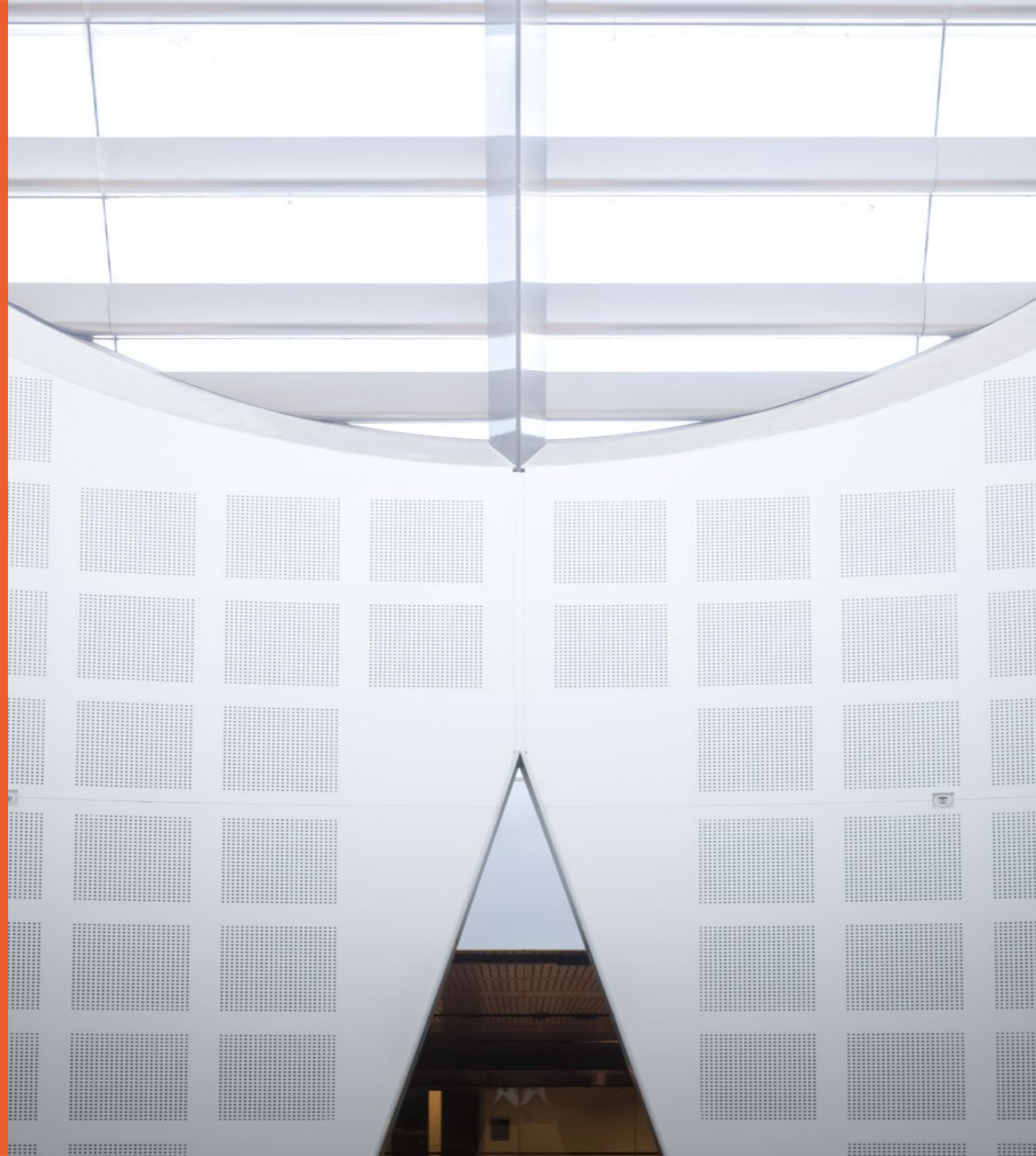
INFO5990
Professional Practice in IT

2023 S1
Week 2

THE UNIVERSITY OF SYDNEY



Creating Organisational Value Through IT Investments

Dr Andrea Stern

School of Computer Science | University of Sydney

Marc Andreessen, developer of Mosaic, the first graphical web browser

So greetings from me to all you smart technologists

David discussed this last week, and I am going to dive deeper into it this week and invite you to expand your view of IT to one which sees:

1. an organisation and its IT as inherently intertwined,
2. a '**value stream**' as a collection of '**capabilities'** such as business processes, skills, technology, that creates value by delivering a product, service or experience to a stakeholder.
3. IT capabilities of an organisation as a rich mosaic of elements that can be configured and re-configured (**orchestrated**) to create **value streams** through **cross-functional teams**
4. value creation activities managed by tools such as project management, devops, service management.

The discrete automation silos of the past are evolving into platforms that orchestrate application delivery as a value stream (Gartner)

Recap: why?

- This unit will help you understand the critical role your technical skills and knowledge play in creating **organisational value**
- Wherever you are now, or wherever you aim to be:
  - understanding the role of IT in creating organisational value (i.e. value aligned with organisational goals, objectives, and strategy) will leverage your skills - wherever you are in the organisation
  - And, that understanding is important because increasingly you will work in cross-functional teams

- *CEO, CIO,*
- *project manager,*
- *data analyst,*
- *UX designer*
- *app developer*
- *game developer*
- *other technical specialist – e.g. cloud, security, IoT*

My background

- Practice
  - Software developer
  - Sysadmin
  - Systems analyst
  - Project manager
  - Consultant
  - IT manager/director (specialising in unformatted text, metadata, 24/7 global services, development of international standards, text-based information services, collaborative development
- Academic
  - degrees in language, social sciences, PhD in IT)
  - Senior lecturer (School of Computer Science, University of Sydney)
  - Associate Professor (Ahmedabad University)
- Retired
  - 4+ granddaughters, and various other animals you will hear about later.
  - Occasional lecturer/tutor/curriculum developer/dancer

I have been very lucky to have had these experiences and my passion is connecting the theory and practice with students as you pursue your careers in our exciting field

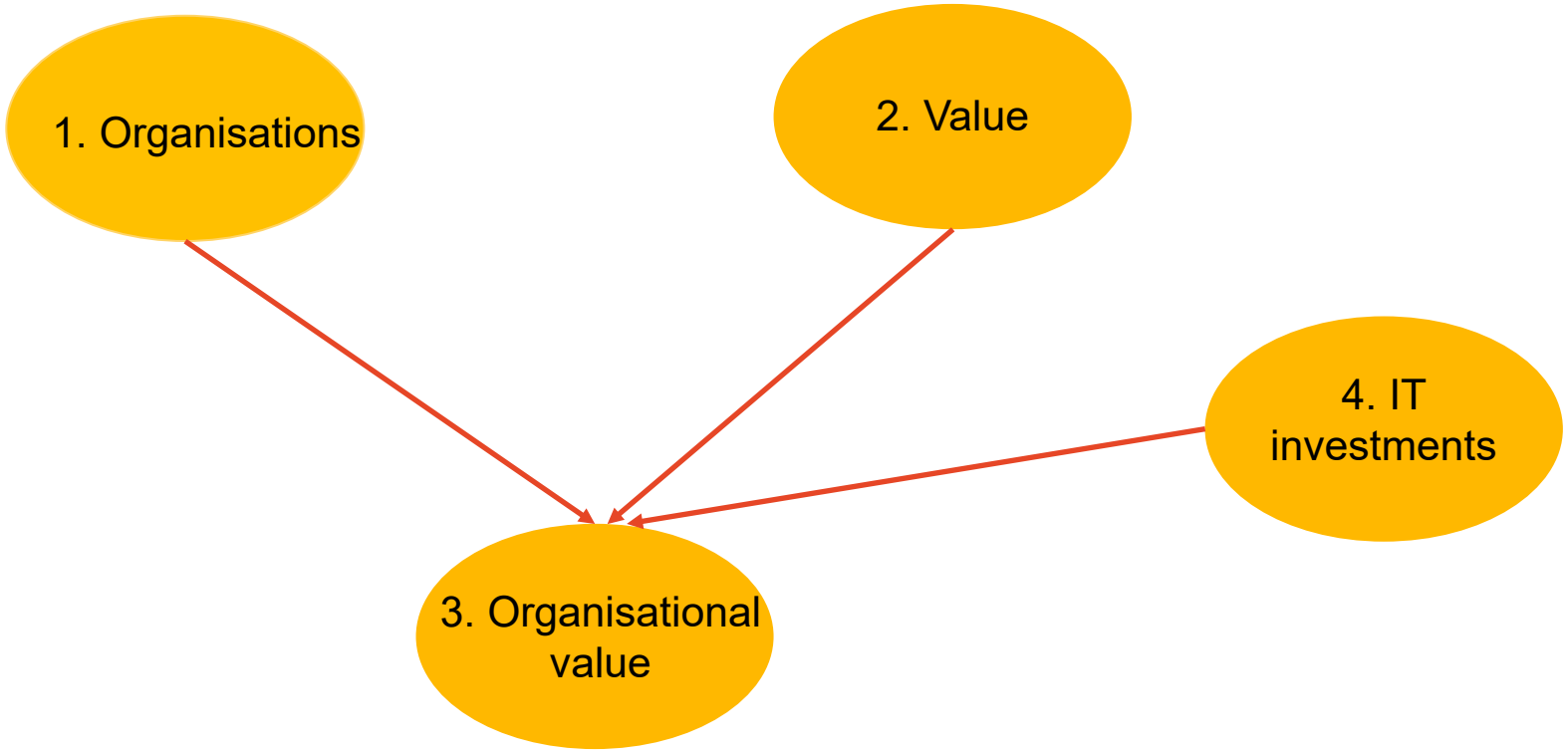
….. and a few comments on it

- My entry into the field and changing recruitment patterns over the decades
- How it was to be female, and also to be a tech with both IT and humanities/soc sci backgrounds
- The switch from practice to academia– from a practitioner/research laboratory to research/teaching
- Role of social science - importance of e.g. ethnography (situated action, not just UX) and how that matters to the tech giants.
- What I learnt about inter-dependence and diversity of approach- like Steve

