



# INDUSTRY 4.0 – CHALLENGES AND OPPORTUNITIES FOR CMA PROFESSION

---

M.GOPALAKRISHNAN  
Partner. S.Mahadevan & Co.,  
Cost Accountants

# INDUSTRY 4.0 (Ack: CMA.Asim Mukhopadhyaya-CFO Tata Motors)

---

- INDUSTRY 1.0 – Mechanisation
- INDUSTRY 2.0 – Electrification
- INDUSTRY 3.0 – Automation
- INDUSTRY 4.0 – Cyber - Physical

# INDUSTRY 4.0 – Contd...

---

- RISE OF THE MACHINES - THRU DIGITAL TECHNOLOGY
  - Interconnected Machines and processes
  - Gather and Analyse Data across machines and processes (Manual Data collection is taboo)
  - Faster, Flexible and Efficient processes
  - Enable High Quality Products
  - At reduced costs

# INDUSTRY 4.0- Contd..

---

- MANUFACTURING REVOLUTION
  - Productivity Increase
  - Real Time Assessment of Shift Economics
  - Tectonic shift in Workforce Profile
  - Dynamic change in competitiveness

# INDUSTRY 4.0- VUCA- Contd..

---

- Volatility
  - Eg.Changes in consumer behaviour
- Uncertainty
  - E.g.Demonet, GST
- Complexity
  - Complex products / service standards
- Ambiguity
  - Political, Economic, Regulatory changes

# INDUSTRY 4.0- Contd..

---

## ○ KEY DRIVERS

- DRIVING BETTER DECISIONS
- ADAPTING TO NEW PRESSURES AND DEMANDS
- CHALLENGING AND EMPOWERING
  - WORKERS ( As well As)
  - CUSTOMERS

# INDUSTRY 4.0 - CHANGING BUSINESS ENVIRONMENT

---

- e-Market place
- e- Quote
- e- Price discovery
- e- Tender
- e- Competitive bidding
- e- Supply chain link
- e- monitoring and payment
- e- What not????



# INDUSTRY 4.0 - CHANGING INFORMATION ENVIRONMENT

---

- BIG DATA & ANALYTICS
- AUTONOMOUS ROBOTS
- HORIZONTAL & VERTICAL SYSTEM INTEGRATION
- IOT- INDUSTRY ORIENTED
- THE CLOUD
- CYBER SECURITY
- ADDITIVE MANUFACTURING
- AUGMENTED REALITY



# OPPORTUNITIES -NEW SKILL SET REQUIRED

(Source: AccountancyAge Oct 2018)

)



SIRC Study Circle Meeting 14th  
December 2018

# NEW SKILL SET- COGNITIVE INTELLIGENCE –STEP 1

---

- **Data integration – Master Data Entry**
- One time data entry - spreads enterprise wide.
- Easy and quick access of data on the operation and performance
- Access to better and more integrated data
- Faster reaction time based on near real time access to large data sets
- Creating a strong environment for automation and innovation.

# NEW SKILL SET- COGNITIVE INTELLIGENCE –STEP 2

---

- **Analytics and data visualization**
- Using analytics to illuminate patterns, insights and opportunities within this data pool.
- Easy and quick access of data on the operation and performance
- Data visualization presenting the performance in a meaningful and comprehensive visual context.
- Predictive analytics extrapolate trends and identify potential issues to manage
- Identify and respond to the potential financial and operational risks.

# NEW SKILL SET- COGNITIVE INTELLIGENCE –STEP 3

---

- **Robotic process automation (RPA)**
- RPA replaces manual process with the use of software to perform rule-based tasks
- It is virtually replacing large number of people based processes ([http://pmjandhanyojana.co.in/apply-msme-business-loans-59-minutes-psbloansin59minutes-com/.](http://pmjandhanyojana.co.in/apply-msme-business-loans-59-minutes-psbloansin59minutes-com/)) (TReDS)
- It is a great way to automate repetitive, time consuming tasks;
- Improves efficiency and allowing staff to focus on more rewarding, higher value activities.

# NEW SKILL SET- COGNITIVE INTELLIGENCE –STEP 4

---

- **Cognitive intelligence**
- Adds Artificial Intelligence (AI) and machine learning to RPA
- Algorithms based on past experience, enable decision making and mimic human interactions in a minor way
- Natural Language Processing to read and extract information from documents
- Natural Language Generation to write reports in human style and prose at the speed of hundreds of pages per second.

