

Productivity Technologies

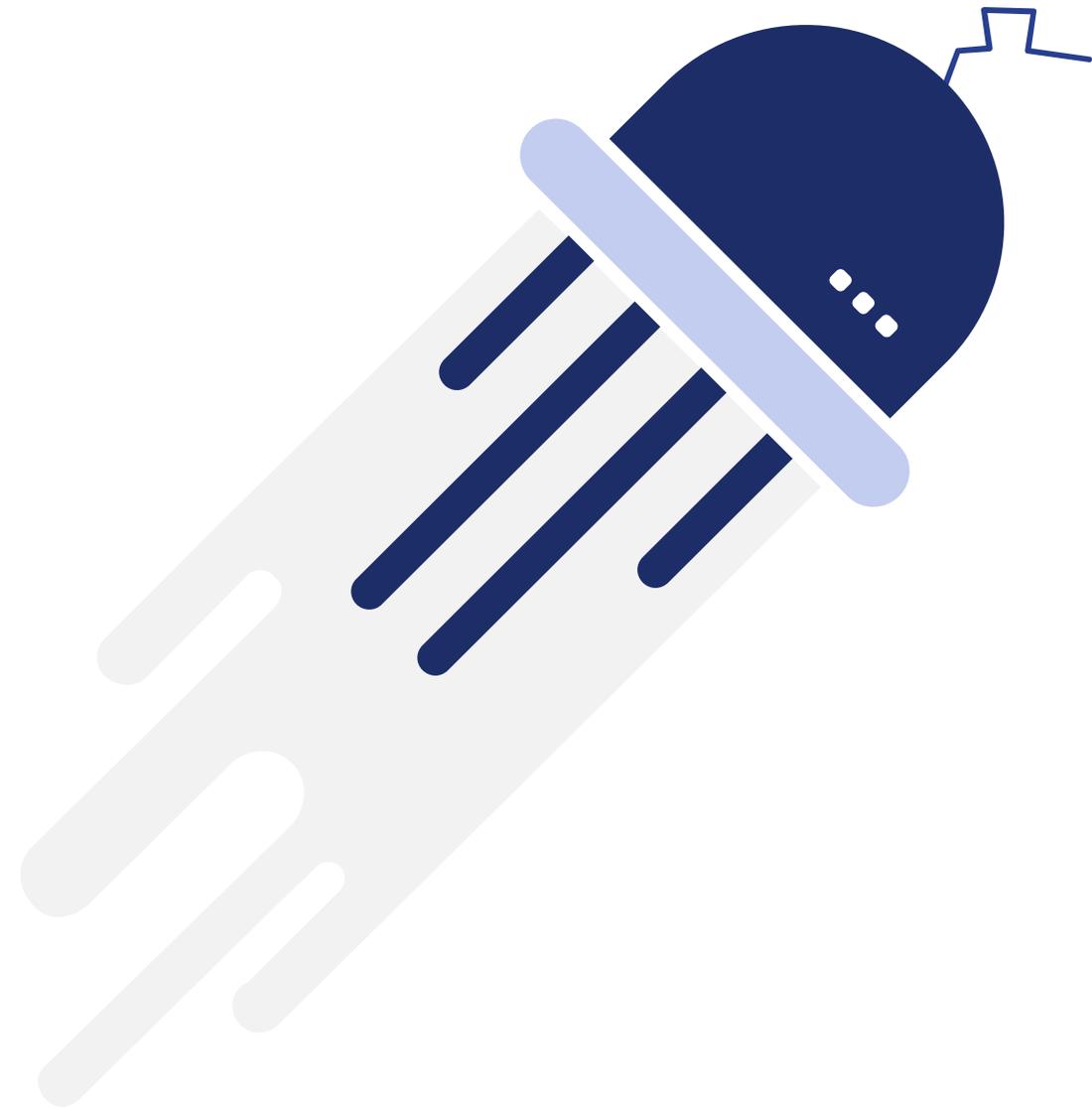
Opportunities and Impediments in your Workplace

March 2023



BEVINGTON GROUP
PERFORMANCE OUTCOMES DELIVERED XeP3

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Challenges & Opportunities Facing Organisations in 2023

1

The challenges being faced globally... and locally



- With workforce shortages, inflationary pressures, higher interest rates and slowing consumer demand, it is no surprise that organisations are showing interest in technologies that can enhance productivity.
- Furthermore, with an ageing population, workforce pressures may be with us for some time to come. So, doing more (or even the same) with less will continue to sound like a very compelling strategy.

- However, even when the technologies are well tested and robust, adoption rates in organisations can be relatively low
- In this webinar, we will address some of the productivity enhancing technologies that are now available, how they might be used, and what gets in the way of adoption



Trend predictions for 2023 highlight the need to embrace burgeoning technological solutions - but not at the expense of customer and employee experience

Some common themes emerge in productivity predictions for 2023....

AI and automation will be critical in addressing **labour-** and **skill-shortages**, and rising costs... *but they will not be sufficient on their own*

Workforces will be **augmented**, rather than *replaced*, with the aid of digital tools

Novel approaches to hiring will help to attract the required talent

Organisations will need to invest in **upskilling** their existing workforces

Low-code platforms and **citizen developer programs** will help to close skill gaps

9 Future of Work Trends in 2023

"Quiet hiring" Hybrid

What's Next For Intelligent Automation

- 1 Increasing Focus On Customer And Employee Experience
- 2 Scaling For Success
- 3 Rolling Out Citizen Development
- 4 Tac
- 5 Im
- 6 Av
- 7 TH

Automation Trends

- #1 Automation becomes the enterprise's new way of operating and innovating.
- #2 Businesses ramp up automation to counteract growing labor and inflation pressure.
- #3 Digital CIOs step up their role—and step up automation to meet new goals.
- #4 Process mining and automated testing become "must-haves" in driving best-in-class, enterprise-wide automation.
- #5 Low-code becomes a top priority for getting automation and AI in more people's hands.
- #6 New AI-powered innovations push automation's boundaries even further.
- #7 Rounding out digital skills becomes the next hot issue for HR and IT leadership.

Gartner (2022) '9 Future of Work Trends for 2023', <https://www.gartner.com/en/articles/9-future-of-work-trends-for-2023/>, accessed 06 February 2023.