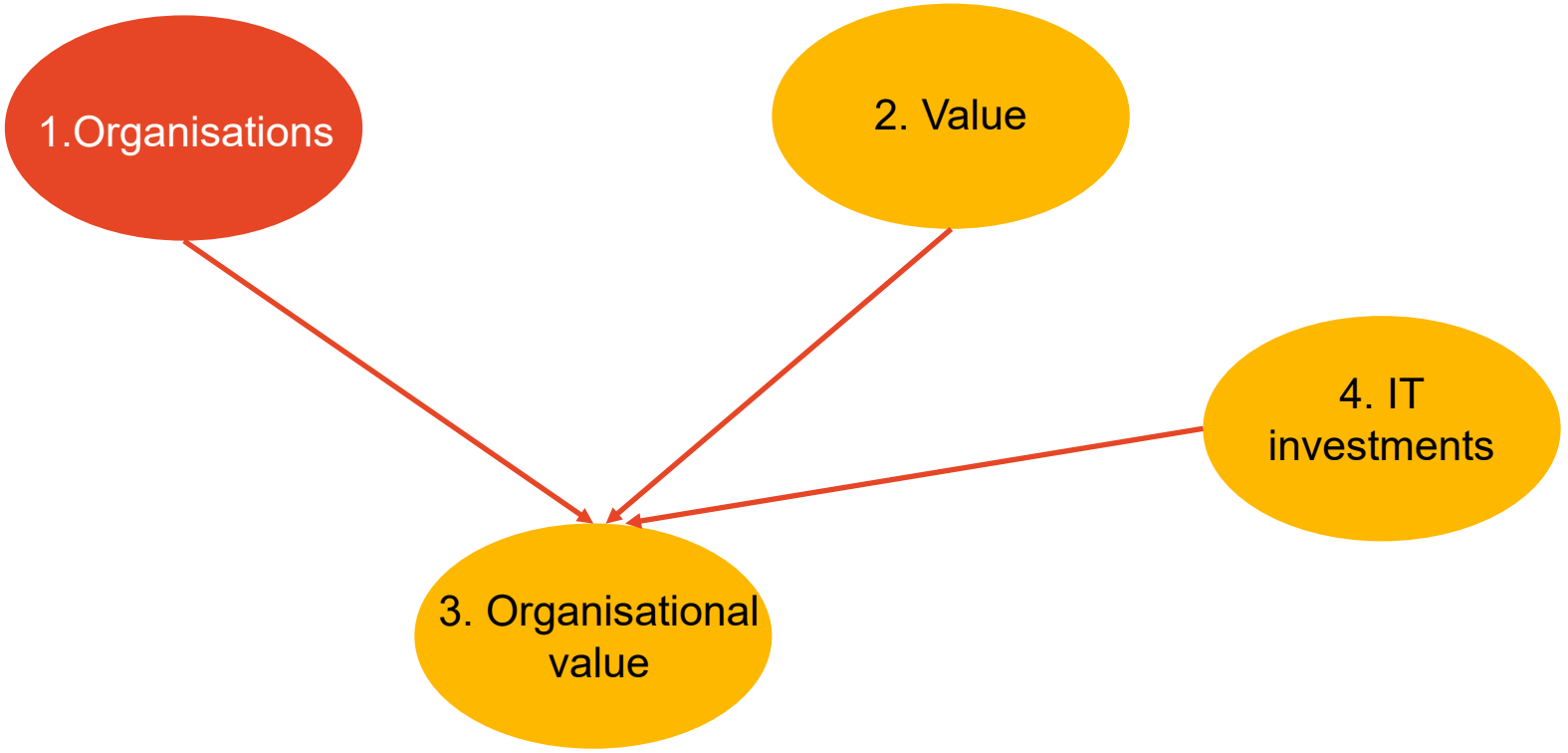
Creating organisational value through IT investments: Overview

- **Part A**: Four foundational concepts:
  - Organisations, value, organisational value, and IT investments
- **Part B**:How is organisational value created? Aligning IT and business.
  1. Organisational (business) goals, objectives and strategy
  2. Organisational (business) models, operating models and capabilities
  3. IT strategy, the IT operating model and IT capabilities
  4. Orchestrating business and IT capabilities into value streams
- **Part C**: How to represent IT value as organisational value
- **Part D**: What does this mean for you as an IT professional?
- **Part E**: a guide to writing and referencing for your written assignments

PART A: Four foundational concepts *(Roadmap 1)*



Foundational concept 1.
Organisations: from hierarchies to Alibaba



What is an organisation?

- An organisation is a structured group of people with a particular purpose (**goal**) to create some kind of value for its **stakeholders**. For example:
  - an organisation might be a business whose goal is to **create value** in the form of **profit** through commercial activities e.g.?
  - or it might be a government department, or a non-profit organisation, whose goal is to **create value** in the form of **improved health outcomes** for its citizens through free medical services

Can you think of any other examples of value a government might want to create?

- **Stakeholders** can include e.g. customers, clients, suppliers, shareholders, employees, communities, citizens
- An organisation will have objectives and strategies to realise their goals

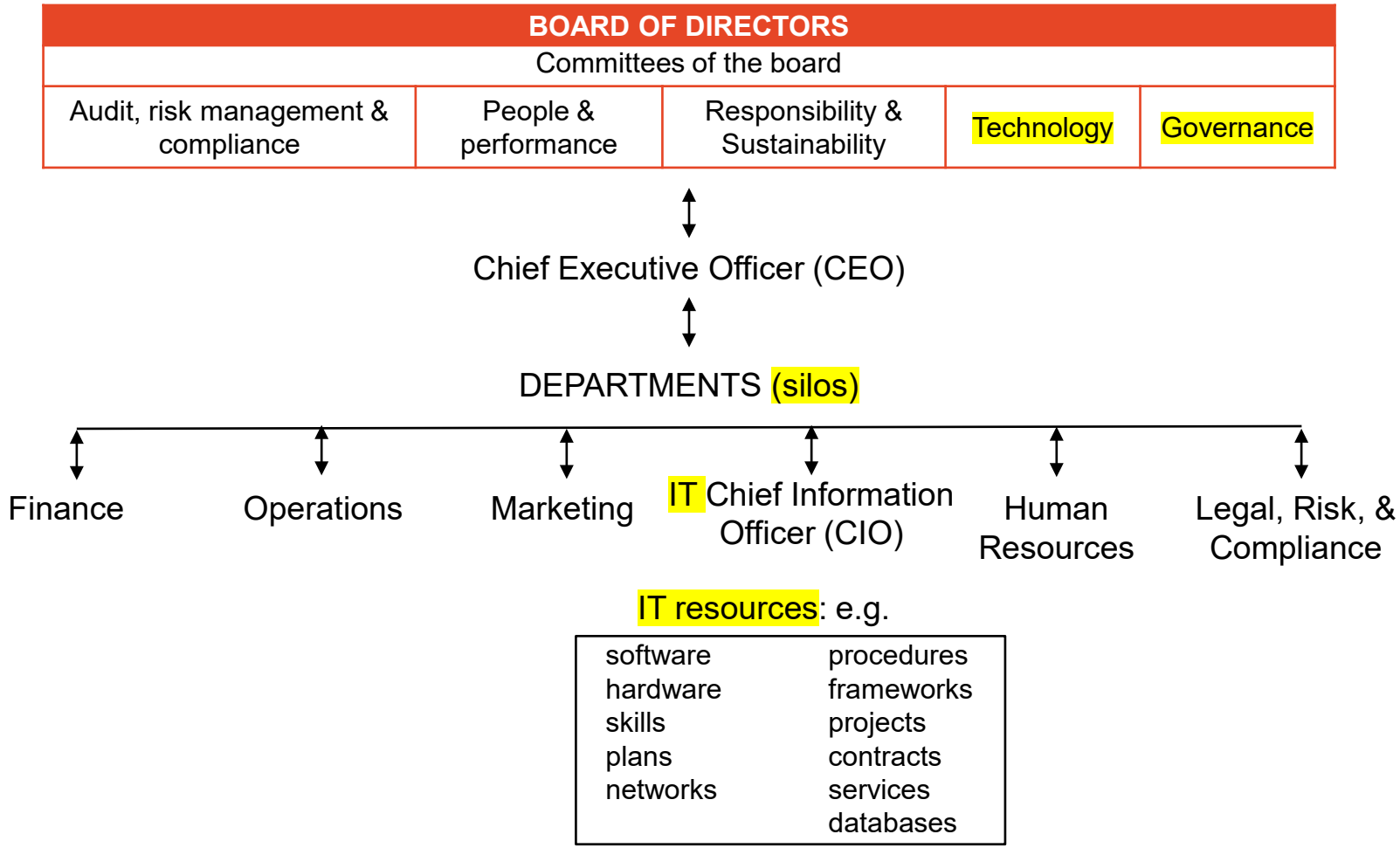
Clarifying our use in this course of the terms: ‘organisation’ and ‘business’

- Organisation
  - This is our preferred term, as it includes both commercial and non-commercial organisations, as described in the previous slide. (‘Enterprise’ is a similar term you also will find in some of your material)
  - It is important as professionals that we consider the application of IT in all forms of human endeavour, not just commercial ones. Although the emphasis in much of the IT world is on profit-making services, IT is an increasingly important tool for e.g. supporting and improving social services – e.g. egov
- Business
  - This is a frequently used term in sources that you will access, and where a term is very commonly used – such as ‘business model’, or ‘business strategy’ we have retained that term to include non-commercial organisations.

