

British Academy of Management (BAM)
Performance Management (PM) Special Interest Group
(SIG) event
Performance management and the impact of AI

**The impact of AI on the practice of management
accounting in relation to performance management**
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About Us

Vangelis Tsilikiris

- Principal lecturer in accounting and finance, Nottingham Business School
- Visiting professor – Birmingham City University
- Research interests include the impact of new technologies on the Accounting profession
- Course leader for the MSc FinTech and Financial Markets.

Malcolm Prowle

- Professor of performance management, University of Gloucestershire
- Accountant with background in strategy and operations management
- Academic posts at several universities
- Consultancy experience (PWC, KPMG)
- Author of many books and papers

Themes

1. What is meant by AI?
2. Performance management and AI
3. The role of management accounting in performance management
4. AI and management accounting aspects of performance management
5. Conclusions

1. What is meant by AI?

What is AI?

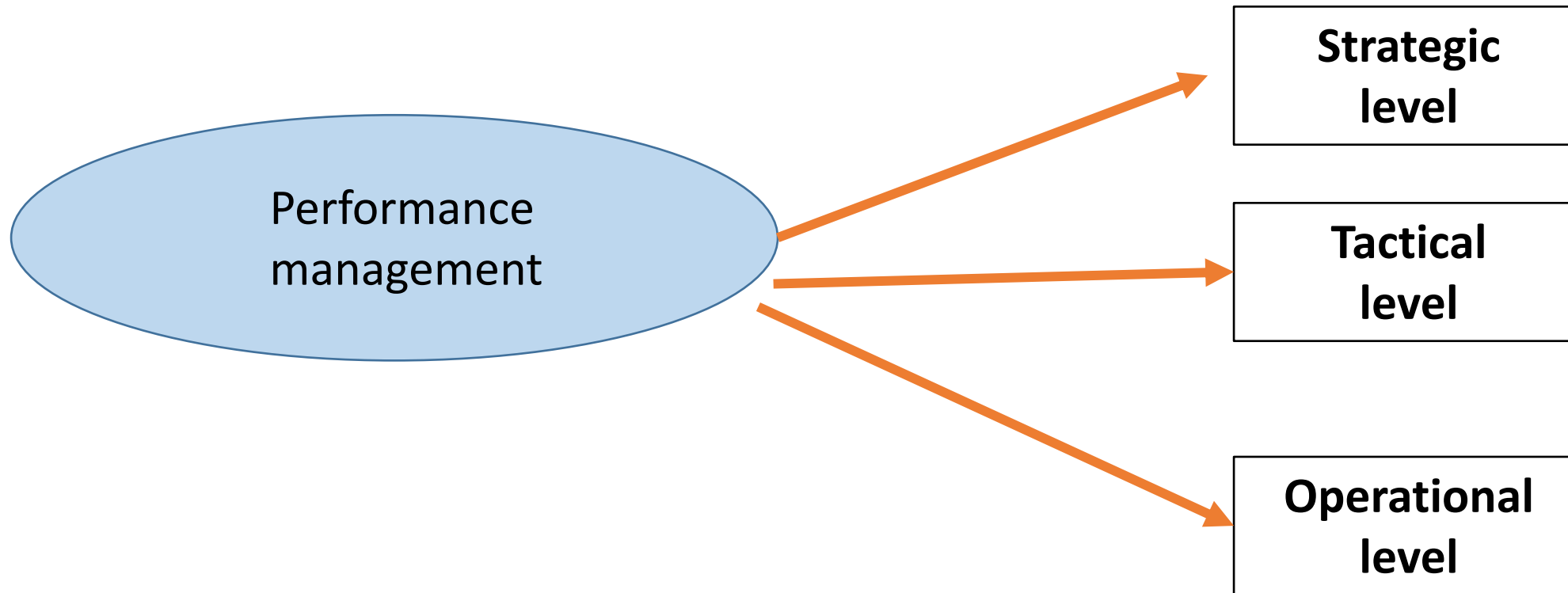
- Artificial intelligence (**AI**) is the simulation of human intelligence processes by machines, especially computer systems.
- AI is a computer system able to perform tasks that ordinarily require human intelligence. Many of these AI systems are powered by: machine learning, some are powered by deep learning and some are powered by very boring things like rules. (DataRobot CEO Jeremy Achin)
- Difficult to define “what is” and “what isn’t” included under the AI banner. Changes over time