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Digital Productivity Technology & Trends, and the Opportunities They Present

2

RPA: Robotic Process Automation

What is it?

RPA is the use of software agents ('bots') to accomplish rules-based tasks and workflows

Why is it useful?

The tasks automated by RPA are typically monotonous and repetitive

These kinds of tasks render **human agents prone to error** and boredom / disengagement

However, **bots** can accomplish these tasks **quickly**, in bulk, and **at reduced cost**

This frees up humans to spend more time on complex / creative / interpretive tasks



Accuracy / Quality



Sanity Preserving



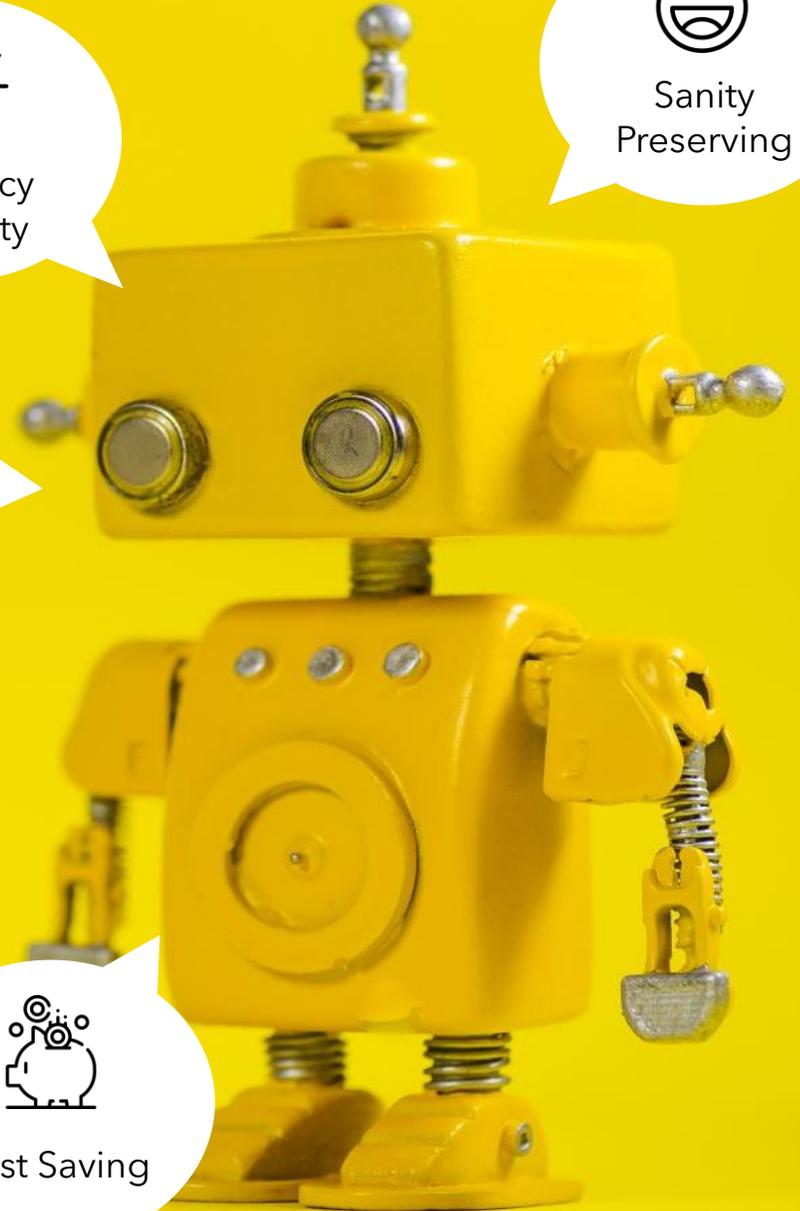
Speed / Efficiency



Scalability



Cost Saving



How is RPA being used today?

RPA has applications in...

Finance

Healthcare

Retail

Insurance

Banking

Customer Service

& Many more...

RPA is deployed across disparate industries to perform, or assist with, a wide range of tasks

Some examples of activities that bots can accelerate and/or perform at reduced cost are...

- Inventory monitoring
- Troubleshooting
- Data migration
- Fraud detection
- Improving compliance
- Claims processing



What are process mining and task mining?

Process mining and task mining can be key inputs into the development of RPA bots

Process Mining

Enterprise systems such as SAP®, Salesforce®, and others, produce data in the form of event logs

Process mining is the act of extracting business process information from these logs for the purposes of

Process discovery

Conformance checking

Process enhancement

Process mining reveals how current-state business processes actually happen, as opposed to how we might want them to happen, or how we might think they happen

Task Mining

Throughout the day, users interact with myriad desktop systems that do not produce business data in the form of log files

Task Mining is the process of recording these desktop interactions in order to gain insight into the details of how business processes are executed

Process mining enables optimisation of overall process

Task mining enables optimisation of individual activities within a process

What is AI?

Broadly, artificial intelligence (AI) refers to the capacity of machines to perceive, synthesise, and infer information.

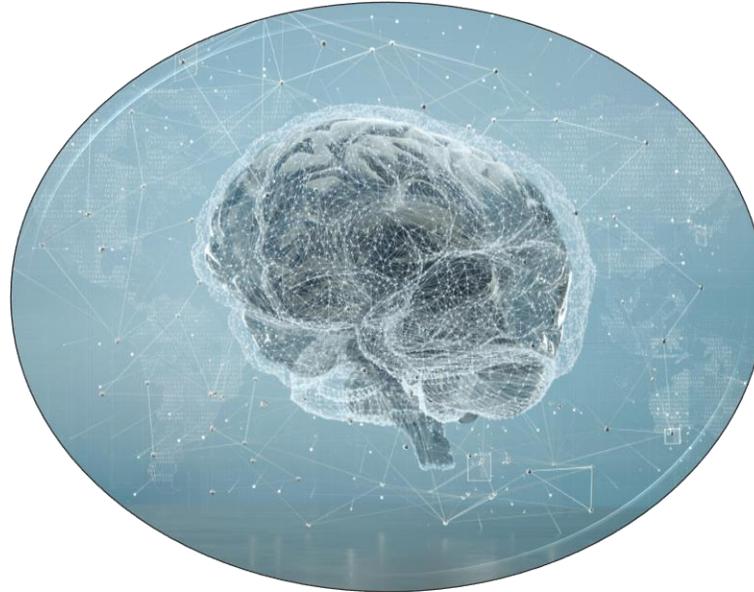
AI is deployed in tasks such as...

speech recognition

language processing

computer vision

complex problem solving



Some common AI terms are...

