CHAPTER 13

DIGITAL DISRUPTION BUSINESS & ACCOUNTANCY

Emerging technologies — **AI, blockchain, cloud computing and IoT** — are reshaping industries, business models and professional practice. This chapter covers the **drivers** of disruption, its **impact on businesses**, aligning **IT & data** with strategy, **IT governance frameworks**, **ICT controls**, and how accountants are becoming **strategic advisors**.

CHAPTER ROADMAP

1 Understanding digital disruption — 5 drivers
2 Impact on businesses — 6
3 IT & data in business strategy
4 IT governance frameworks — 4 + best practices
5 ICT processes & controls — assess · improve · ROI
6 Impact on accounting & finance — 5

DEFINITION

Digital disruption occurs when emerging technologies or innovative business models fundamentally alter the value proposition, operations or competitive landscape of an industry.

Not incremental (e.g., software upgrades) — it introduces **radical changes** in how value is **created, delivered and consumed**. Digital tools bypass traditional constraints (physical infrastructure, manual processes) → **new markets** or old ones made **obsolete**.

INCREMENTAL CHANGE
Upgrading software versions, refining existing processes

vs

DIGITAL DISRUPTION
Radical change redefining value creation & delivery

Origins & scope

Clayton Christensen (1997) — "disruptive innovation": **low-end entrants** gradually upend incumbents. Digital disruption is broader — affects **all market segments**, and spreads across sectors (**interconnectedness** / ripple effect): retail → e-commerce, healthcare → telemedicine, accountancy → AI auditing & predictive analytics.

Disruption in action

Horse carriages (early 1900s) › **Automobiles / taxis** › **Uber** (mobile apps + GPS) › **Robotaxis** (Waymo, Cruise)

NETFLIX VS BLOCKBUSTER
Netflix moved from **DVD rental → streaming**, pushing Blockbuster into **bankruptcy by 2010**. Today: **300m+ subscribers**, about **$40bn** annual revenue.

1.1 DRIVERS OF DIGITAL DISRUPTION

each amplifies the others → feedback loop

Technological Advancements
AI, blockchain, cloud, IoT → autonomous decisions, real-time analytics, decentralised trust.
NLP chatbots handle up to **80%** of telecom queries.

Vast Amount of Data
Data explosion improves decisions & operations.
Retailer analyses **terabytes** daily to optimise inventory.

Consumer Expectations
Digital natives want **faster, convenient, personalised**, instant access.
Banks invest in digital transformation.

Regulatory Changes
New laws compel digital solutions for **privacy & compliance**.
MNC adopts blockchain for **EU AML** rules.

Global Connectivity
Internet, **5G**, mobile → seamless cross-border operations.
Kenyan fintech serves unbanked via mobile wallets on 4G.

2 IMPACT OF DIGITAL DISRUPTION ON BUSINESSES — *a double-edged sword*

Opportunity — efficiency gains, better customer engagement, **new revenue streams**; leaders redefine industry standards.

Threat — strikes with **unprecedented speed & scale**; firms unable to adapt (**laggards**) risk **obsolescence**.

2.1 Operational Efficiency
RPA · cloud · AI

Automation, scalability, real-time optimisation; removes manual processes.

Interesting facts

RPA: **1m transactions/hour**, 99.9% accuracy, 10× human speed · AWS scales 10 → 1,000 VMs in minutes · McKinsey: productivity **+20–30%** · Deloitte: costs **−15–25%**.

2.2 Customer Experience
AI · NLP · big data · mobile

Personalised, rapid, seamless, **24/7** service.

Interesting facts

Chatbots: 1,000 queries/sec, 98% accuracy · McKinsey: retention **+15%** · Bain: top-satisfaction firms grow **20% faster**.

2.3 Business Model Innovation
product → platform / service

Cloud, blockchain & AI lower **barriers to entry**.

Interesting facts

Platform: Uber — 5m drivers, 100m riders, $20bn, owns no vehicles · **Subscription:** Adobe Creative Cloud (SaaS) $5bn → $15bn · **Decentralised:** blockchain P2P · Zuora: subscriptions grow **18%** a year.

2.4 Supply Chain Transformation
IoT · blockchain · big data

Visibility, agility, efficiency, **resilience** — but needs heavy infrastructure (World Bank: **$500bn**), a challenge for small firms.