2. Performance management and AI

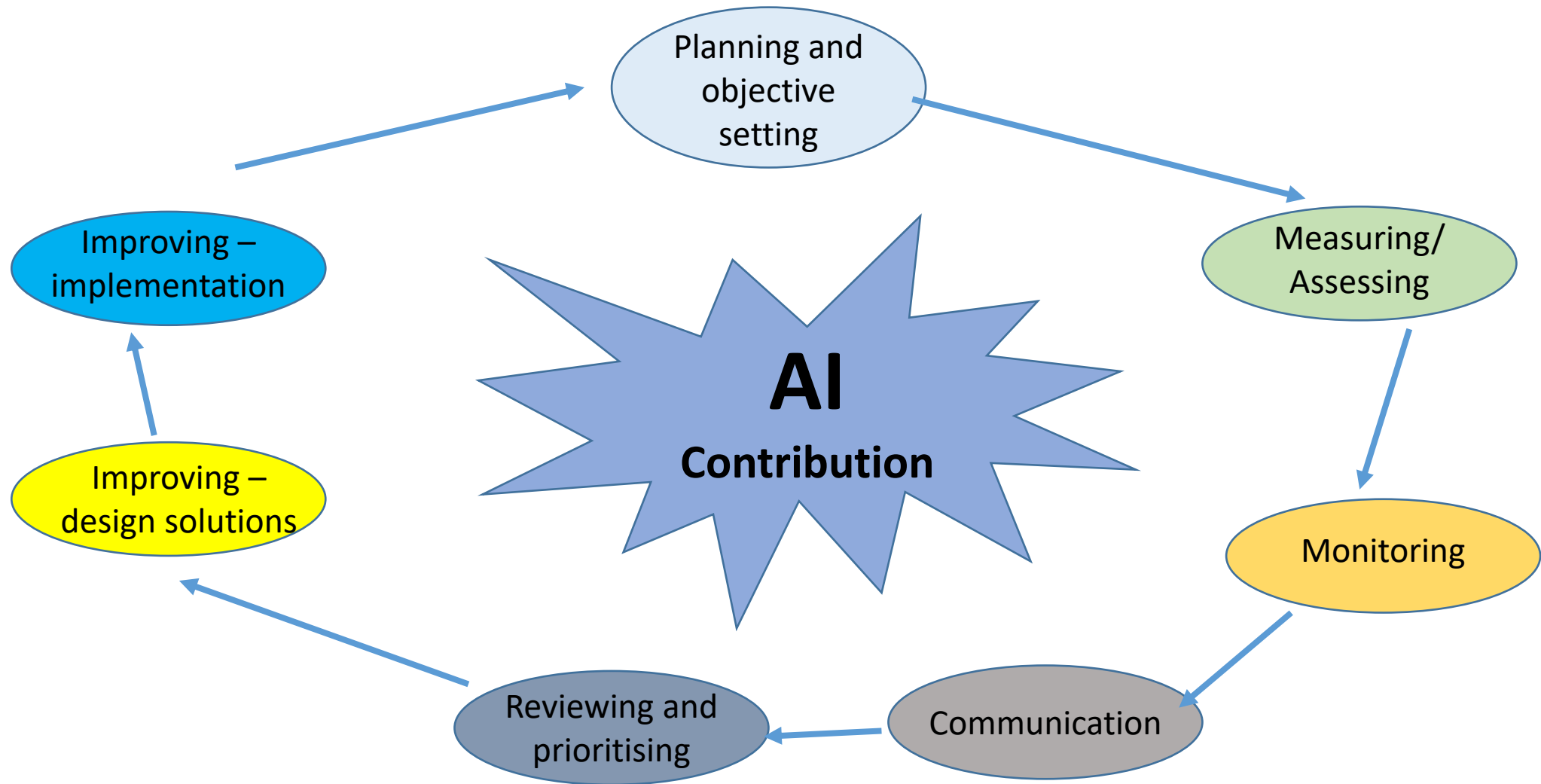
Organisational Performance Management

- Distinguish from human resource performance management
- The term 'Performance Management refers to any integrated, systematic approach to improving organizational performance to achieve strategic aims and promote an organization's mission and values." [Hanine Salem](#)
- "Organizational performance management is the process of making sure that your company resources are being properly used in pursuit of company goals." [George N. Root III](#)
- From a systems perspective, the overall goal of performance management is to ensure that the organization and all of its subsystems (recurring processes, teams, departments and employees) are all integrated and aligned together in an optimum fashion to achieve the overall results desired by the organization.