- **Artificial Narrow Intelligence (ANI)**, sometimes called 'weak' AI, is trained to perform specific tasks
All real-world applications today are ANI
- **Machine Learning (ML)** is the development and application of digital systems that use mathematical models and pattern in data to draw inferences without explicit instruction
Image recognition is an application of ML
- **Natural Language Processing (NLP)** is the application of AI to understanding and synthesising spoken and written language in a human-like fashion
Siri and Alexa are examples of NLP, as are chat bots
- **Artificial General Intelligence (AGI)** would be equivalent to human intelligence in scope and depth
This is the kind of AI that is typically portrayed in science fiction

How is AI being used today?

In healthcare

- Machine learning has been used to deliver faster and more accurate diagnoses
- Chatbots have been deployed to help practitioners and patients find medical data more easily

In business

- Machine learning algorithms are being used with customer relationship management (CRM) platforms to help find ways to provide better service
- Chatbots have been deployed on many websites to provide an early interaction channel for potential clients

In legal practice

- AI can speed up “discovery”, which involves review of large quantities of data, and render the process less prone to error

In transportation

- AI has enabled self-driving vehicles
- It is also used in traffic management and prediction of flight delays

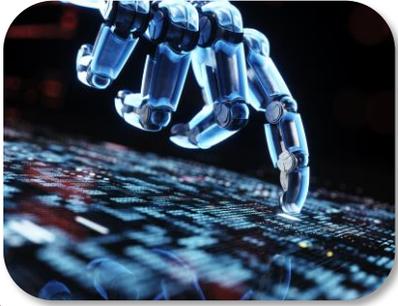
In education

- NLP can be used to automate grading
- Chatbots can act as virtual tutors for students who require additional assistance

In security

- Machine learning is used to detect anomalies and suspicious activity that may represent a threat
- AI agents can analyse code to find patterns that suggest malicious software, responding to attacks much more quickly than a human could

What is intelligent automation?



Intelligent automation (IA) is the intersection of
artificial intelligence (AI)
and
robotic process automation (RPA)

AI + **RPA** = **IA**

IA extends the simple algorithmic task automation of RPA to incorporate prediction and **decision-making capabilities** via machine learning and analysis of structured and unstructured data

IA can be applied in

Self-driving cars

Fraud detection

Preventative maintenance

Onboarding

An example of AI that has received significant attention recently is Open AI's Chat GPT

Chat GPT is a chatbot trained by Open AI to interact with users in a conversational manner

Some of Chat GPT's key features are:

-  Generating human-like responses
-  Ability to answer follow-up questions
-  Reassessing previous replies in light of new information
-  Challenging incorrect premises
-  Rejecting inappropriate requests

We asked Chat GPT about its business applications...



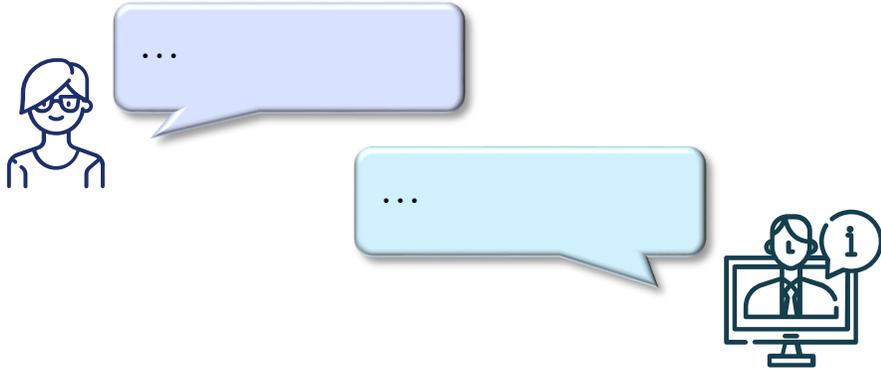
Yes, there are many potential applications for language models like me in the business world. Here are a few examples:



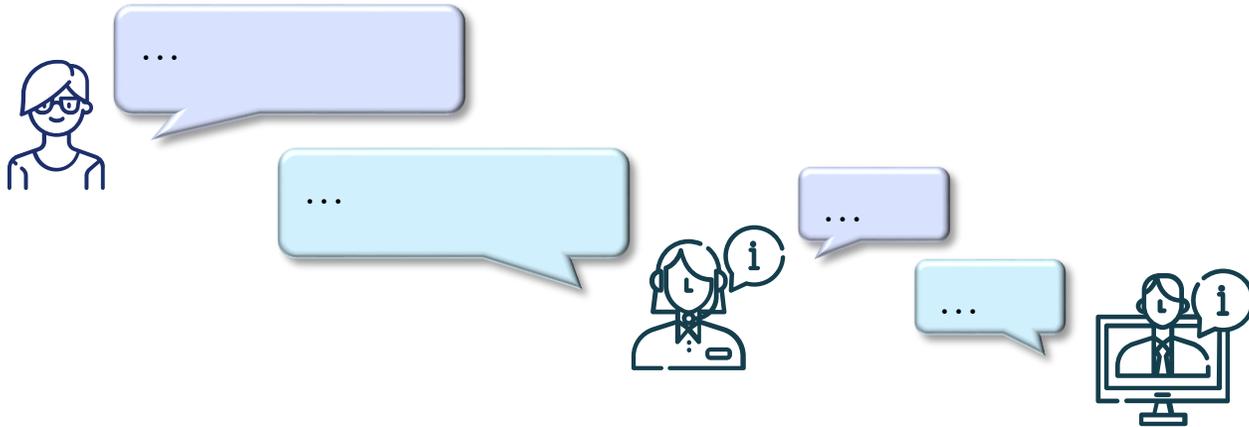
1. Customer Service: Companies can use language models like me to provide quick and accurate responses to customer inquiries, reducing the need for human customer service representatives and improving the customer experience.
2. Content Generation: Companies can use language models to automate the creation of product descriptions, marketing materials, and other types of content, freeing up time for human writers to focus on more strategic tasks.
3. Chatbots: Companies can use language models to build chatbots for their websites, allowing customers to interact with the company and get answers to their questions in a conversational way.
4. Sentiment Analysis: Companies can use language models to analyze customer reviews, social media posts, and other types of customer feedback, giving them insights into customer opinions and helping them to improve their products and services.
5. Text Classification: Companies can use language models to automatically classify and categorize large amounts of text data, such as customer support tickets or financial reports, making it easier to find relevant information and make data-driven decisions.

