 SKUs and more than 500 vendors. It had the following environment:
  • Goods Received Note and Purchase Order was auto-matched and Debit Notes / Credit Notes were auto posted
  • Same vendor supplied goods to different warehouses
  • No restriction on maximum quantity per order
  • Manual intervention present in recording transactions
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<thead>
<tr>
<th>PO_Date</th>
<th>PO_Number</th>
<th>Vendor_Code</th>
<th>Vendor_Name</th>
<th>Material_Code</th>
<th>Qty</th>
<th>Unit</th>
<th>Price</th>
<th>Amount</th>
<th>Pay_Terms</th>
<th>UserID</th>
<th>Location</th>
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<td></td>
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<td>YT</td>
<td>BLR</td>
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OUTCOME – MULTIPLE DUPLICATE ENTRIES

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<tr>
<th>AccountID</th>
<th>TransactionID</th>
<th>TransactionNumber</th>
<th>TransactionDate</th>
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<td>Purchase Of HDD</td>
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<tr>
<td>4</td>
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<td>ABC-000007</td>
<td>04 Apr 2017</td>
<td>Ch. No. : 93 Towards Printers</td>
<td>23000</td>
<td>198800</td>
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<td>ABC-000006</td>
<td>04 Apr 2017</td>
<td>93 Towards Ch. No. : Printers</td>
<td>50000</td>
<td>175800</td>
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<tr>
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<td>03 Apr 2017</td>
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<td>12000</td>
<td>125800</td>
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<td>ABC-000004</td>
<td>03 Apr 2017</td>
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<td>113800</td>
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<td>35000</td>
<td>35000</td>
<td>Towards Printers No. Ch. 93 :</td>
</tr>
</tbody>
</table>
FEW OTHER APPS

DataMelt
Computation & Visualisation

Open for Innovation
KNIME

orange

TRIFACTA

+tableau+public

OpenRefine
A free, open source, powerful tool for working with messy data

MDA AUDIT TOOL
http://mdaaudit.in/

acl

IDEA
Data Analysis Software

Power BI
4. INDUSTRY 4.0 v/s COVID-19
Real-time visibility into the availability of raw materials.

Use of artificial intelligence and machine learning to constantly reassess and re-plan activities.

Robotic process automation (RPA) to support non-value add labour intensive activities.
The use of mobile technology and AR / VR to enable workers to perform tasks they were not trained for more easily.

Remote and virtual working to help with the issue of lockdown and social distancing.

3D printing of spare parts that were stuck in the supply chain.

Use of AGV’s, autonomous electric vehicles and drones to further assist with social distancing.
https://www.geospatialworld.net/article/the-sino-approach-use-of-technology-to-combat-covid-19/
5. HOW TO BE FUTURE FIT?
CFO PRIORITIES IN THE DIGITAL AND MULTICAPITALS AGE

- Direct activities of the finance function such that it contributes to business objectives and value creation.
- Digitalize finance and accounting tasks, and other business processes.
- Leverage the power of financial and non-financial data to understand value drivers.
- Capture value creation with value metrics linked to incentives and rewards.
- Improve decision support information throughout the organization.
- Ensure robust control and security.
- Develop finance function talent, capacity, diversity and ways of working.
- Enable multicapital reporting and communication of value beyond the financials.

Source: *Enbankment Project for Inclusive Capitalism*

IFAC Publications
CFO IMMEDIATE AGENDA

ROBOTIC PROCESS AUTOMATION
- Automate routine tasks
- Applied to existing systems and processes

ARTIFICIAL INTELLIGENCE
- Machine and deep learning enabling computers to learn without specific programming
- Natural language processing to allow computers to analyze language data

CHATBOTS
- Mimic how humans interact
- Simulate human responses

DATA & VISUALIZATION
- Algorithms execute analysis of data based on statistical techniques
- Approaches to display data to make it understandable
- Internet of Things

APPLICATION PROGRAMMING INTERFACES
- Allow applications and systems to talk to each other

April 29, 2020

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Lead with Purpose to Achieve Clarity in a World of Ambiguity
3 USEFUL SETS

Mindset | SkillSet | Toolset

“The future depends on what you do today.”
– Mohandas K. Gandhi
THE NEW ROLE

Jointly Lead Strategy

Steer towards Value Creation

Protect your Brand & Identity

Be a Storyteller

Be the Digital Catalyst

Domain expertise over Internal Controls

Trust & Integrity
Tech-enabled Solutions

- IT Governances & Compliance
- IT Assurance Services
- Data Analytics & Business Intelligence
- GDPR & Privacy Audits
- Emerging Technology (AI, Blockchain, IoT)
- Enterprise Risk Management
- Forensic Audit
- IT Automation & Implementation
- Cyber Security
- IT Consulting
- ISO, PCI DSS, CMMI Compliance
- SOC Assessments
- IT Training
KEY TAKEAWAYS!

Invest and experiment in new technologies

Adopt & adapt to emerging trends such as cloud, data analytics

Build awareness and engage in debate

Train and develop the skill-sets and mind-sets

Dedicate resources and time

Change the audit approach from “tick” to “click”
WEB SERIES
4TH MAY-15TH MAY
6PM-8PM

EXECUTIVE PROGRAM
ON ENTERPRISE
BLOCKCHAIN

WWW.CYBERFRAT.COM/BLOCKCHAIN
Thank You!

Questions?

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Online Classes

APNA COURSE™