Applications of performance management



Performance management cycle

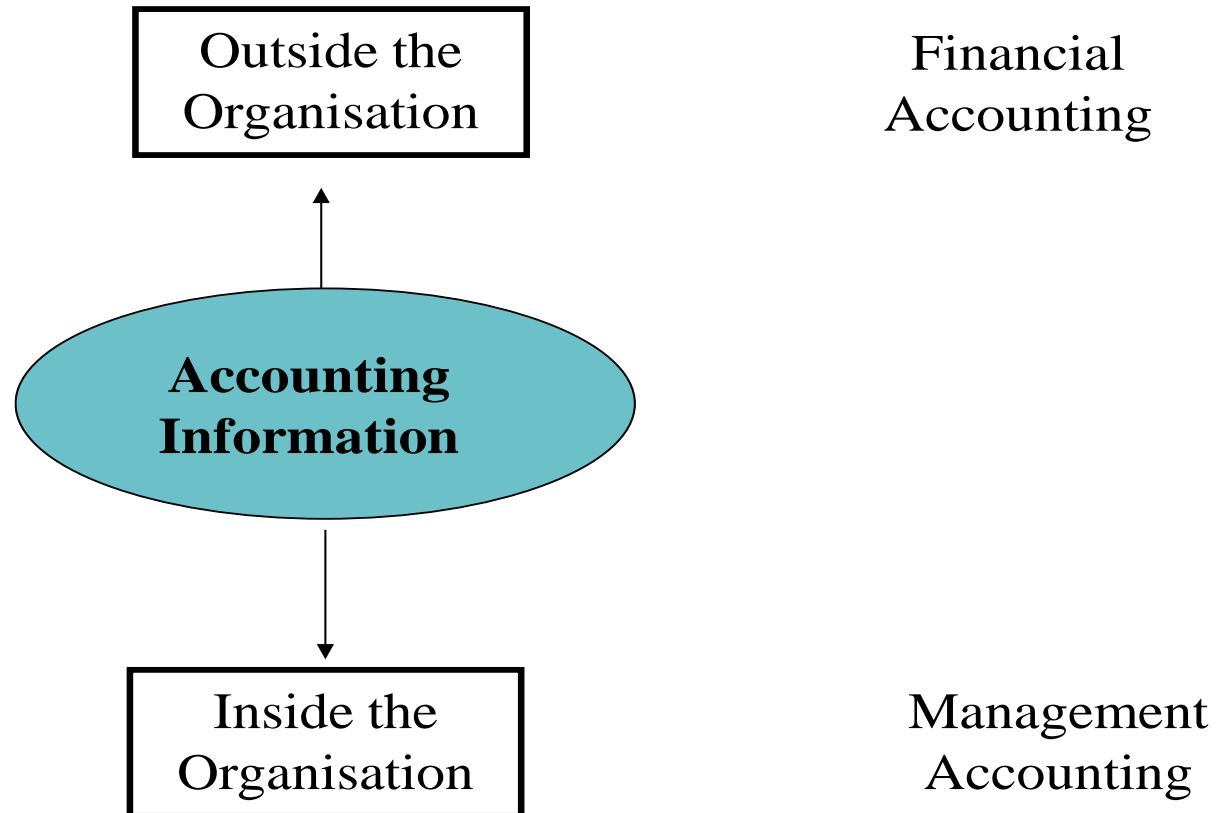


Possible AI contributions to elements of PM

- **Data collection** – manual, automated, sensors
- **Data analysis** - inspecting, cleansing, transforming and modelling existing data with the goal of discovering useful information
- **Data mining** - examining and combining large pre-existing databases in order to generate new information
- **Communicating Information** – sorting, prioritising and communicating relevant information to key actors
- **Generating solutions** – dynamic simulation, systems dynamics etc
- **Implementing solutions** – intelligent project management (scheduling, reminding etc)

3. The role of management accounting in performance management

What is management accounting?



Distinction between financial and management accounting

Theme	Financial Accounting	Management Accounting
Focus	External to organisation	Internal to organisation
Period covered	Annual	Any period but typically much more frequently than annually (e.g. monthly, weekly)
Framework for production	Legislative/professional framework	User determined
Orientation	Mainly historically oriented	Historical and future orientation
Disclosure of information	Limited disclosure of information but enhancements being made	Wide and detailed range of information and external comparators