Organisational structures vary

- Organisations can be structured in many ways, from a '**top down**' hierarchical structure (e.g. a traditional bank, or an army) to a **networked** structure (e.g. a ride-sharing organisation, or e-commerce market place)
- That structure generally reflects the way in which roles and responsibilities, lines of communication, and allocation of resources such as IT, are determined.
- In a **top down** organisation, its structure has been broken down into its various functions with a hierarchical approach to responsibilities and communication flows i.e. as in silos
- A **network** structured organisation, on the other hand, "organizes contractors and third-party vendors to carry out certain key functions, facilitated by IT. It features a relatively small headquarters with geographically-dispersed satellite offices, along with key functions outsourced to other firms and consultants".
- For more details of these and other types of organisational structures see Investopedia

‘Top down’ example: hierarchy of functions in silos: e.g. a supermarket



Networked example: platform, e.g. Alibaba

- A platform is a networked organisation which facilitates exchanges amongst multiple people or organisations as both vendors or consumers. This is the model of Alibaba
- “The ecosystem we built was simple at first: We linked buyers and sellers of goods. As technology advanced, more business functions moved online—including established ones, such as advertising, marketing, logistics, and finance, and emerging ones, such as affiliate marketing, product recommenders, and social media influencers. And as we expanded our ecosystem to accommodate these innovations, we helped create new types of online businesses, completely reinventing China’s retail sector along the way.

Excerpts from MING ZENG. (2018). Alibaba and the Future of Business. *Harvard Business Review, 96(5)*, 88–96. (see link on next slide)

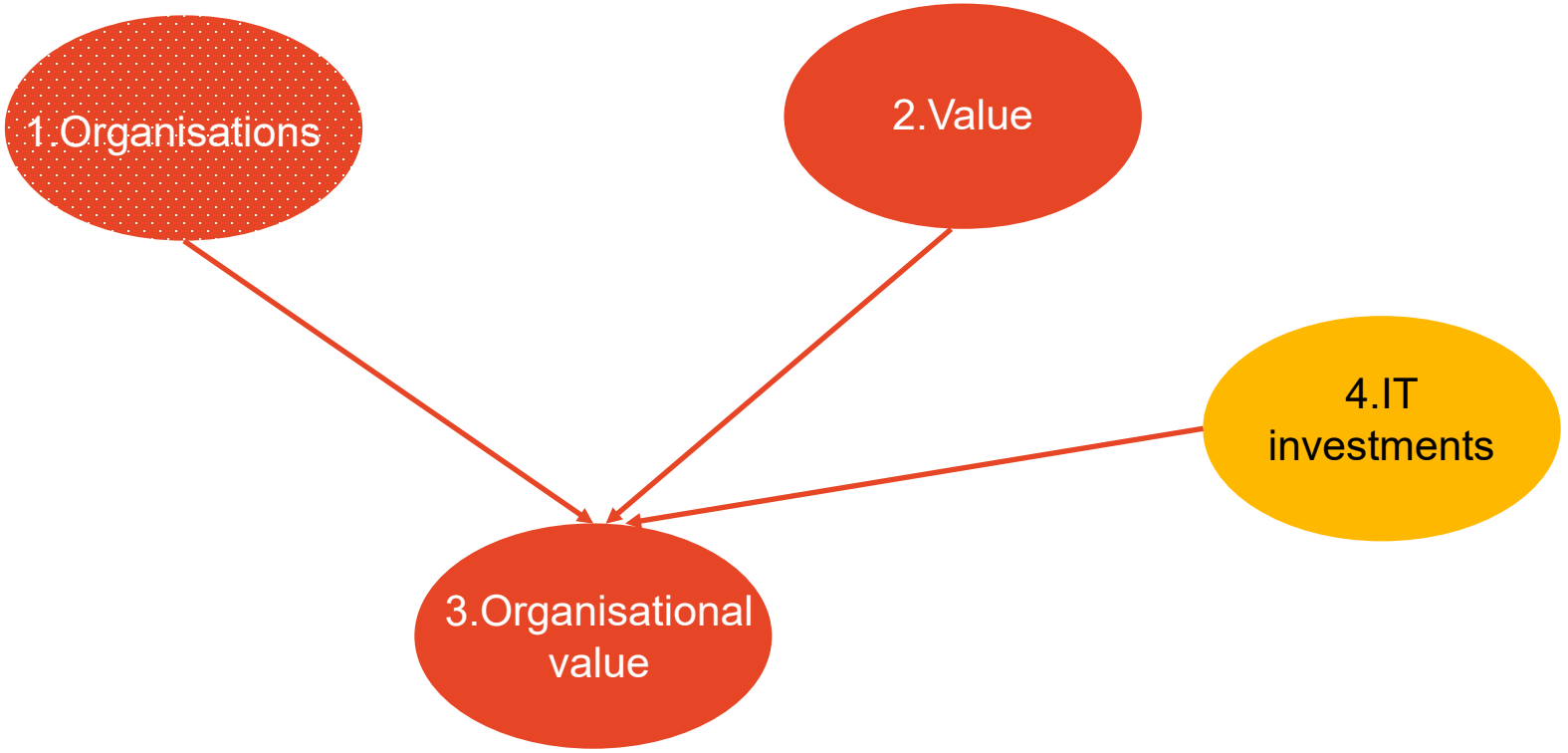
“Alibaba and the future of business”: cont.

- “Alibaba is not a retailer in the traditional sense. It doesn’t source or keep stock, and logistics services are carried out by third-party providers. Instead, Alibaba is what you get if you take all the functions associated with retail and coordinate them online into a sprawling, data-driven network of sellers, marketers, service providers, logistics companies, and manufacturers. In other words, Alibaba does what Amazon, eBay, PayPal, Google, FedEx, wholesalers, and a good portion of manufacturers do in the United States, with a healthy helping of financial services for garnish”, but all through one access point.

- Your experiences …….?

https://web-s-ebscohost-com.ezproxy.library.sydney.edu.au/bsi/detail/detail?vid=3&sid=0ee7ac12-330c-41bf-ad05-22f33d6b5a19%40redis&bdata=JnNpdGU9YnNpLWxpdmU%3d#AN=131356796&db=bsu

Foundational concepts 2 & 3: Value and organisational value



What is value?

- Value is the importance, worth, or usefulness of something, as **perceived by a person, or a group of people**.
- In organisations, it typically refers to what is important or useful to the stakeholders of the organisation, e.g. to:
  - shareholders,
  - employees,
  - customers,
  - citizens,
  - communities

https://pubs.opengroup.org/togaf-standard/business-architecture/value-streams.html

For example …

- Why do customers or clients purchase (or receive) goods or services?
- Why do venture capitalists invest in certain startups?
- Why do governments or non-profit organisations invest (time and/or money) in certain ventures?
- Why do employees, or volunteers, choose to work at one organisation over another?

For example … (cont.)

- The answer to these questions boils down to an essential organisational (or personal) objective - value creation, e.g.:
  - Customers/clients make purchases of (or receive) goods or services based on perceived value
  - Commercial investors (shareholders) hope for value in the form of long-term profit from their investments.
  - Employees or volunteers exchange their services for financial or personal value by working at an organisation.
  - Government or non-profits hope for value in the form of social equity or national interests such as health.

E.g what would be an example of the value a government might look for?

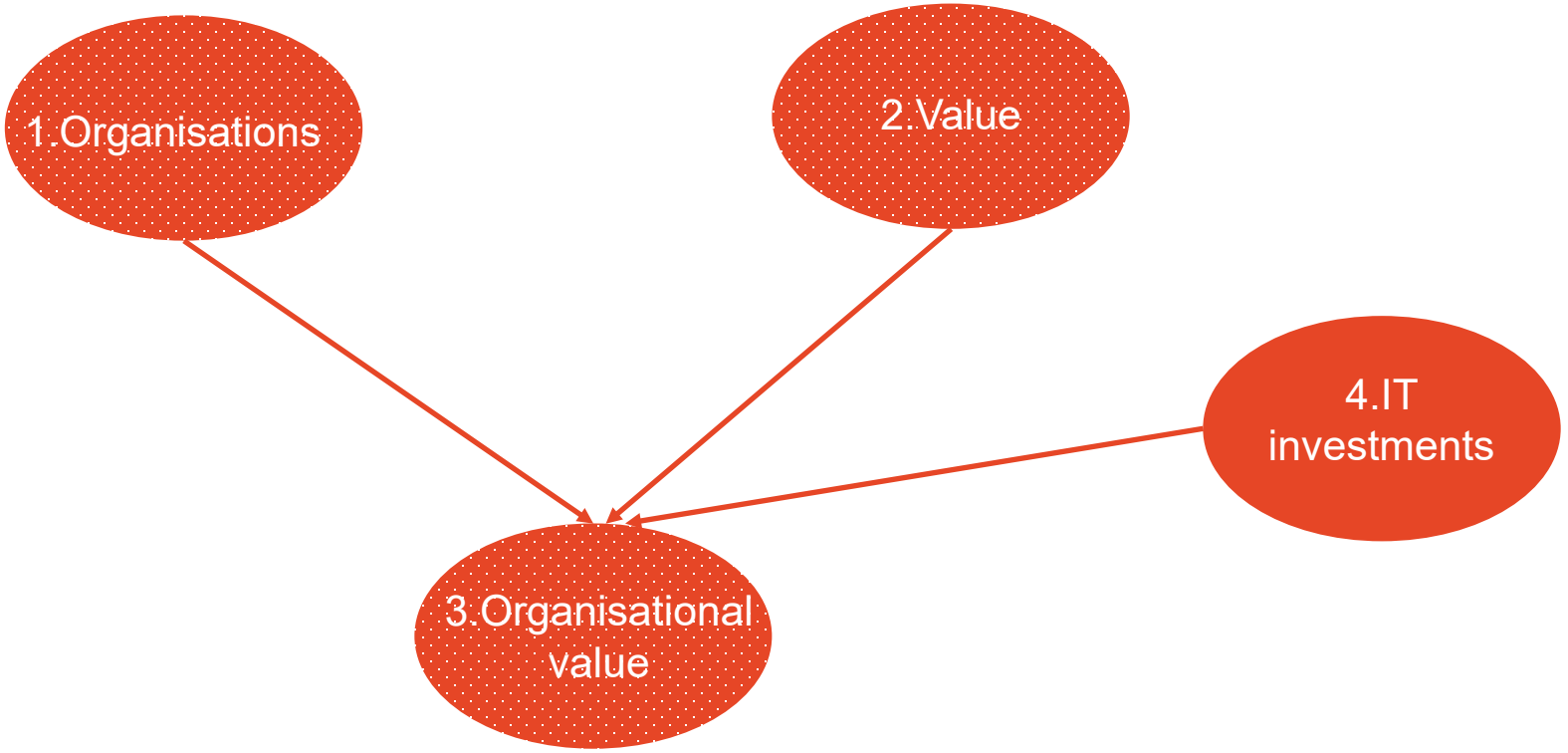
https://online.hbs.edu/blog/post/how-do-businesses-create-value#:~:text=The%20answer%20to%20these%20questions,by%20working%20at%20a%20company