These are just a few examples of how language models like me can be applied in the business world, and as AI technology continues to advance, I expect to see even more innovative uses for AI in the years to come.

Chat GPT, like other AI and RPA tools, suggests some obvious applications...



- A rather obvious application of Chat GPT is to replace human agents with bots that can interact with customers in a way that appears human
- This approach has already been deployed, with mixed results, using less sophisticated bots

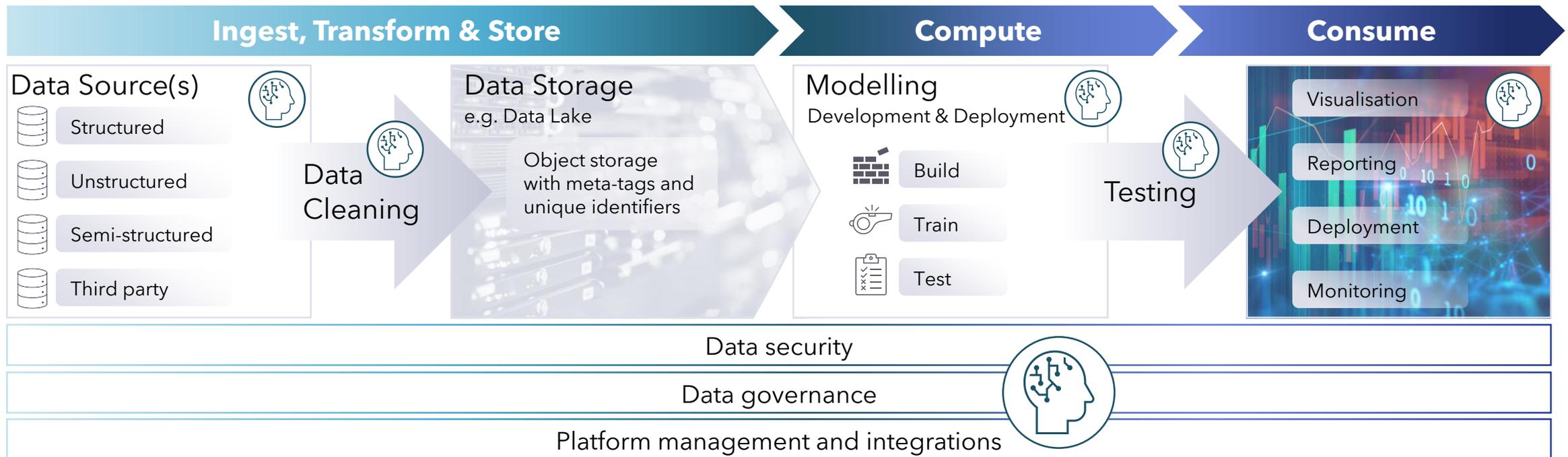


- An alternative approach could be to augment the human agent with a Chat GPT-like AI agent, allowing them to handle customer inquiries faster
- This approach follows the principle already employed in other areas, where users have sped up the drafting or ideation process by enlisting the aid of Chat GPT in writing Python code, VBA macros, speeches, and more...

AI and RPA have applications across the end-to-end data-management life-cycle

Many organisations now have access to **unprecedented quantities of data** but **translating that data into value is an arduous process** that requires multiples stages of cleansing, modelling, and testing before deployment

AI and RPA have the capacity to augment the efforts of human agents in most, if not all, stages of the data-management life-cycle...



AI and RPA have utility throughout the end-to-end data-management life-cycle, including

- Automated data collection/aggregation/updating
- Accelerated data cleansing
- Model development aided by ML
- Accelerated testing
- Improved automatic checking for security and governance
- Human-like interaction with multiple, non-integrated, systems