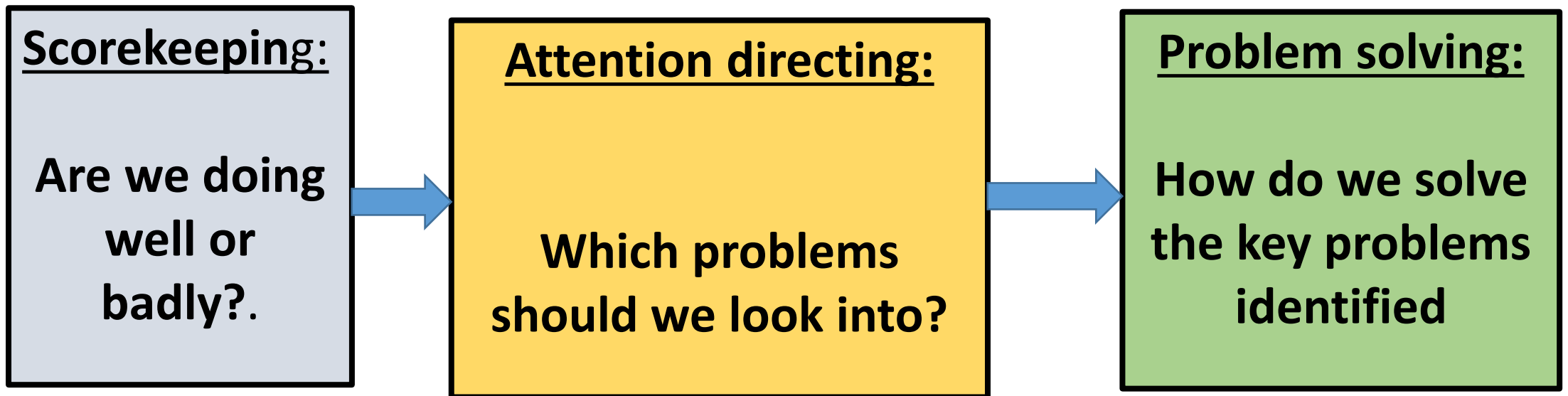
Definitions of management accounting

- *Management accounting is the process of identification, measurement, accumulation, analysis, preparation, interpretation, and communication of financial information that is used by management to plan, evaluate, and control within an organisation. It is the information used for the planning, control, and decision-making activities of an organisation". (AllBusiness)*
- *"Management accounting is a profession that involves partnering in management decision making, devising planning and performance management systems, and providing expertise in financial reporting and control to assist management in the formulation and implementation of an organisation's strategy" (Institute of Management Accountants in the USA)*
- *"the process of identification, measurement, accumulation, analysis, preparation, interpretation and communication of information used by management to plan, evaluate and control within an entity and to assure appropriate use of and accountability for its resources... "(CIMA Official Terminology).*

Management accounting techniques

Strategic	Tactical	Operational
<ul style="list-style-type: none"> • Activity based costing • Life cycle costing • Strategic management control systems • Strategic cost analysis • Strategic capital investment appraisal • Data analytics • Environmental management accounting • Performance management • Financial forecasting • Financial modelling • Budgetary planning 	<ul style="list-style-type: none"> • Unit costing • Marginal costing • Budgetary planning and control • Responsibility accounting • Working capital controls • Relevant costing • Tactical capital investment appraisal • Techniques for dealing with risk and uncertainty in decision-making • Short term financial forecasting 	<ul style="list-style-type: none"> • Activity data analysis • Cost recording and analysis • Limited budgetary management • Unit costs of activities • Relevant costing

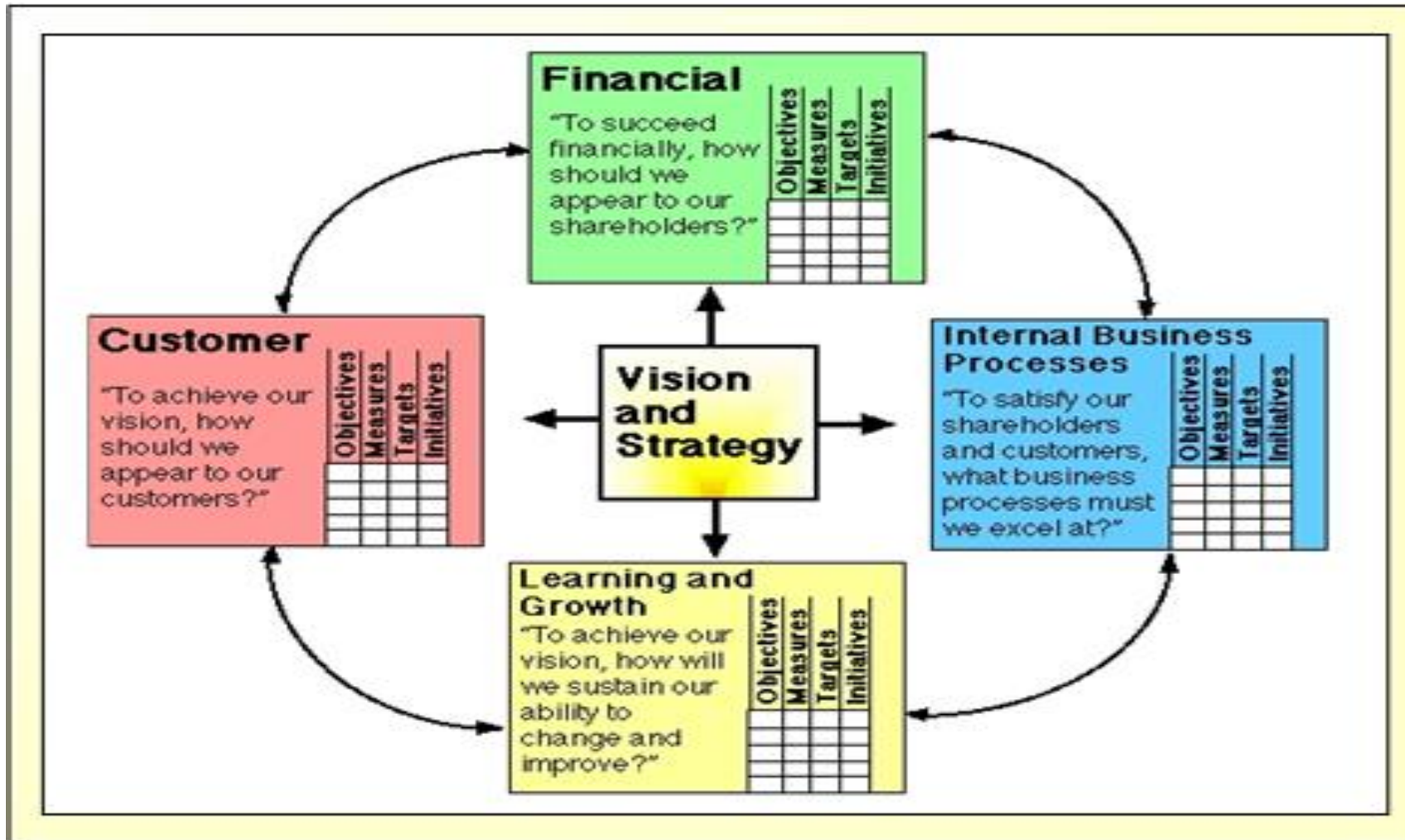
Roles of management accounting in relation to performance management



