

# Implementing ICT Skills into the Accounting Curriculum


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## Role of the Accountant?

### **Historic Focus**

Compliance

### **Future Focus**

What if

# **Influence of Technology**

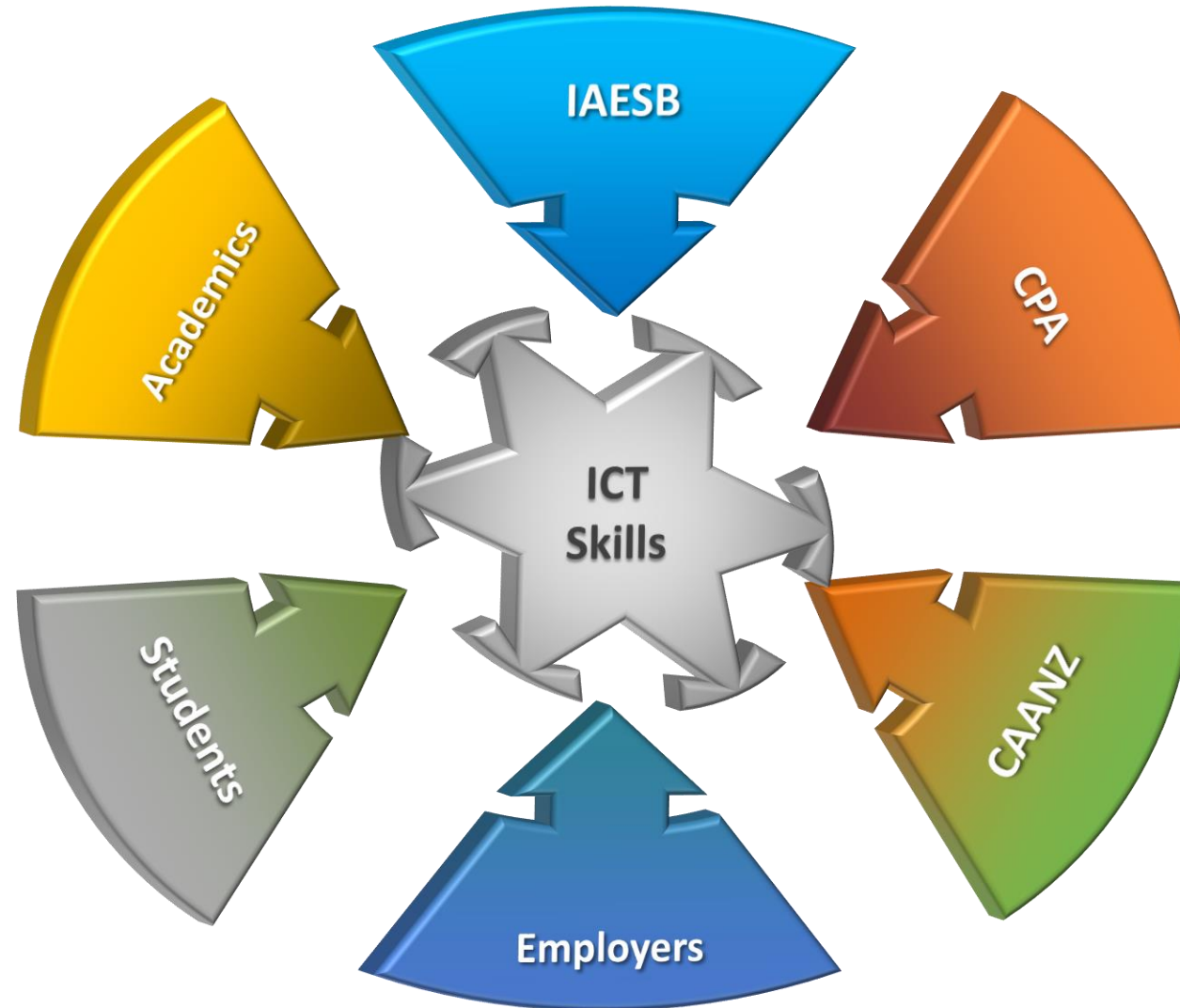
Reduced cost of collecting and storing data

Reduced cost of producing Information

Enabled better alignment of information with decision making

Enabled consideration of Financial and Non-financial data together

# Who Cares?



# IAESB - 2019

Explain the impact of Information and Communications Technologies (ICT) developments on an organization's environment and business model. (i)

Explain how ICT supports data analysis and decision making. (ii)

Explain how ICT supports the identification, reporting, and management of risk in an organization. (iii)

Use ICT to analyze data and information. (iv)

Use ICT to enhance the efficiency and effectiveness of communication. (v)

Apply ICT to enhance the efficiency and effectiveness of an organization's systems. (vi)

Analyze the adequacy of ICT processes and controls. (vii)

Identify improvements to ICT processes and controls. (viii)

Informed by: Birt, Wells, Kavanagh, Robb, and Bir (2018)

# CAANZ and CPA - 2021



At a minimum, graduates are expected to be able to:



**LO 1:** Explain the impact of Information and Communication Technology on an organisation's environment and business model, and how it supports data analysis and decision making.