Organisational value

- Value is fundamental to everything that an organisation does.
- The primary reason that an organisation exists is to provide value, at an optimum level of return, to its stakeholders

https://pubs.opengroup.org/togaf-standard/business-architecture/value-streams.html

Foundational concept 4: IT investments



But first, the distinction between ‘resources’ and ‘capabilities’

- We will use these two terms frequently so here is a clarification of the difference between them so we can define what IT investments are:

- Resources refer to what an organisation **owns**. They might be:
  - **tangible** - such as property, machinery, or hardware
  - **intangible** - such as the knowledge and skills of employees, policies, procedures, processes (manual/automated), software

- Capabilities refer to what the organisation **can do** by using those resources
  - A capability is the ability to execute a specified course of action to achieve certain outcomes based on the resources available such as skills and technology

Example:

1. Desired outcome is connection to all users at a specified level of service (e.g. speed, capacity, security, availability
2. Tangible resource -
    a. network equipment
3. Intangible resources -
    a. network engineer's skills
    b. software
    c. Processes that guide the course of action to produce the outcome
4. Capability = ability to execute 2a + 3a + 3b + 3c → 1

What is an IT investment?

- Money an organisation spends on IT-related resources and capabilities that enable an organisation to create value
- These can include:
  - hardware (e.g. individual devices, servers, networks, cloud-based services),
  - software (e.g. apps, platforms, middleware, operating systems),
  - data,
  - people (e.g. IT specialists),
  - processes and frameworks (e.g. agile, PMBOK, ITSM, DevOps).
- These resources and capabilities can be internally owned by the organisation (insourced) or externally sourced (outsourced), e.g. XaaS

The critical role of IT in creating organisational value

- The money spent on IT is a major investment for most organisations and that IT investment is critical for creating value - as we will see in the next slide.

IT Spending Ratios Between 25th and 75th Percentiles, by Industry

IT Spend as…	Discrete Mfg	Fin'l Services	High Tech	Retail	Health care
Percentage of Revenue	1.4% - 3.2%	4.4% - 11.4%	2.6% - 4.7%	1.2% - 3.0%	3.0% - 5.9%
Per User	$3,733 - $9,864	$13,772 - $26,667	$6,191 - $11,653	$3,913 - $14,685	$3,157 - $6,143
Per Desktop/ Laptop	$4,658 - $9,395	$12,171 - $23,882	$5,452 - $9,218	$4,806 - $13,533	$3,280 - $7,273

Source: Computer Economics, 2019

- Doing IT **well** matters to organisations – this is where **you** are important in the organisation

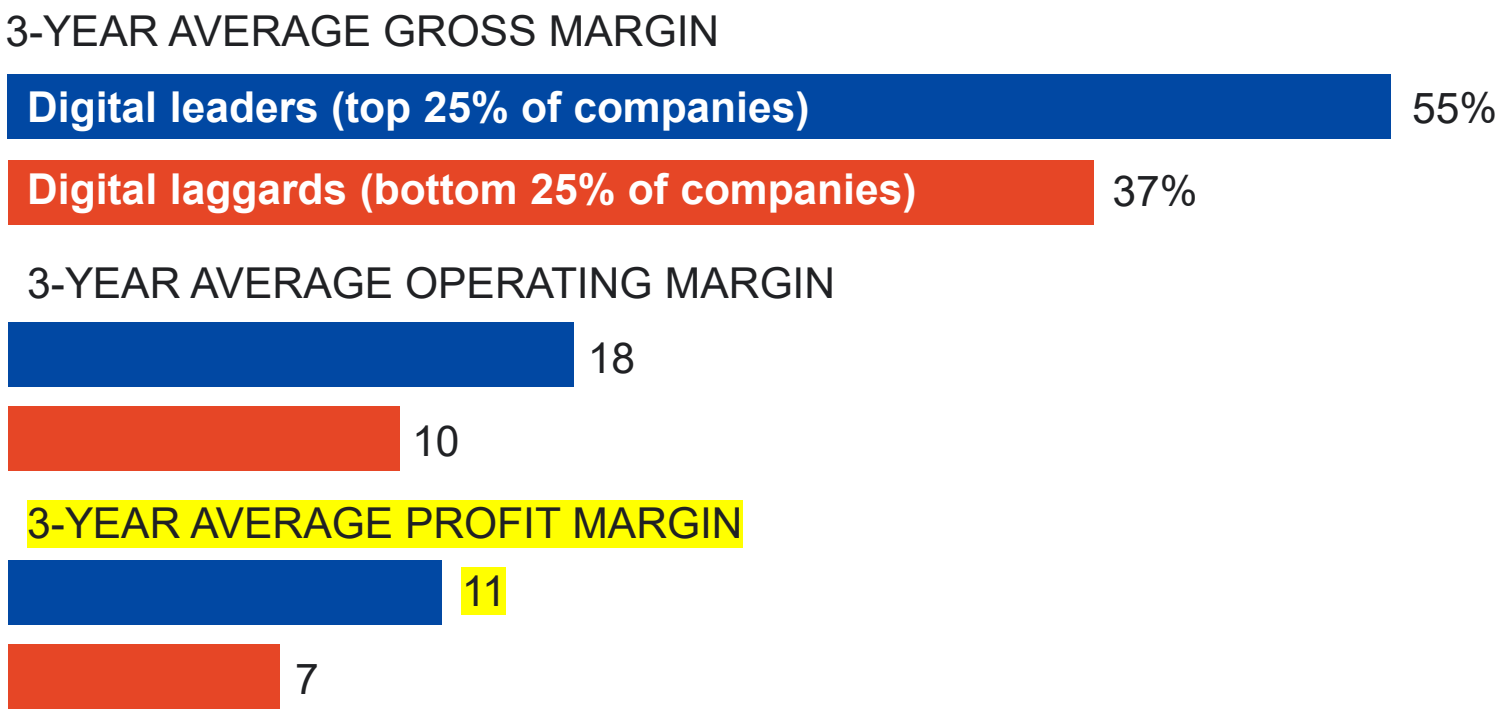
Example: doing IT well - the impact on value creation of investing in ‘digital leadership’

- But it is not just the amount you invest that matters, it is what you invest it in.
- Research shows that organisations which have invested in digital transformation (i.e. network-centric and data oriented digital leaders) perform significantly better financially than other organisations with a **similar level of investment**, but less focused on transformation (digital laggards).

Bock, R., Iansiti, M., & Lakhani, K. R. (2017). What the Companies on the Right Side of the Digital Business Divide Have in Common. Harvard Business Review Digital Articles, 2-6 https://hbr.org/2017/01/what-the-companies-on-the-right-side-of-the-digital-business-divide-have-in-common