(Simon, 1954)

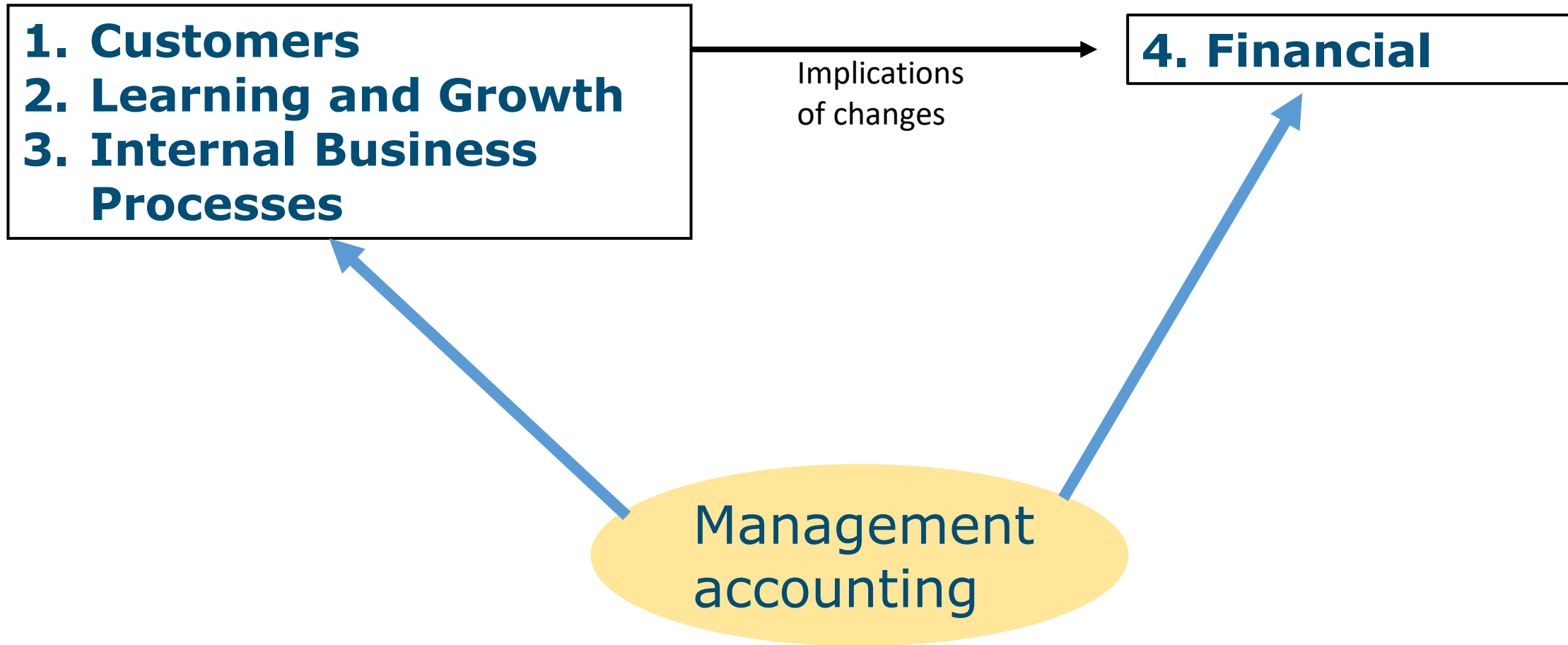
Covers: strategic, tactical and operational arenas