AI and RPA can enable innovation by lowering the barriers

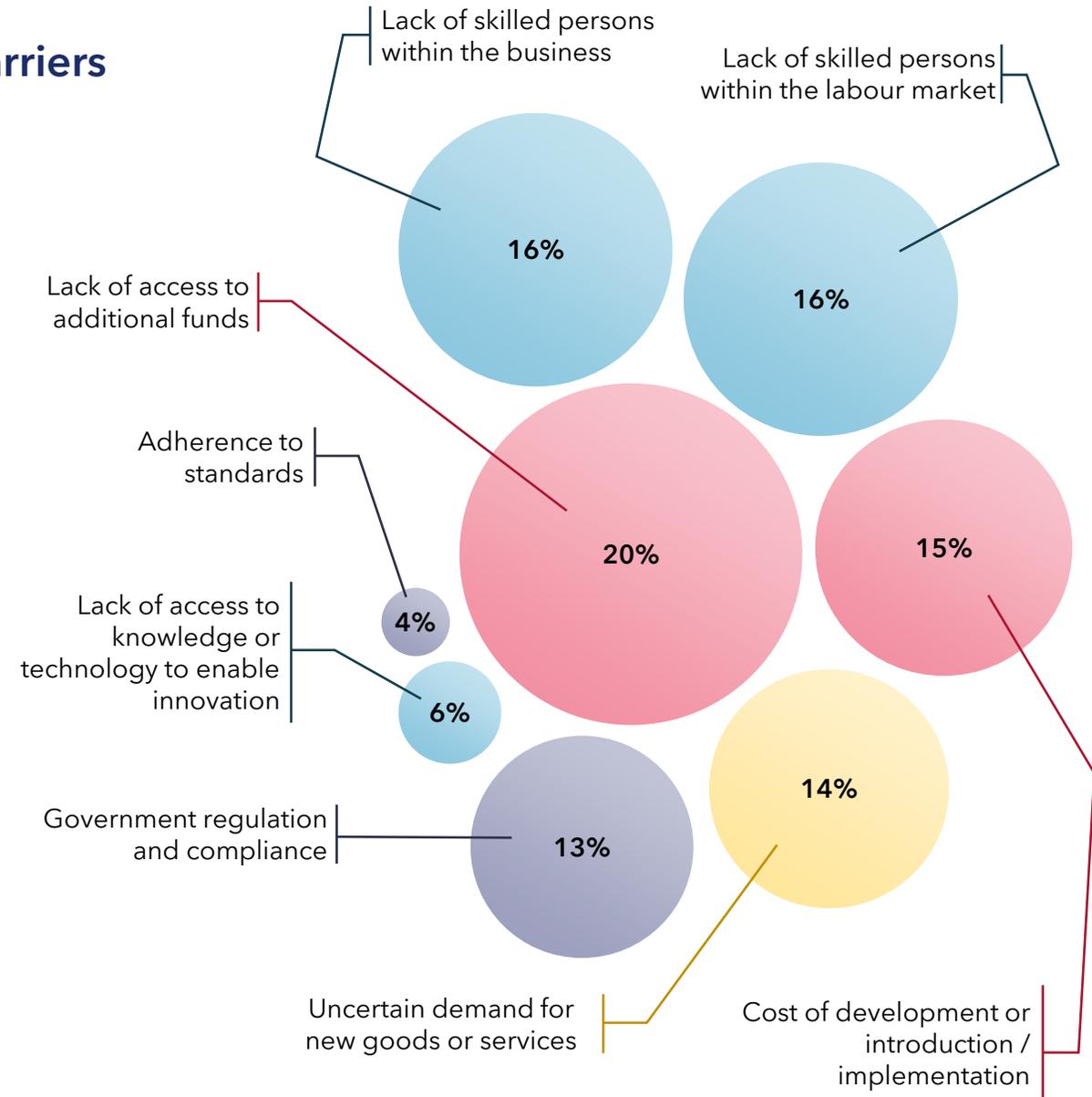
Innovation may lead to

- Improved productivity
- Reduced costs
- Increased competitiveness
- Improved customer perceptions/relationships



And yet, a recent survey conducted by the Australian Bureau of Statistics (ABS, 2022) showed **only half of Australian businesses (52%) reported actively innovating** from 2019 through 2021

Many of the barriers to entry reported by Australian organisations might be meaningfully mitigated with the aid of AI and RPA



AI can improve rostering outcomes, while reducing administrative effort...

Significant administrative time is invested in manual preparation of shift/duty rosters

Roster-preparation is a complex optimisation exercise involving many variables and constraints, which must be weighted appropriately

Labour laws

Health and safety

Staff well-being

Service standards

Individual preferences

Availability of specialist skills

Leave

Contingency

This kind of multi-variable optimisation problem is an ideal use-case for AI

Several tools are already available offering cloud-based rostering services

The makers of these tools tout many benefits to their use:

Reduction in workplace errors

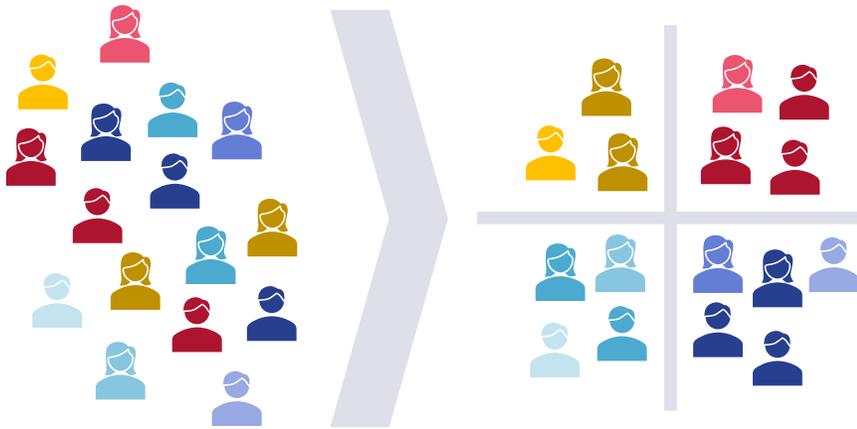
Reduction in workplace fatigue

Improved employee satisfaction

Rapid rescheduling in case of absences

Machine learning is an excellent tool for customer segmentation

Customer segmentation is the process of grouping customers based on similarities



Customers can be grouped in different ways

Geographic

Psychographic

Demographic

Behavioural

Customer segmentation is useful for optimising multiple aspects of your business

Budgeting

Product Design

Customer Satisfaction

Marketing

Machine Learning is highly suited to application in customer segmentation, with several algorithms commonly employed

K-means Clustering

Expectation-Maximisation Clustering

Hidden Markov Model

Agglomerative Hierarchical Clustering

& More...

Machine Learning customer segmentation is **faster**, **more accurate**, and **more easily scalable** than manual segmentation

AI systems provide decision support across many industries...



An intelligent decision support system (IDSS) is essentially an AI adviser...

Ideally, it will behave much like a human adviser:

Identify problems
and anomalies

Propose potential
solutions

Gather and analyse
evidence

Provide commentary
on solution options

**AI-based decision support systems
have the capability to:**

Quickly process large quantities of data

Process unstructured data

Filter information reliably

Generate recommendations

**There are many applications for
decision support systems, including:**

Due diligence

Diagnosis assistance

Navigation

Sentiment analysis

Product and service
recommendation

Investment advice based
on economic models

AI systems avoid many cognitive biases to which humans are prone...

Increasingly complex applications of AI technology will continue to emerge...



The capability of AI agents like IBM's Watson to perform (or augment) medical diagnoses (a form of decision support) has already been demonstrated

Similar applications could soon emerge in other fields: ML systems trained on large bodies of specialised knowledge could be combined with NLP capabilities to greatly streamline tasks that humans find arduous such as legal discovery and regulatory compliance

Some Words of Caution

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The hype surrounding new digital capabilities may cause some to adopt them too soon...

Chat GPT is causing significant buzz...