Digital leaders outperform laggards on three financial measures

Based on 2012-2014 data from 344 enterprises listed on U.S. exchanges

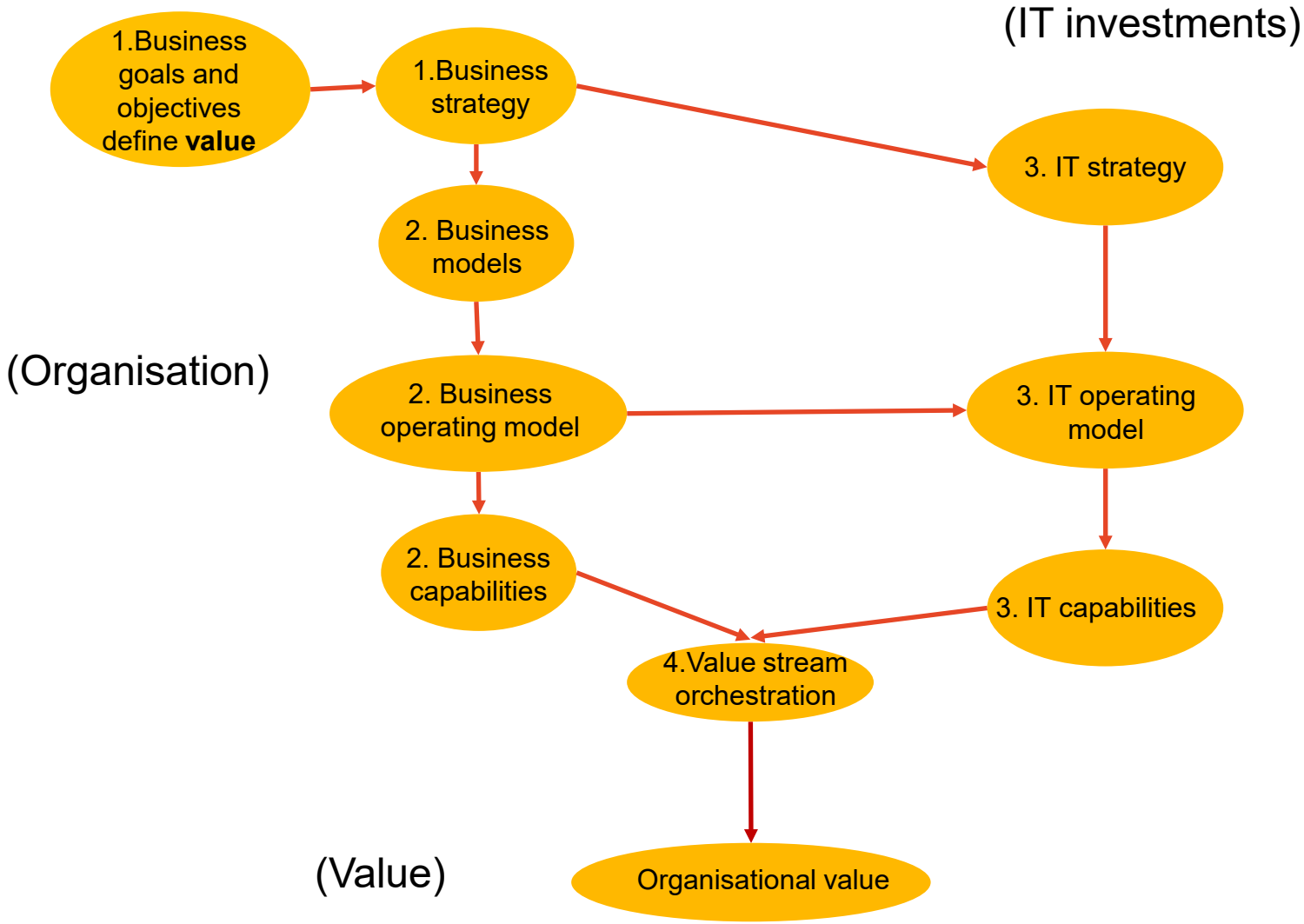


SOURCE S&P CAPITAL IQ, KEYSTONE STRATEGY ANALYSIS

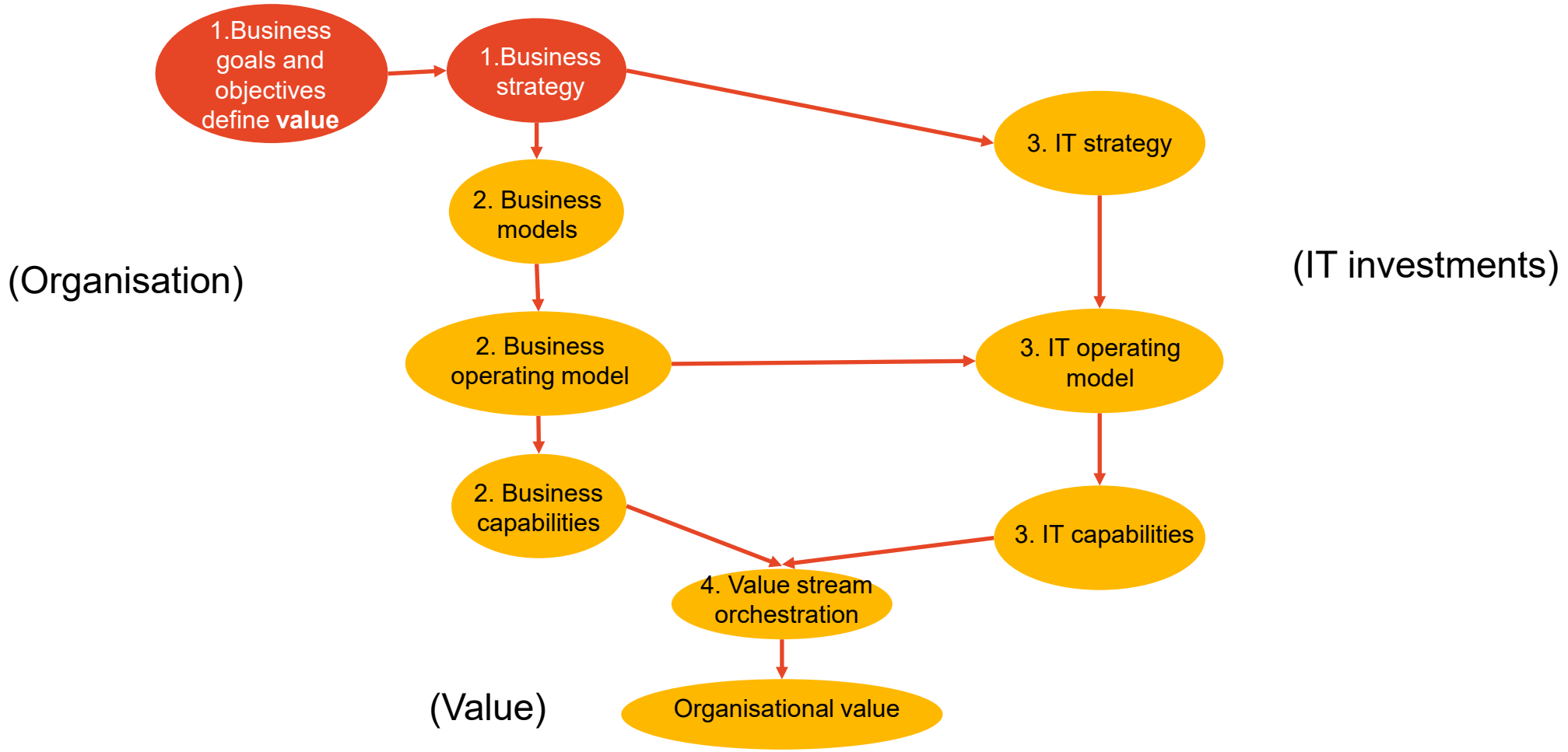
Bock, R., Iansiti, M., & Lakhani, K. R. (2017). What the Companies on the Right Side of the Digital Business Divide Have in Common. *Harvard Business Review Digital Articles*

PART B:
How is that organisational value created?
(Roadmap 2)

Aligning IT and Business



1. Organisational goals, objectives and strategy



Organisational (business) goals

- Organisational (or business) **goals** define an endpoint, accomplishment, or targets an organisation wants to achieve. i.e. organisational value
  - For example to increase profitability >10 %
  - Improve natural disaster survival rates by 50% (as in Steve Issa's discussion of the new State Emergency Services communication service last week)
- They help:
  - set the direction of an organisation
  - measure progress
  - establish accountability
  - improve decision-making

https://www.techtarget.com/searchcio/definition/business-goals#:~:text=Business%20goals%20represent%20the%20direction,a%20business%20achieve%20that%20goal

Why are business goals important?

- Business goals are important for numerous reasons that can affect the overall operations and success of an organization.

- **Business goals help measure progress.** Business goals provide the milestones that can help an organization measure its success or lack thereof.
- **Business goals set the direction of a company.** Business goals allow all employees to have a clear idea of where the company wants to go and what it wants to be.
- **Business goals establish accountability.** Business goals enable management to take ownership of its successes or failures.
- **Business goals improve decision-making.** Business goals align the activities of the business so management can constantly evaluate decisions to ensure the business moves toward its target.

https://www.techtarget.com/searchcio/definition/business-goals#:~:text=Business%20goals%20represent%20the%20direction,a%20business%20achieve%20that%20goal

Organisational Objectives & strategy

- **Objectives** specify the methods, paths and metrics that can help an organisation achieve a **goal**
  - e.g. reduce expenses by 5%, increase sales by 5% etc.. Reduce defects by 50% reduce incidence of a childhood disease by 50%
- **Business goals vs business objectives**
  - Business goals and business objectives are closely related, and the terms are sometimes used interchangeably. However, they are two different things.
  - Business goals represent the direction in which a company intends to go and define what the organization wants to achieve. A business objective specifies the methods and paths that can help a business achieve that goal.
- **Strategy** is a plan to achieve the **goals and objectives** of an organisation
  - e.g. review infrastructure costs to identify opportunities for reducing expenditure

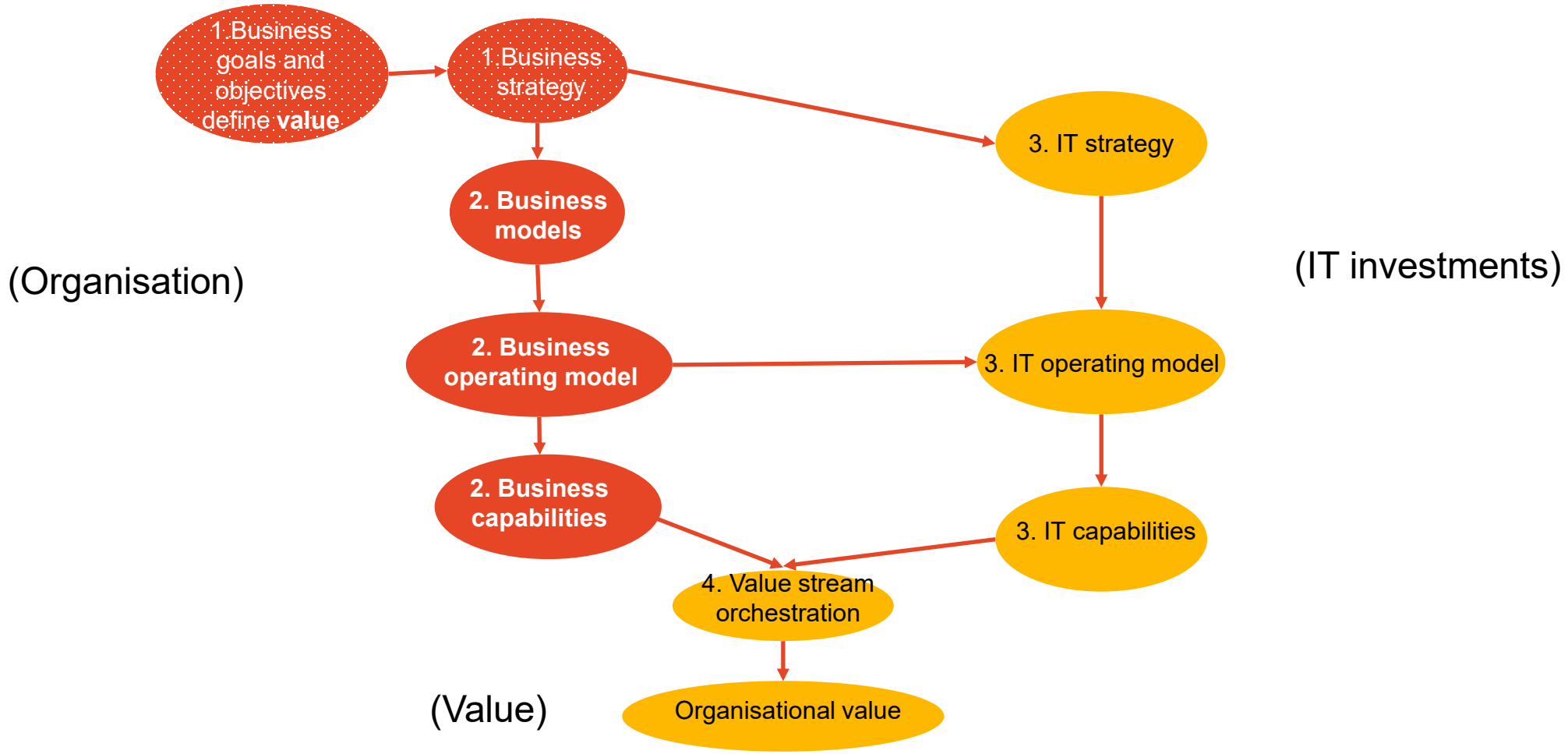
https://www.techtarget.com/searchcio/definition/business-goals#:~:text=Business%20goals%20represent%20the%20direction,a%20business%20achieve%20that%20goal