Balanced scorecard (Kaplan and Norton)



Kaplan and Norton 1996)

MA in relation to the Balanced Scorecard



4. AI and management accounting aspects of performance management

Digital transformation and the finance function

Digital transforms customer expectations and business models

- From products and services to experiences
- Hyper-personalisation as the key selling point
- From ownership to access/use

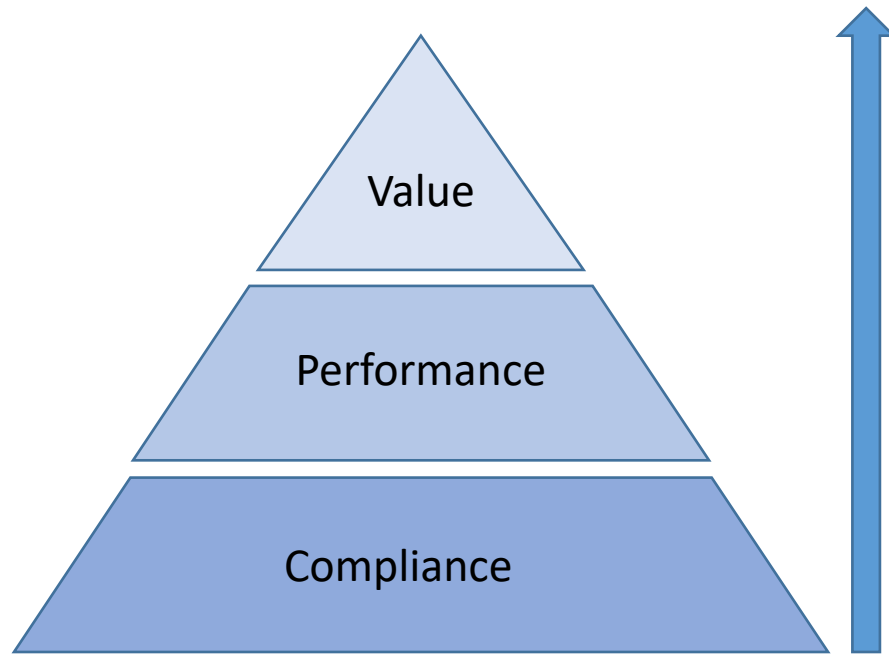
Challenges for performance management

- Costing approaches and systems have not evolved
- Need to reconceptualise “Value” – increasing importance of intangibles

Impact on management accountants

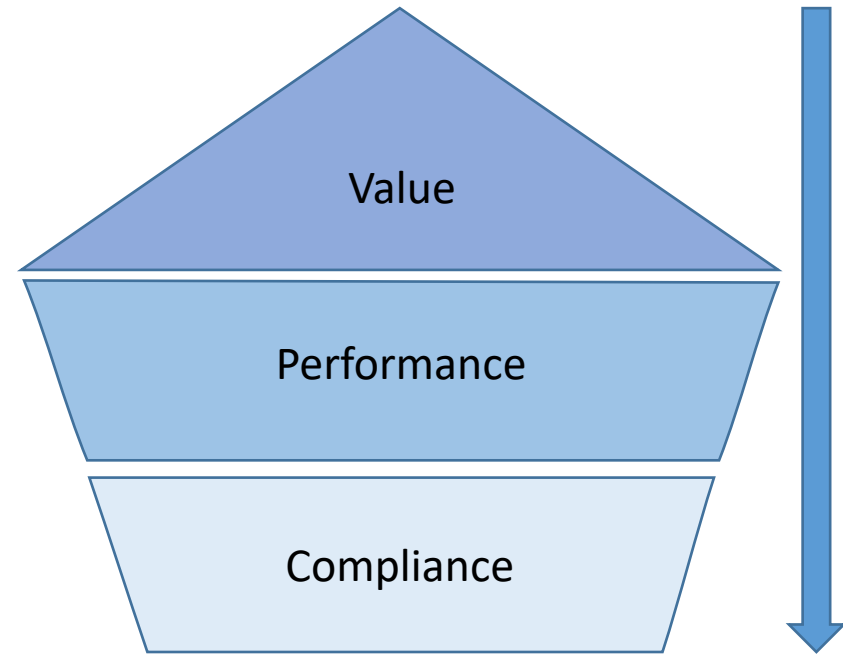
- Automation of repetitive tasks, reporting and compliance
- Shift of emphasis from analysis and forecasting to dynamic predictive analytics and value creation