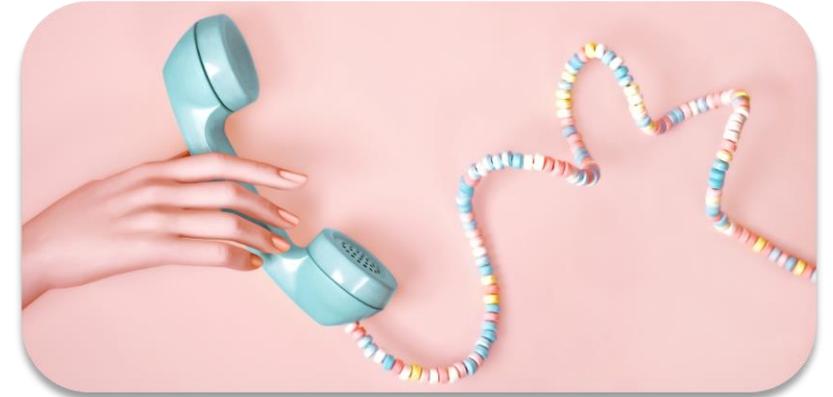
- Its human-like responses suggest an obvious application in customer-contact
- Less sophisticated bots have already proliferated across the web

But should we be seeking to aggressively adopt this technology?

We can learn a lesson from the adoption of, and customer attitudes toward, interactive voice response (IVR) systems...

- As recently as September 2021, 88% of survey respondents in Australia, the UK, and the USA still prefer telephone over other contact options
- OnePoll survey on behalf of PHMG (n=1000)

- In a 2019 survey, 61% of respondents indicated that IVR systems made for a poor experience
 - 85% said they had abandoned at least one call because of IVR
 - On average 27% of calls were abandoned if the caller encountered an IVR
- Opinion Matters survey on behalf of Vonage (n=4,019)



AI tools like Chat GPT offer significant opportunities to companies who implement them in a considered fashion...

...They are also capable of enduring brand-damage if deployed without sufficient forethought

Guta (2019) '61% of Your Customers May Hate Your IVR', Retrieved 20/2/2023 from: <https://smallbiztrends.com/2019/09/ivr-statistics.html>

Kimber (2019) 'The Horrors of IVR: Five Key Issues', Retrieved 20/2/2023 from: <https://www.vonage.com/about-us/vonage-stories/the-horrors-of-ivr/>

PHMG (2021) 'Research reveals telephone remains customers' preferred method of contact', Retrieved 27/2/2023 from: <https://phmg.com/aus/blog/research-reveals-telephone-remains-customers-preferred-method-of-contact/>

In 2019 pioneering CIOs offered some key principles for AI-deployment projects.

Many of these ideas remain relevant to the implementation of new, potentially disruptive, technologies



Aim for **fairly “soft” outcomes**, such as improvements to processes, customer satisfaction, products, and financial benchmarking

- Don't fall into the trap of seeking only immediate monetary gains
- Aim initially for less quantifiable benefits from which financial gains would eventually arise
- Pursue small-scale plans likely to deliver small-scale payoffs that will offer lessons for larger implementations



Plan for the **transfer of knowledge** from external service providers and vendors to enterprise IT and business workers

- Lack of staff and skills to conceive and execute AI projects is a significant obstacle
- This will ensure that the internal skills are available to develop similar capabilities in the future



Focus on worker **augmentation**, not worker *replacement*

- AI promises benefits far beyond automation
- Embrace applications to help and improve human endeavour (staff will be more eager to embrace AI)

However, these recommendations are still far from being widely-adopted...



Emphasis remains on the *technical side* and the **financial benefits** that digital transformations may deliver...

- Companies rolling out automation projects tend to emphasise “hard”, rather than “soft” metrics in their measures of success:

45% - 60%
Cost savings

35% - 39%
Improved customer
experience

21% - 23%
Improved employee
experience



Organisations are continuing to rely on external vendors for critical aspects of their technology ecosystems...

- 92% of CIOs rely on technology vendors for organisational agility, system security, configuration and deployment, and cost-optimisation
- 59% of APJ organisations see **skill-gaps** as a *significant barrier* in their automation efforts



Focus on worker **augmentation**, not worker *replacement*

- Focus on cost saving over other metrics suggests that reduction of human work-forces remains a goal with some organisations
- It remains to be seen whether this advice will be widely adopted...

To reap the full benefits of automation, it is important to build it into a holistic digital transformation that aligns to the organisation's strategic goals...



70% - 95% of digital transformation efforts fail

What do organisations have to say about transformation efforts that have not lived up to expectations?

- Efforts were disconnected from strategy and business priorities
- Too focused on “new shiny toys” without clear understanding of value provided
- Too technically-focused and/or led by technical specialists, not people-leaders
- Ballooning costs that were not adequately offset by benefits
- Implementations went too broad, too fast, rather than building a viable proof-of-concept and then scaling

7% Only 7% of organisations are designing and optimizing *all* processes prior to automation

Only 19% of organisations are optimising more than 20% of their processes prior to automation **19%**

59% 59% of organisations had not yet implemented RPA because they were still trying to identify the right processes

Block (2022) '12 Reasons Your Digital Transformation Will Fail', Retrieved 15/2/2023 from: <https://www.forbes.com/sites/forbescoachescouncil/2022/03/16/12-reasons-your-digital-transformation-will-fail/?sh=6e36944e1f1e>

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Some Ways to Proceed

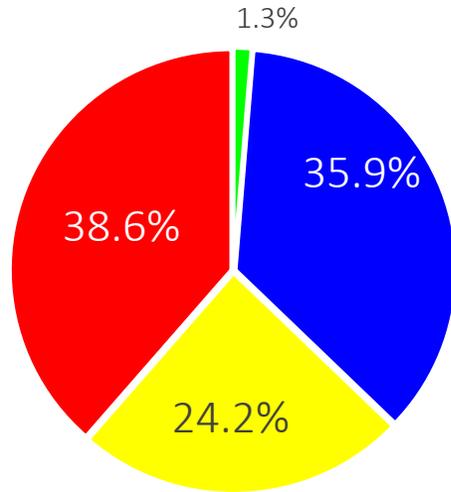
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Most Australian organisations have ample opportunities for productivity improvement

For instance, the average level of waste in personnel time is 39%

Long Term Average Waste Levels, % of Effort

■ Noise (Waste)



Key:

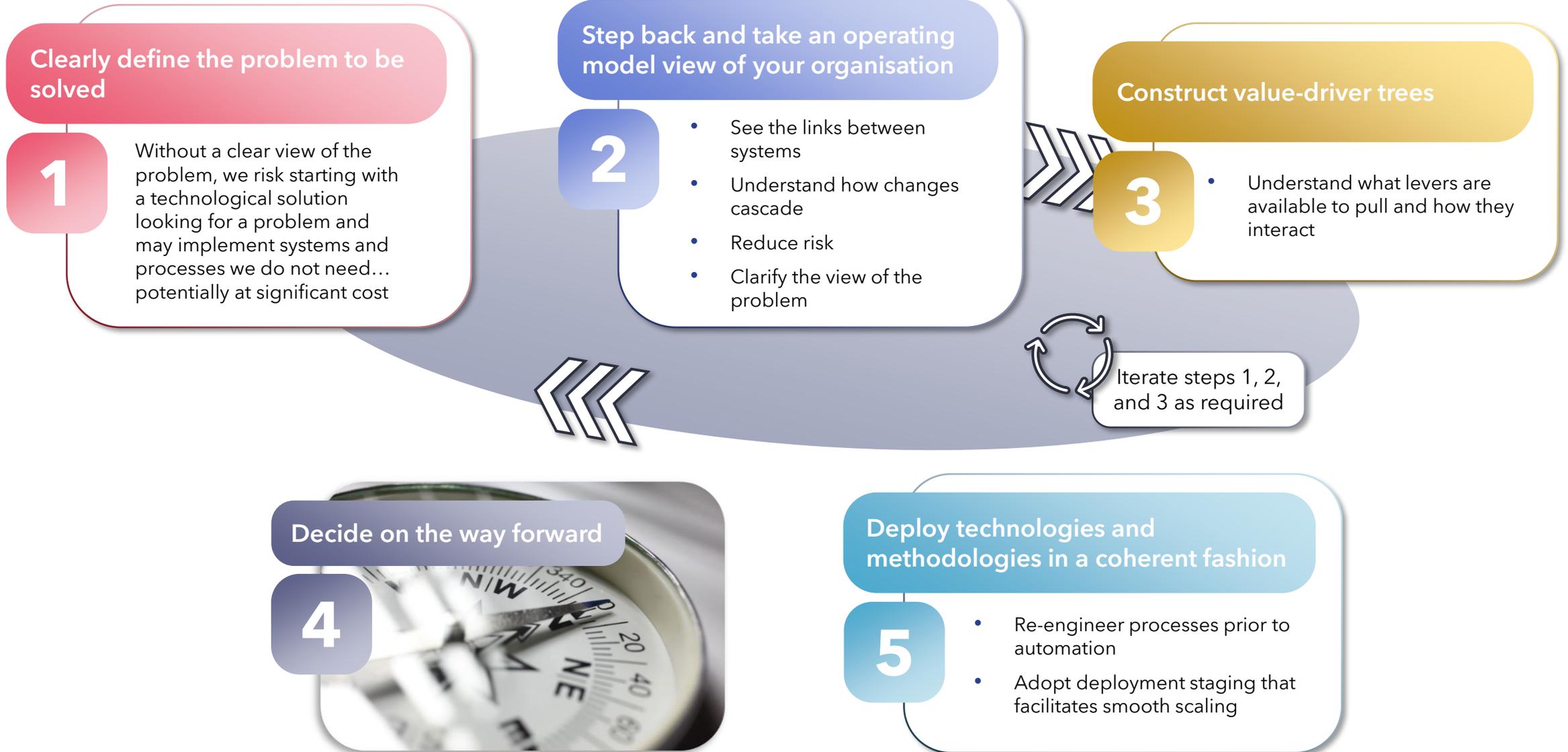
Noise (waste)	Non-value adding activities (waste) which add cost to the organisation
Discretionary	Activities that manage risk or introduce management approvals/checks
Support the mission	Activities that enable efficient delivery of a current service
Improve the Core	Activities that directly increase service, decrease cost or enhance capability

Typical Solutions for Removing Waste

- The figure on the left represent the long-term average waste levels that we see across our clients in all industries and functions
- This represents a huge opportunity for organisations to remove waste, and optimise their value adding activities – making your organisation more effective and efficient
- Examples of common opportunities, and ways you can reduce wasted effort are:
 - Process reengineering
 - Automation
 - Improve information quality and promote ‘first time right’
 - Removing unnecessary hand-offs and clarifying RACI
 - Enhanced systems integration
 - Improved management of digital channels

Source: XeP3, Bevington analysis

Lead with the problem to be solved and lay the groundwork for success in your digital productivity transformation



Bevington's approach assesses all the key organisational elements that, when combined, make up the Operating Model

What is an Operating Model?

- An **Operating Model** is the combination of roles, skills, structures, processes, assets and technologies that allow any organisation to deliver on its service or product promises
- It is in effect the **way the business is set up to deliver VALUE** (both in terms of the customer and in terms of the business)
- The **aspirational view** of how the business is to be set up to deliver against future or changing markets, environment and technology demands is sometimes called the **Target Operating Model**



Bevington's methodology considers a broad range of operating model elements

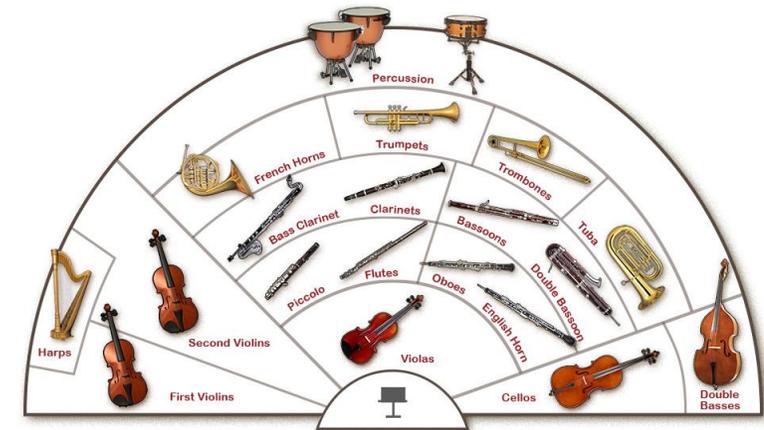
Different organisations need a greater or lesser focus on evolving certain parts of their model



An orchestra is a good metaphor for a robust operating model



- The operating model for an orchestra has stood the test of time
- It is **flexible** in that it can play many different musical scores, and indeed many different genres of music
- Yet it is **robust** and **clear** - everyone understands their role, knows where to sit, knows where to look for the conductor, knows where the sheet music goes, etc.