Interesting facts

Maersk TradeLens: delays 5 days → 4 hours, $50m saved · **Walmart**: recall trace 7 days → 2.2 seconds · Deloitte: IoT cuts costs **15%**.

2.5 Workforce Dynamics
operational → strategic roles

Automates routine tasks; creates demand for **new skills**.

Interesting facts

WEF: **85m jobs displaced**, **97m new roles** by 2030 · McKinsey: **$1tn** reskilling, 200 hrs/worker · PwC: 40% of firms face skill shortages.

2.6 Competitive Landscape
levels the playing field

Startups gain; incumbents must innovate rapidly.

Interesting facts

Launch on AWS **$10k/yr** vs $1m servers · **Revolut**: 30m users, challenges HSBC · BCG: 50% of 2000's Fortune 500 disrupted · leaders gain 25% share.

EXAM TIP The "interesting facts" figures are illustrative — learn the **six impact areas** and **one example each** (e.g., Uber = platform model, Adobe = subscription, Maersk/Walmart = supply chain).

3 INTEGRATING IT & DATA MANAGEMENT INTO BUSINESS STRATEGY

THEN
IT = **back-office** (maintain hardware/software); data management = **storing & organising records**

→

NOW
Strategic imperatives driving innovation, decision-making & competitive advantage

3.1 Strategic Role

IT: streamlines workflows, automates tasks, **links departments** (supply chain, finance, customer service) into one system.

Data management: from passive to strategic — insights move firms from **reactive decisions to proactive innovation**.

3.2 Aligning with Business Goals

1. **Collaborate across functions** — business + IT + data teams
2. **Define business objectives** — framework for tech initiatives
3. **Prioritise projects** by value (retail → AI CRM; manufacturing → IoT)
4. **Measure impact** via **KPIs** (cost savings, revenue, satisfaction)

3.3 Data as a Strategic Asset

- **Data-driven innovation** — Netflix recommendations
- **Personalisation & engagement** — targeted offers
- **Operational optimisation** — IoT route planning
- **Data monetisation** — sell **anonymised** data to research firms

4 IT GOVERNANCE FRAMEWORKS & BEST PRACTICES

align · manage risk · deliver value

COBIT
Control Objectives for Information & Related Technology

Most widely adopted **IT governance** framework.

- Align IT with strategy
- Regulatory compliance
- Manage IT risks continuously

ITIL
IT Infrastructure Library

IT service management — standardise services, improve satisfaction.

- Services match business needs
- Design to customer requirements
- Smooth new/changed services

ISO/IEC 27001
international standard

Information security — establish & improve an **ISMS**.

- Identify & assess security risks
- Policies & controls
- Monitor & review regularly

TOGAF
The Open Group Architecture Framework

Enterprise IT architecture design & management.

- Align architecture to processes
- Structure data & apps
- Technology platforms

4.2 Best Practices for IT Governance & Management

Clear structures
Roles, responsibilities, decision authority

Align with strategy
Projects give measurable benefits

Risk management
Cyber, privacy, availability risks

Continuous improvement
KPIs, regular reviews

Compliance
GDPR, PCI-DSS; regular audits

5 ADEQUACY & IMPROVEMENT OF ICT PROCESSES AND CONTROLS

5.1 ASSESS is it adequate? › **5.2 IMPROVE** fix weaknesses › **5.3 EVALUATE ROI** is it worth it?

5.1 Assessing Adequacy

- **Process efficiency** — time, cost, resources; inefficiency → delays, costs
- **Security & compliance** — weak controls → breaches, losses, liability
- **User satisfaction** — dissatisfaction may mean poor functionality, training or support

5.2 Improving Processes & Controls

- **Automation & standardisation** (e.g., RPA)
- **Enhancing security** — MFA, encryption, IDS
- **Training & support**
- **Regular audits & assessments** → corrective action

5.3 Evaluating ROI of ICT

- **Cost-benefit analysis** — hardware, software, training vs benefits
- **Productivity gains** — time & resources saved
- **Strategic value** — may not pay off immediately but builds advantage
- **Continuous monitoring** of ROI