The shift in the focus of the finance function

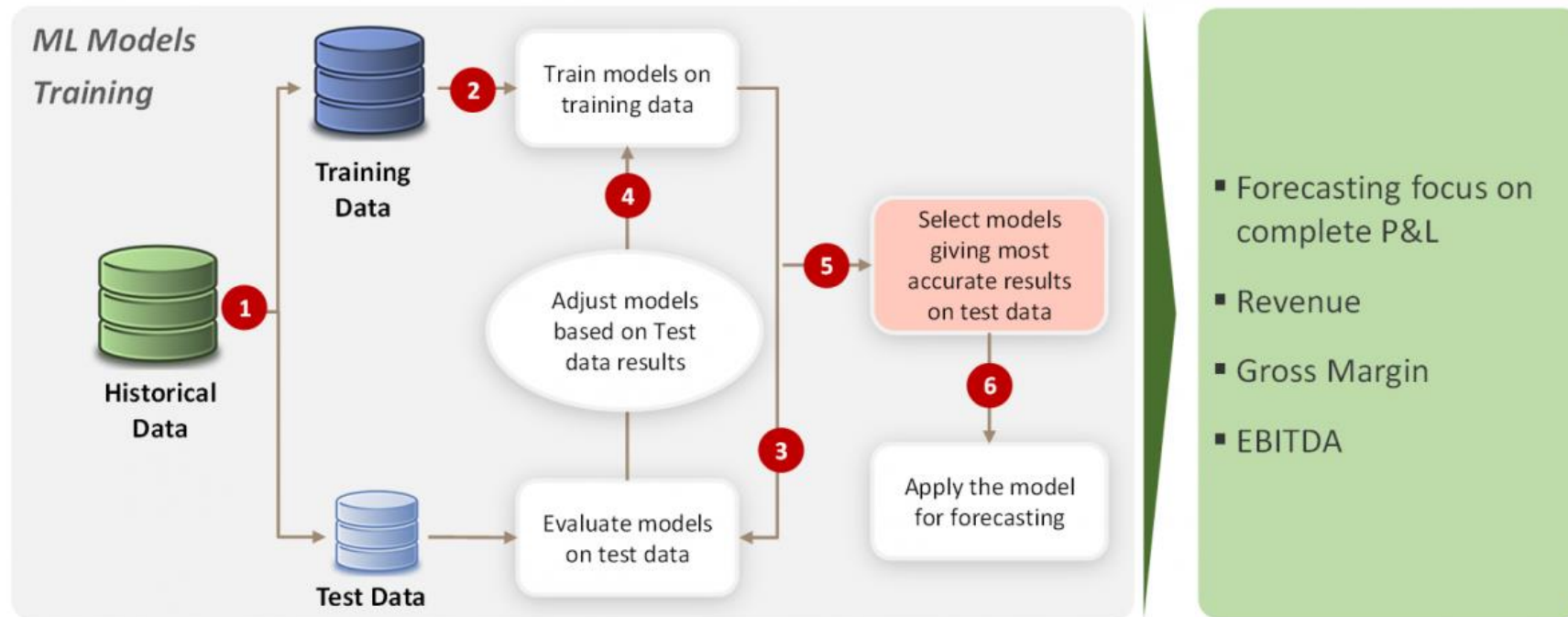


Traditional finance function

Finance function in digital business



Managing financial performance through ML



Cash flow improvements

automation; personalisation; consistency

Challenges

- Substantial waste of resources in cash collection activities
- Too much emphasis on managing receivables using “one-size-fits-all” approaches
- Less time for customer relations => low customer engagement

Potential benefits

- Digitalisation of accounts receivables
- Dynamic dashboards (Live and up-to-date data and indicators)
- Automation and prioritisation of dunning actions
- Improved visibility of customer profiles across departments/units

Risk management

personalisation; advanced analytics; predictive management

Challenges

- Risk control is limited to customer and department/unit overviews
- Resources are directed on data collection and reporting

Potential benefits

- AI (machine learning) can reflect on customer past behaviour (both internal and external to the organisation) and generate predictive risk profiles about future behaviours (e.g. late payments, disputes).
- Customised/personalised risk assessment at the sale point
- Enabling the collaboration between credit control and sales