Example of goal-driven strategy in a government project

- In this video, our Industry Guest presenter, Shae Howard, gives an example of the role of organisational goals and objectives, i.e. the "Policy Priorities" for the NSW State Government digital transformation exercise. This is part of the work that Steve Issa (last week) talked about and is based on the idea of understanding ‘user journeys’, i.e. the value to users of the transformation
- https://echo360.net.au/media/31dc3693-ad7d-4f7b-a981-4f55edd92f59/public

- In this video, Shae continues by describing the digital (IT) strategy and how it was designed to achieve the goals and objectives expressed in the Policy Priorities described in the previous video
- https://echo360.net.au/media/dd66d185-e673-480d-bb3c-936309cf61f9/public

2. Business models, business operating models and business capabilities



Business Models: the framework for creating value

- A **business model** is a description of how an organisation creates, delivers, and captures value
- The model is not only used to describe commercial organisations, but also government and non-profit organisations, where the value being created is not necessarily financial.
- It is based on the **business strategy**

Business Models: the framework for creating value (cont.)

- It has a formal structure that consists of four basic components:
  - Customers/clients/users
  - the value proposition
  - a financial model
  - capabilities
- Most organisations will have more than one business model targeted at different customers
  - for example combining traditional brick and mortar retail with e-commerce.

Example: components of a business model

- Customers
  - Who are our customers/clients/users and what are their characteristics? Is there a particular segment with identified common needs?
  - E.g. Steve emergency services
- Value proposition –
  - What needs will our offering meet - i.e., what outcomes will our offering achieve for our customers?

Example: components of a business model (cont.)

- Financials
  - How will we make money? And what will it cost us to make money?
- Capabilities
  - A capability is the ability to execute a specified course of action to achieve certain outcomes based on the resources available such as skills and technology
  - What capabilities, both inside and outside our organisation, will we need?

An operating model executes the business model

- An operating model is the blueprint for how value will be created and delivered to stakeholders
- It details how an organisation configures and re-configures (**orchestrates)** its capabilities to create and deliver value to the organisation to achieve its goals and strategic objectives
- An operating model also defines how the organisation manages itself and its resources through its management processes, governance and culture.
- Any change to the organisation's business models will require changes to the operating model

Gartner

General benefits of an operating model

- Effectiveness
  - effort and spend are focused on what is important for the organisation – e.g. aligns the IT investment with organisational goals
- Efficiency
  - Execution is optimised – i.e. to get the best possible result at the least cost
- Risk Management
  - Optimised management of risk
- Optimised performance
  - Cost effective and agile
- These are among topics that we will discuss in later weeks

Kwok, C. (2022). INFO5990 Professional Practice in IT, Lecture 7B Guest Lecture, Week 7: Delivering Value from IT Services [Lecture PowerPoint Slides]

Organisational (business) capabilities

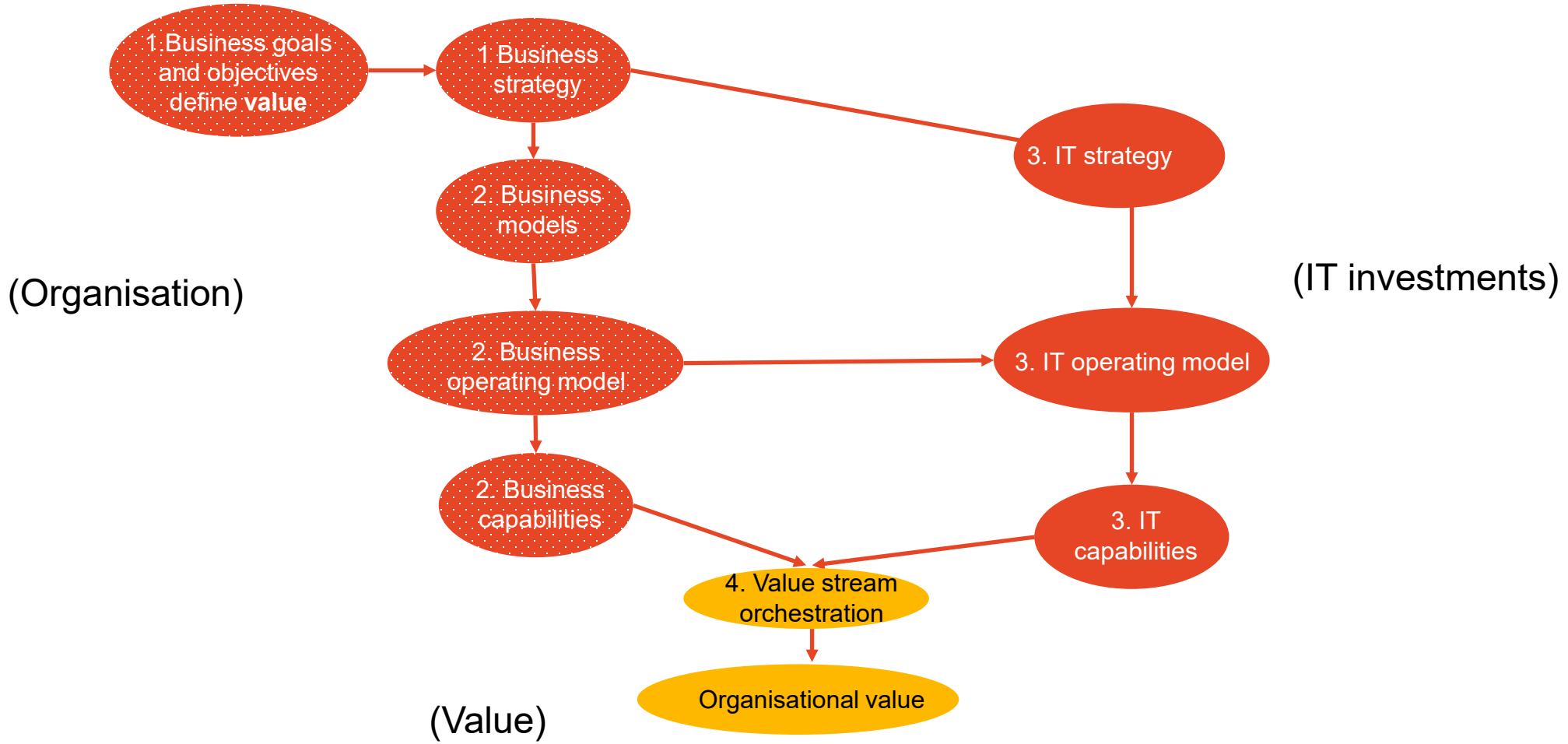
- Resources refer to what an organisation owns. They might be:
  - tangible assets such as property or,
  - intangible assets such as the knowledge and skills of employees, policies, procedures, processes.
- Capabilities refer to what the organisation can do by using those resources
- A capability is the ability to execute a specified course of action to achieve certain outcomes based on the resources available
- An example of a business capability would be setting up advertising channels for a product. (We will examine this in more detail when we look at value streams)

https://opentextbc.ca/strategicmanagement/chapter/resource-based-theory/#f4.2

Break:

Back in 5 woofs

3. IT Strategy, IT operating model, and IT Capabilities



IT strategy

- Organisational (or Business) strategy is a plan to achieve the goals and objectives of an organisation
- **IT strategy** is a part of organisational strategy
- It is a plan for how the organisations IT investments will be applied across the organisation to achieve the **organisational goals and objectives**
- It is **NOT** the plan to achieve operational objectives internal to IT such as costs, service levels, performance, which we shall discuss later.
- Measures of success of the IT strategy are linked to organisational goals and objectives

The IT operating model

- An IT operating model details how an organisation configures and re-configures (orchestrates) its IT capabilities to deliver value to the organisation to achieve its goals and strategic objectives