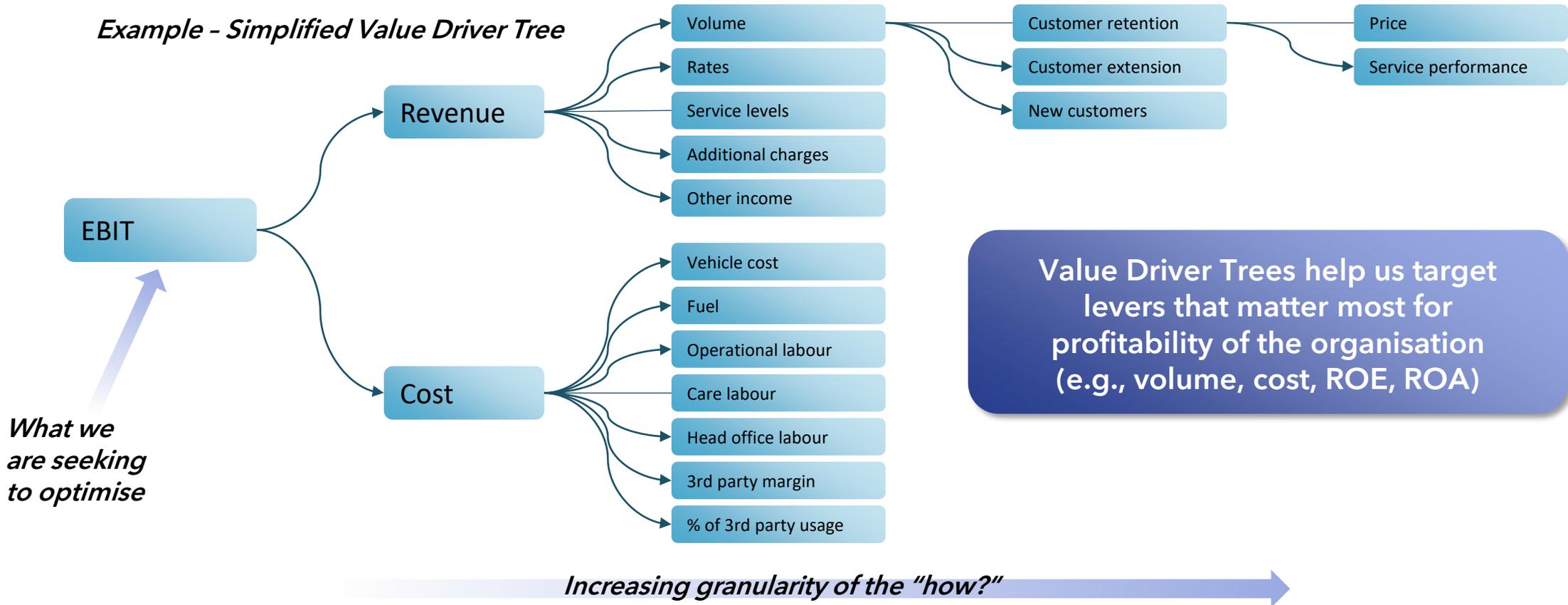


Value driver trees are a useful tool for investigating the variety of changes we might implement to achieve our goals

Value driver trees (VDTs) map how an organisation's metrics fit together - they reveal the different levers we might pull to accomplish a given outcome

Sometimes just changing one arm of the VDT can lead to an order of magnitude improvement in the target metric

Example - Simplified Value Driver Tree



Value Driver Trees help us target levers that matter most for profitability of the organisation (e.g., volume, cost, ROE, ROA)



Let's Talk

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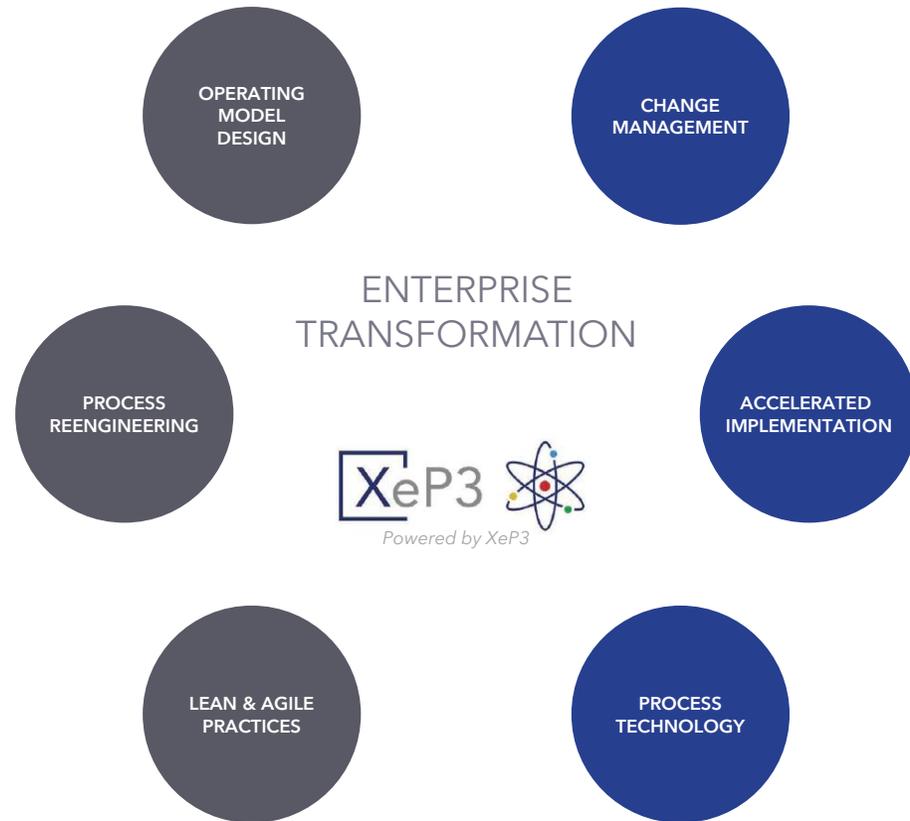
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Contact details and disclaimer

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