Increase revenues

upselling; cross-selling; improve customer engagement

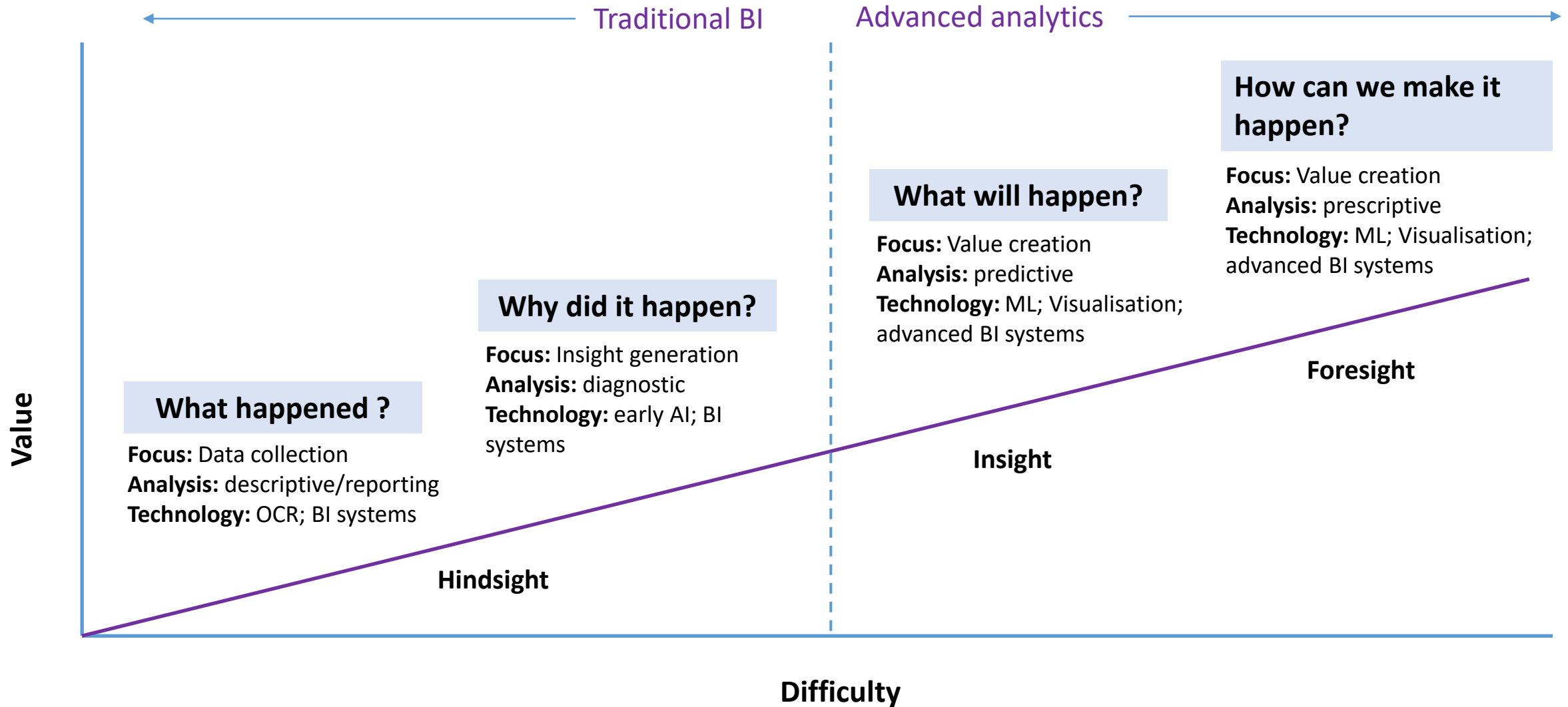
Challenges

Hyper competition and multi sale channels reduce customer retention and engagement

Potential benefits

- AI can utilise the existing customer base to upsale or/and cross-sale.
- Algorithms can be used to provide product recommendations
- *Product segmentation by similarity of customers:* Products A and B are purchased by similar customers.
- *Customer segmented by similarity of products:* Customer A and B purchase two similar products
- Predictive analytics can support decision on how to prioritise sales: stock availability; profit margin; or probability of sale

Gartner Analytic Ascendancy Model and finance function reporting focus ¹



¹ Adapted from CIMA

Conclusions

- AI is a very fast developing field
- Performance management in business can only be of increasing importance
- Performance management will need to become more sophisticated and AI has a major contribution to make
- Effective management accounting makes a key contribution to performance management in business
- To be continually effective, management accounting must take on board:
 - The future challenges facing businesses
 - The potential for AI to provide ongoing solutions
- The role of the management accountant in business must/will change radically
- A need for accountability regarding AI decision making. Also an audit trail

Thanks for listening

Hope you found it interesting

Comments or questions please?

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