# TRANSACTION PROCESSING

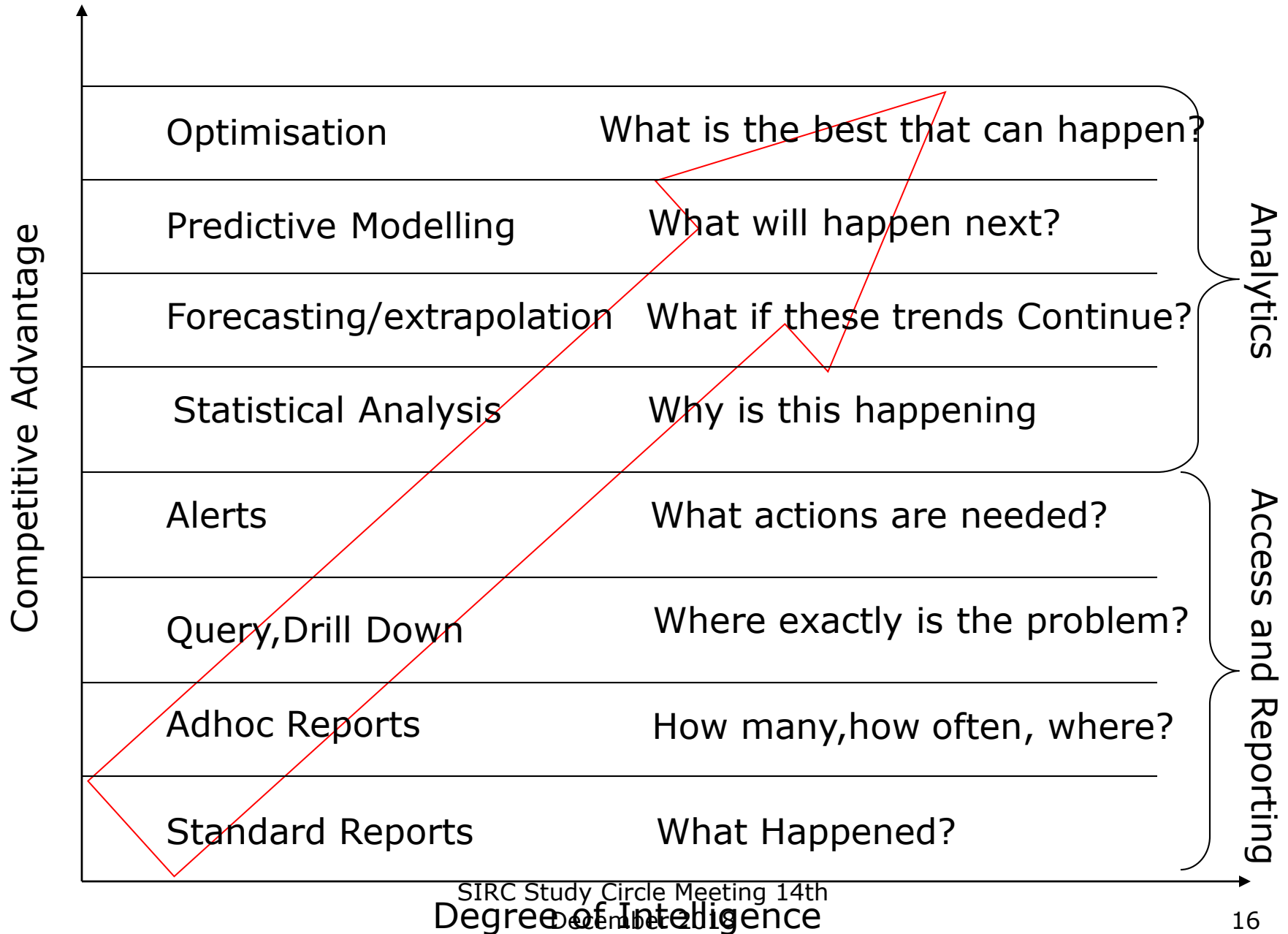
---

- SIGNIFICANT REDUCTION IN ACTIVITY
- ERP- ENABLES EACH PARTICIPANT ENTER AND VALIDATE THEIR PART
- THE LAST ENTRY COMPLETES THE TRANSACTION
- AUTO UPLOADS INTO THE SYSTEM

# WHAT IS EXPECTED OF A CMA

<b>RANKING/ JOB RESPONSIBILITY</b>	<b>SKILLSET</b>
1. Business Analysis and Managing Accounting background	CMA/ ANALYTICS
2. Benchmarking of costs and profitability, both internally and externally.	CMA
3. Investigating product profitability and margin control	CMA
4. Development of Management Information	MIS/ANALYTICS
5. Participating in monthly Business Unit performance reviews with the CEO and other Directors	BUSINESS PROCESS
6. Proactive support to Business Unit Finance Managers	ERP/FINANCE
7. Evaluation of project proposals, including IT	FINANCE
8. Acquisition evaluation and project support	BUSINESS PROCESS
9. Ad-hoc assignments, investigations and projects as the need arises	GENERAL