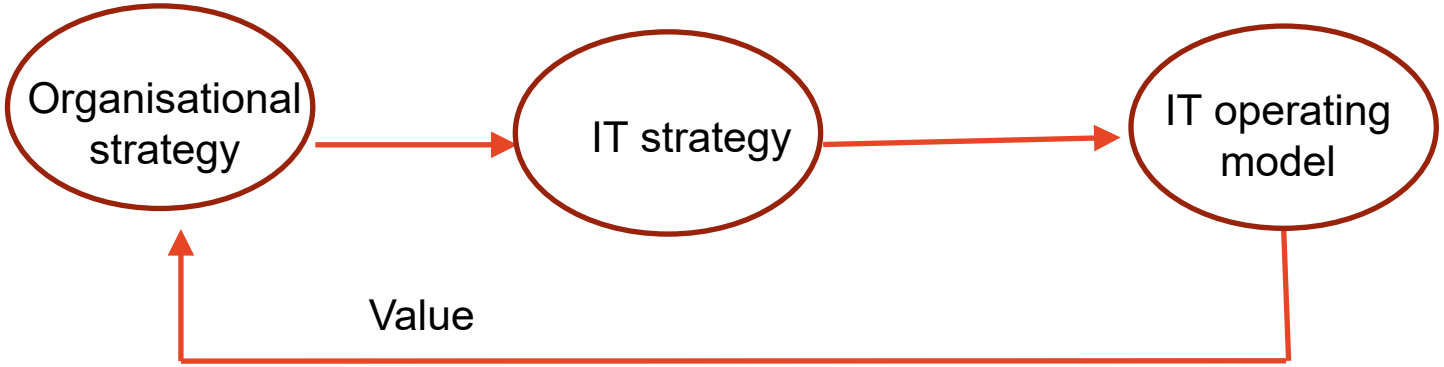
- The model spans the whole IT lifecycle.

The IT operating model

- It defines:
  - The scope and role of IT resources and capabilities
  - How IT work is performed, where and by whom (including outsourcing)
  - How the IT investment is managed and optimised
  - How IT is governed to ensure it remains aligned to the IT strategy and in turn to the organisational strategy through **IT Governance**
  - How IT investments are assessed, budgeted, reviewed and approved
  - The organisational structure and processes by which the above is performed
  - how IT capabilities are structured, managed, and aligned with organisational strategy, through the IT operating model

The IT operating model

- This diagram shows how the IT operating model, driven by the IT strategy, uses, and governs, IT (IT capabilities) to create value aligned with the organisation's strategy



Why does the organisation exist and what value does it seek to deliver to its stakeholders?

What does IT need to be and do to sustain and extend the organisation's strategy?

How does IT need to operate to sustain and extend the organisation's strategy and how is IT governed?

Kwok, C. (2022). INFO5990 Professional Practice in IT, Lecture 7B Guest Lecture, Week 7: Delivering Value from IT Services [Lecture PowerPoint Slides]

General benefits of an IT operating model

- The general benefits of an IT operating model are:
  - Effectiveness – effort and investment are focused on what is important for the enterprise (IT/Business alignment)
  - Efficiency – execution is optimised (i.e. minimal waste)
  - Effective risk management – optimised management of risk
  - Optimised performance – cost effective and agile

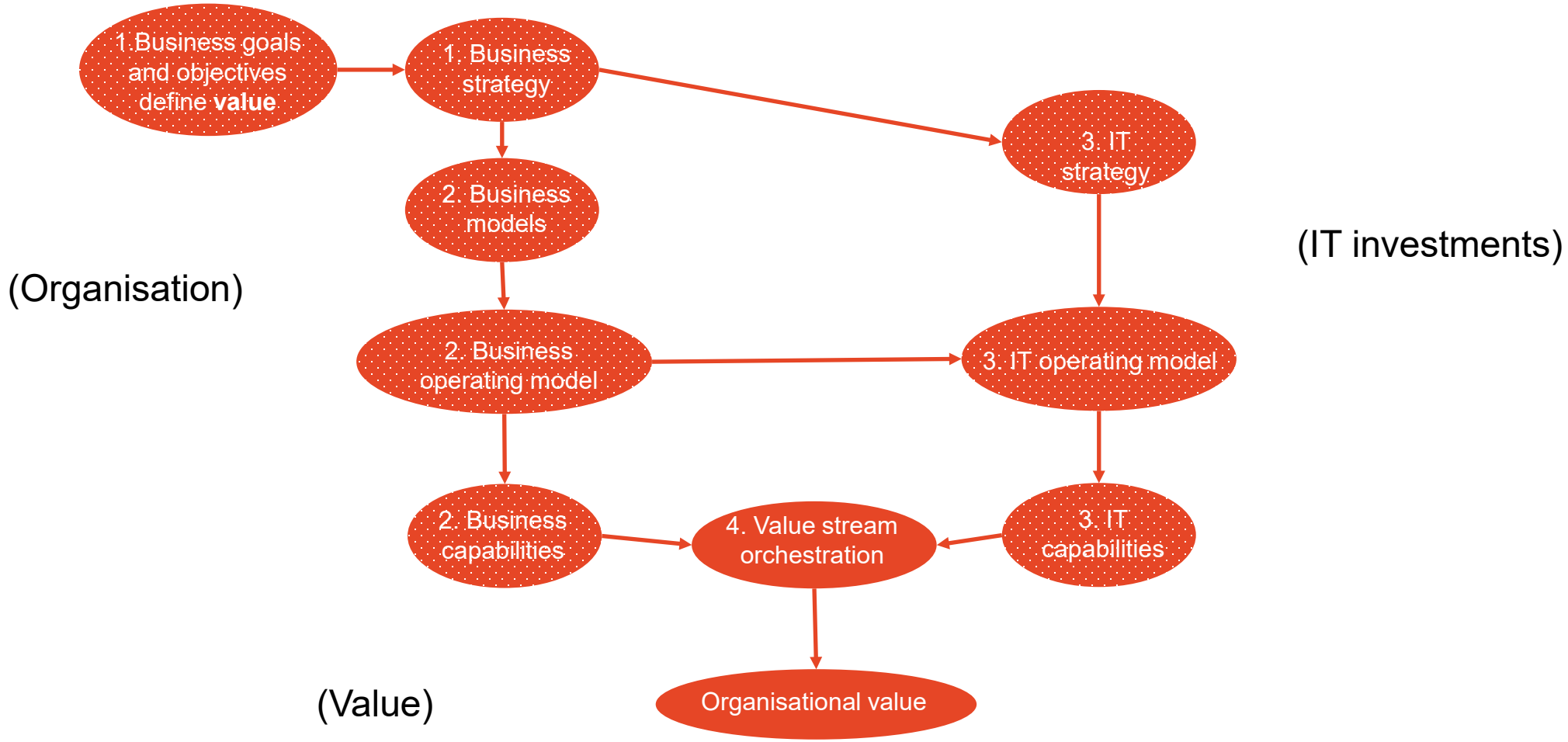
IT capabilities

- **IT capabilities** refer to what can be done by using the organisations IT resources to execute a specific course of action to achieve a certain outcome
- The IT resources (which may be either insourced or outsourced, e.g. XaaS). Can include:
  - Software e.g. applications, Hardware e.g. servers/networks
  - IT expertise (skills & knowledge)
  - Contracts
  - Processes, frameworks & tools
  - Plans
  - Architectures
  - Projects
  - Databases
- The operating model governs how **IT capabilities** are structured, managed, and aligned with organisational strategy,

IT capabilities - example

- an example of an IT capability would be the ability to apply a DevOps framework to develop a new customer interface application

4. Orchestrating Business and IT capabilities into value streams



Orchestrating business and IT capabilities into value streams

- A value stream takes an end-to-end perspective of value creation from the stakeholder's (e.g. customer) point of view.
  - For example, the value created for a customer looking for, selecting, and acquiring a retail product (e.g. handbag).
- To create the value, (i.e. a product, service, or experience) for the stakeholder, a series of value-adding business and IT capabilities is configured (orchestrated)
- Value streams may be defined at any level of an organisation. The complete set of value streams in an organisation is an aggregation of the multiple ways in which the organisation creates value for its various stakeholders
- The value stream represents, at the most granular level of the organisation, how IT is embedded with other organisational capabilities in the creation of value

https://pubs.opengroup.org/togaf-standard/business-architecture/value-streams.html

Example of value stream description and decomposition

1. Identify the value stream and describe it on four standard elements. The first element names the desired customer activity

Name	Acquire Retail Product
Description	The activities involved in looking for, selecting, and obtaining a desired retail product (e.g. a handbag)
Stakeholder	A retail shopper wishing to purchase the product.
Value	Customers are able to locate desired products and obtain them in a timely manner.

2. Decompose Acquire Retail Product into a sequence of value-creating stages

https://pubs.opengroup.org/togaf-standard/business-architecture/value-streams.html (Section 2)

Example of mapping capabilities to a value stream stage

3. Describe each decomposed stage, as in the example below

Acquire Retail Product

Value Stream Stage	Description	Participating Stakeholders	Entrance Criteria	Exit Criteria	Value Items
Advertise Channels	The act of making customers aware of the company's products.	Store or Website Owner Marketing	Customer searches for product	Customer selects channel	Retail channel available to customer

Marketing Mgmt. Capability

Channel assessment & selection

Marketing Mgmt. Capability

Channel negotiation

4. Identify which capabilities are needed to enable the stage, and map them the stage

https://pubs.opengroup.org/togaf-standard/business-architecture/value-streams.html (section 4.2)

Example of benefits of a value stream approach

- In 2014, a major European bank announced a multiyear plan to improve customer satisfaction and reduce overall costs by up to 35 percent.
- The bank targeted the ten most important ’customer journeys’ (i.e. value streams) including the mortgage process, onboarding of new business and personal customers, and retirement planning.
- Eighteen months in, operating costs were lower, the number of online customers was up nearly 20 percent, and the number using its mobile app had risen more than 50 percent.

https://www.mckinsey.com/~/media/mckinsey/business%20functions/mckinsey%20digital/our%20insights/introducing%20the%20next-generation%20operating%20model/introducing-the-next-gen-operating-model.ashx

Part C:

How to Represent IT Value as Organisational Value

1. IT operational metrics do not represent organisational value

- One final issue to mention in this discussion on creating organisational value through IT investments, is the importance of your understanding the distinction between IT operational metrics and measures of the organisational value of IT.
- IT operational metrics, such as these ones in the following example, are important for measuring the performance of some IT capabilities

1. IT operational metrics do not represent organisational value: Example

- For example:
  - **IT Infrastructure**: Infrastructure downtime, frequency of production deployments, number of workloads processed, capital and expense cost, resource availability.
  - **IT Solutions and Services**: Service uptime, availability, reliability, cost per user, cost per user acquisition, network outages.
  - **ITSM and Service Desk**: Service availability, First Call Resolution Rate, cost per contact, SLA breach rate, user satisfaction

https://www.bmc.com/blogs/it-metrics-kpis/#:~:text=IT%20metrics%20are%20quantitative%20assessments,with%20IT%20performance%20are%20achieved

- These kinds of metrics tend to dominate when IT strategy **is not integrated** with organisational strategy (as discussed under “IT Operating Models”) earlier.