6 IMPACT ON THE ACCOUNTING & FINANCE PROFESSION

record-keepers → strategic advisors

6.1 Automation RPA · AI · OCR	Manual entry once took **20–30 hrs/week** with up to **5%** errors	**e.g.** EY RPA: 1m transactions, 1m staff hours saved; AI errors → 0.1%
6.2 Real-Time Reporting cloud · big data	Months (19th c.) → 30 days (1990s ERP) → **real time**; Deloitte: cycles down to **1 day**	**e.g.** Oracle NetSuite dashboards; CFO adjusts budget within hours
6.3 Compliance & Audit blockchain · RegTech	**Immutable records**, verifiable in seconds (SHA-256); compliance becomes **continuous**	**e.g.** PwC blockchain audit: errors 5% → 0.2%, $2m saved
6.4 Strategic Advisory AI · analytics · predictive	From record-keeping to **advising**; Power BI analyses 1 TB in 5 min	**e.g.** AICPA: 60% of accountants act as advisors
6.5 Skills & Workforce digital-first competencies	Ledgers → Excel → **AI, blockchain, analytics**; **lifelong learning**	**e.g.** IFAC: 75% need upskilling by 2030; Deloitte trains 10,000 in Python & Tableau

EXAM FOCUS · MCQ TRAPS

commonly confused points

1 Disruption ≠ incremental
Upgrading software is **incremental**; disruption is **radical** change to value creation.

2 Christensen 1997
Original "disruptive innovation" = **low-end entrants**; digital disruption covers **all segments**.

3 Driver matching
EU AML → **regulatory**. Kenyan mobile wallets on 4G → **global connectivity**. Terabytes of purchases → **data**.

4 Business model types
Uber = **platform**; Adobe Creative Cloud = **subscription (SaaS)**; blockchain P2P = **decentralised**.

5 WEF jobs
85m displaced but **97m created** by 2030 — net gain.

6 COBIT vs ITIL
COBIT = **governance** & control. ITIL = **service management**.

7 ISO 27001 vs TOGAF
ISO 27001 = **information security (ISMS)**. TOGAF = **enterprise architecture**.

8 Data monetisation
Selling **anonymised** data insights to third parties — a strategic-asset use.

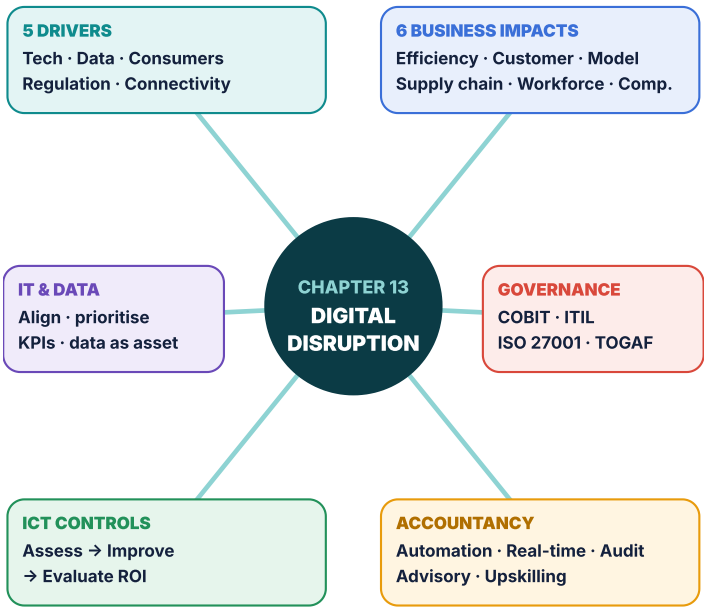
9 ROI isn't only money
Strategic value may not yield immediate returns but builds competitive advantage.

10 User dissatisfaction
Signals poor functionality, **insufficient training** or lack of support.

CLASSIFY IT

1	Standardise IT service delivery	ITIL
2	Build an ISMS	ISO/IEC 27001
3	Design enterprise architecture	TOGAF
4	Align IT with strategy & risk	COBIT
5	Netflix ends Blockbuster	Digital disruption
6	Walmart traces food in 2.2 sec	Supply chain
7	Measuring IT via KPIs	Measure impact
8	OCR reads invoices automatically	Automation (6.1)

REVISION MAP



Disrupt
Radical, tech-driven change to how value is created.

Drivers
Tech, data, consumers, regulation, connectivity.

Strategy
IT & data become strategic assets.

Govern
COBIT, ITIL, ISO 27001, TOGAF.

Accountants
From bookkeepers to strategic advisors.