# Industry 4.0 – MIS – Ver 4.0





# PRACTICAL CASE STUDY- INFRASTRUCTURE

---

- COMPANY INTO LARGE CAPITAL EQUIPMENTS
- EPMC- Engineering, Procurement, Manufacturing and Commissioning
- COMPETITION FROM INTERNATIONAL PLAYERS

# PRACTICAL CASE STUDY- INFRASTRUCTURE- Contd...

---

- e- Quote, e- Price discovery, e- Tender, e- Competitive bidding
- TENDER WINDOW IS OPEN FOR LIMITED TIME
- CANNOT DEPEND ON TRADITIONAL BACK OFFICE APPROACH FOR COSTING
- COST SYSTEM DESIGN- ACTIVITY AND COST DICTIONERY

# PRACTICAL CASE STUDY- INFRASTRUCTURE- Contd...

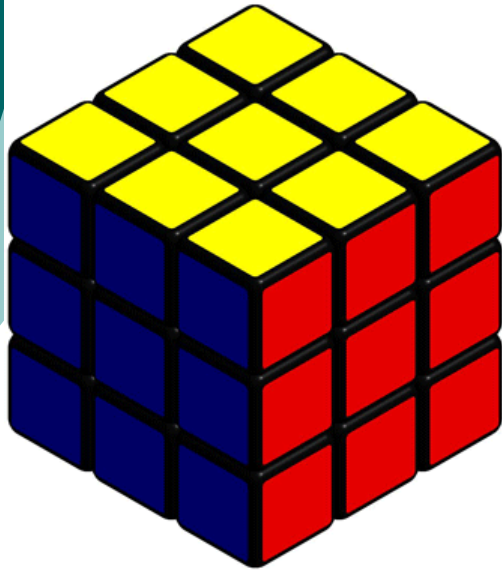
---

- COST SYSTEM – SHOULD BE AVAILABLE ONLINE ON HAND HELD DEVICE FOR SALES
- SHOULD ENABLE DAY TO DAY MONITORING ON TENDER ACCEPTANCE

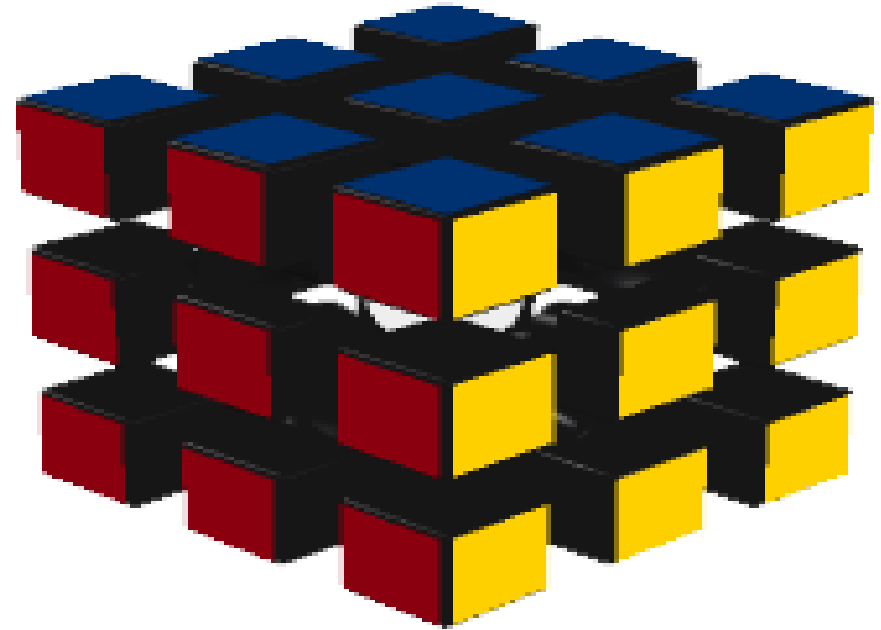
# PRACTICAL CASE STUDY- INFRASTRUCTURE- Contd...

---

- TO BE EMBEDDED INTO BUDGETING AND ERP
- COST PARTHA SYSTEM FOR REAL TIME MONITORING
- LEARNING TO IMPROVE NEXT QUOTE



THE PRODUCT  
COST CUBE



ACTIVITIES/ COST MATRIX

# VUCA Old to VUCA New

---

<b>Volatility</b>	<b>Vision</b>
<b>Uncertainty</b>	<b>Understanding</b>
<b>Complexity</b>	<b>Clarity</b>
<b>Ambiguity</b>	<b>Agility</b>

# TOOLS FOR SKILL SET- BI/DA

---

- SaaS BI,
- SAP BI,
- IBM Watson Productivity,
- QlikSense,
- Tableau,
- IDEA, ACL, Business Objects, MicroStrategy, Hyperion (High End)



# ARE WE PREPARED?

---

????????????????  
????????????????





THANK YOU