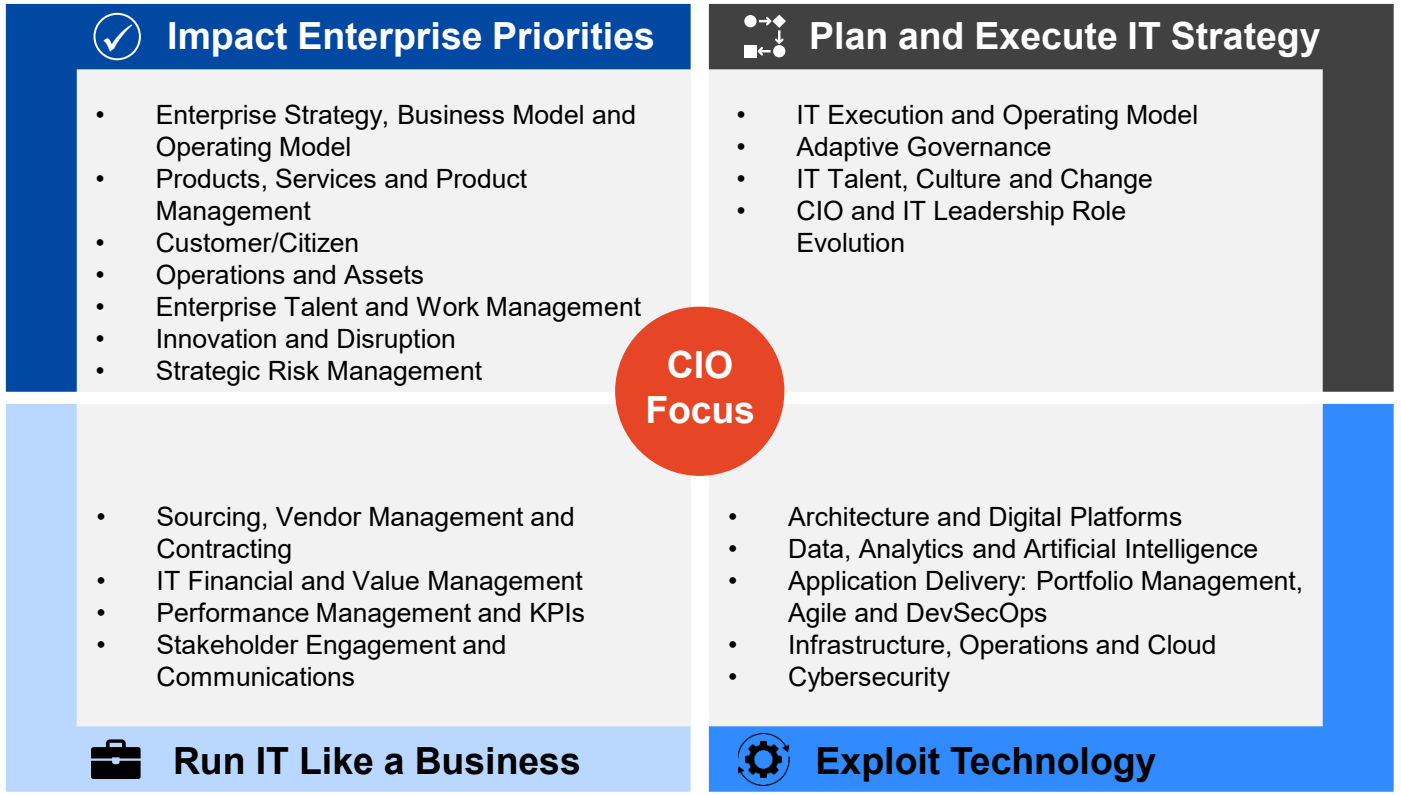
2. Represent IT value in terms of organisational measures

- However, the organisational value of IT investment is measured by its impact on organisational goals and objectives, i.e. organisational outcomes. This could include, for example:
  - Impact on revenue
  - Customer value
  - Shareholder value
  - Operational efficiency
  - Risk mitigation
- These kinds of metrics will be visible when IT strategy **is integrated** with organisational strategy (as discussed under “IT Operating Models”) earlier

Part D:

What Does This Mean for You as an IT Professional?

The context in which a CIO works, reflects the areas you may work in as an IT professional



Source: Gartner 724610_C

Gartner Essential Frameworks

Gartner

What does this mean for you?

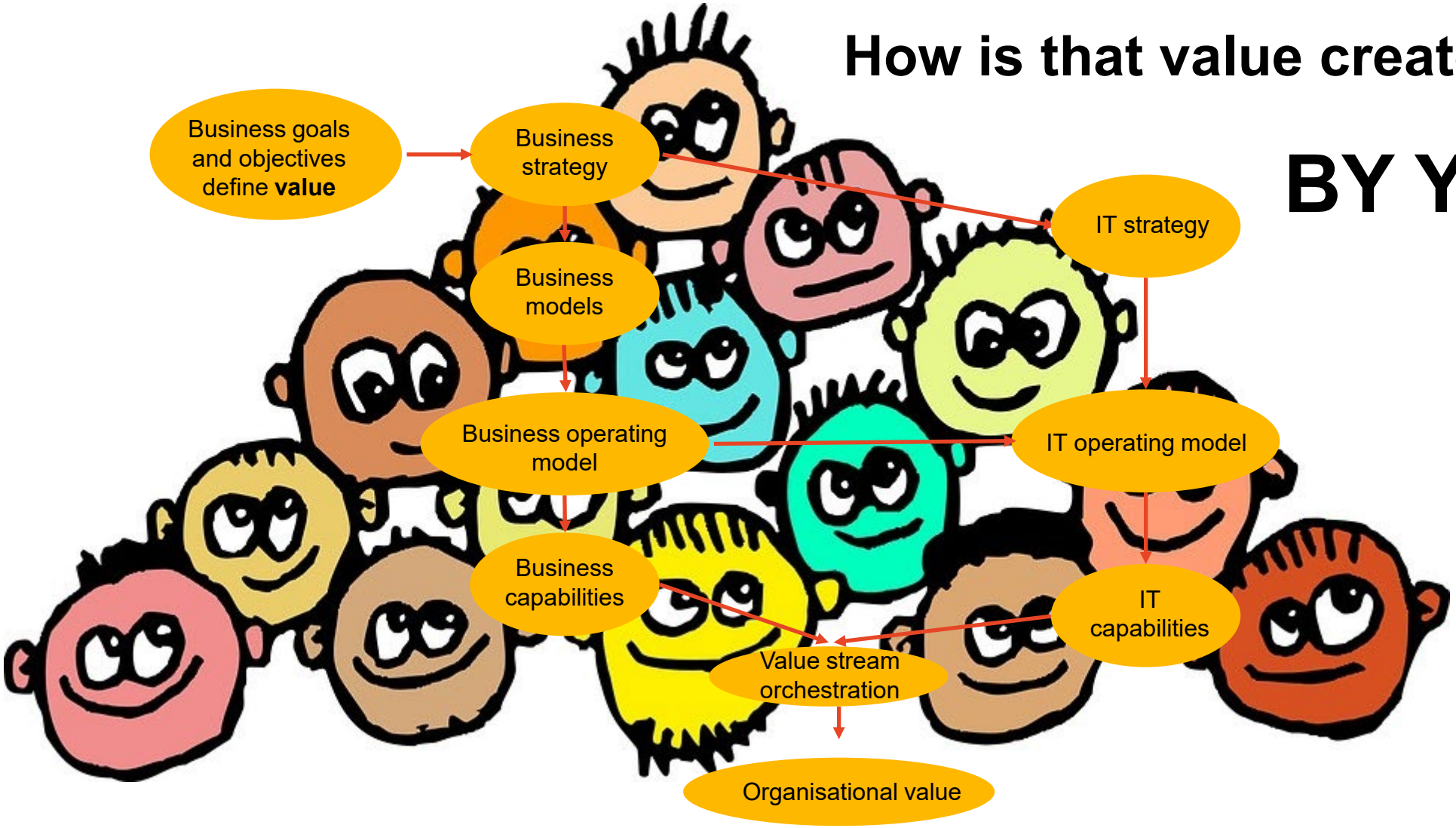
- Wherever you are now, or wherever you aim to be:
- That is the context where your skills and knowledge make a difference This is your ‘coalface’, where your organisational knowledge, along with your technical skills, come into play.
- This is where you provide value – not just in developing a brilliant app but in developing one that makes a difference for the organisation.
- So here is another way of looking at it:

- *CEO, CIO,*
- *project manager,*
- *data analyst,*
- *UX designer*
- *app developer*
- *game developer*
- *other technical specialist – e.g. cloud, security, IoT, AI*

Creating organisational value through IT investments:

How is that value created?

BY YOU



Part E:

A guide through Canvas to your written assignments

Writing, Referencing, and Q & A