**LO 2:** Explain how ICT supports the identification, reporting, and management of risk in an organization and how it can enhance the efficiency and effectiveness of an organization's systems and processes.



**LO 3:** Explain how ICT is used to analyse data and information.



**LO 4:** Explain how ICT is used to enhance the efficiency and effectiveness of communication



**LO 5:** Identify the adequacy of ICT processes and controls, and the improvements that could be made to them.

# Students

Claim to be Tech-savy - Not true

Reality check – only with selected applications

Limited spreadsheet skills

Limited understanding of databases

# Academics



Limited spreadsheet skills



Limited understanding of databases



Watty, McKay, & Ngo, 2016



These are the foundation skills for:

working with accounting systems; and data analytics



Working with technologically out-of-date textbooks (Wells, 2018)



# One Possible Framework

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Themes	Goals
Data	Be a <u>responsible custodian</u> of data
Systems	Be able to confirm and maintain the <u>relevance and integrity</u> of accounting information systems
Information	Be able to produce reliable information to <u>facilitate decision making</u>

# DATA

Topics	Content	IES 2
Organisation	Database systems	(iv)
Analysis	Tools: Excel, Tableau, PowerBI	(iv)
	Data: Financial & Non-financial	(ii)
Visualisation	Entity Relationship Diagrams	(vii)
		(v)
Security	Accessibility	(iii)
	Recovery	(vii)
Storage	Cloud vs Inhouse	(v)
Integrity	Controls	(vii) (viii)

# Systems

Topics	Content	IES 2
Sustainability	System Development Life Cycle	(vi)
Visualisation	System Flowcharts Data Flow Diagrams	(vii)
Cybersecurity	Computer Fraud	(iii)
Integration	ERP systems and API's	(vi)
Integrity	Risk Management	(iii)
Technology	Software as a service Blockchain, XRL, RPA, RFID	(i)

# Information

Topics	Content	IES 2
Reporting	Future focus	(ii)
	Predictive	(ii)
	Financial & Non-financial	(iii)
Visualisation	Graphs	(ii)
	Dashboards	(iii)

Year 1	Skills & Knowledge
Year 2	Skills & Application
Year 3	Application

# Positioning Material in the Curriculum

# Visualisation

- Abstract Conceptualisation – tricks we play on the brain to help make sense of new or different data Kolb, D. A. (1984).
- Visualisation is a skill used to help make sense of different situations
- It can be used for making sense of:
  - Data – e.g. entity relationship diagrams
  - Systems – e.g. flowcharts and data flow diagrams
  - Information – e.g. spreadsheets, dashboards and graphs
- Skill development requires practice
- At the present time many students lack the prerequisite skills to satisfactorily undertake the application activities

# DATA

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Topics	Content	S/K/A
Organisation	Database systems	K
Analysis	Tools: Excel, Tableau, PowerBI	S
	Data: Financial & Non-financial	K
Visualisation	Entity Relationship Diagrams	S
Security	Accessibility	K/A
	Recovery	K
Storage	Cloud vs Inhouse	K
Integrity	Controls	K/A

# Systems

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Topics	Content	S/K/A
Sustainability	System Development Life Cycle	K
Visualisation	System Flowcharts	S
	Data Flow Diagrams	S
Cybersecurity	Computer Fraud	K/A
Integration	ERP systems and API's	K
Integrity	Risk Management	K/A
Technology	Software as a service	K
	Blockchain, XRL, RPA, RFID	K



# Information

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Topics	Content	S/K/A
Reporting	Future focus	A
	Predictive	A
	Financial & Non-financial	A
Visualisation	Graphs	S
	Dashboards	S

## Integration into the Curriculum

Year	Theme
1	Data
2	Systems
3	Information

# Year 1

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	Topics	Content
Statistics	Analysis Information Visualisation	Excel including Pivot Table Tableau or Power BI
IT	Organization Storage Security	Database Concepts Cloud vs In-house Accessibility & Recovery
Accounting	Integrity	Controls

# Year 2

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	Topics	Content
Accounting Information Systems	Data Visualisation System Visualisation Sustainability Cybersecurity Integrity Integration Technology	Entity relationship diagrams Flowcharts SD Life Cycle Computer Fraud Risk Management ERP and API's Blockchain, RFID, RPA, XBRL
Management Accounting	Analysis Reporting	Pivot tables PowerBI/Tableau
Finance	Reporting	Data Analytics

# Year 3

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	<b>Topics</b>	<b>Content</b>
Auditing	Reporting	Data Analytics
Management Accounting	Reporting	Financial & Non-financial Predictive

**Thanks for your time**



**Any Questions**

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# References



Birt, J., Wells, P., Kavanagh, M., Robb, A., & Bir, P. (2018). *Information and Communications Technology Literature Review*. Retrieved from <https://www.ifac.org/system/files/publications/files/IAESB-Information-Communications-Technology-Literature-Review.pdf>



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