MoBagel
THINK WITH AI

Enterprise Software (B2B)
Data Science & AI solution (AutoML)

技術創業之路

智慧商業創新論壇 分享

Adms Chung | 2020.11.26

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關於我

經歷：

- 美商 MoBagel Inc. 創辦人暨執行長
- 台灣大學資訊系博士班、MITx統計與資料科學碩士學程
- 加州柏克萊大學創業加速器
- 台大、政大、資策會等機構教師
- Salesforce, Microsoft, AWS等國際會議 IoT / AI 講者
- MVP 百大傑出經理人

2015年 美國矽谷Plug and Play 物聯網 Expo 全美冠軍 (美國授獎)
2016年 Nokia創新挑戰計畫 全球首獎 (巴黎授獎)
2017年 獲選日本東京都庁 海外技術年度引商八大企業 (東京授獎)
2017年 法國東方匯理銀行 新創企業挑戰 第一名 (巴黎授獎)
2018年 微軟GCR零售創新黑客松 中華區冠軍 (台北授獎)
2018年 科技部年度代表十大最酷創新企業
2019年 入選微軟 AI 100 及微軟加速器
2019年 美國矽谷 IoT World Conf 人工智慧組 冠軍 (美國授獎)
2020年 Gartner十大戰略技術趨勢報告推薦為「全球 AI/ML 平台關鍵廠商」
創辦美商 MoBagel Inc. 獲得美國矽谷、日本等知名基金投資近3億元

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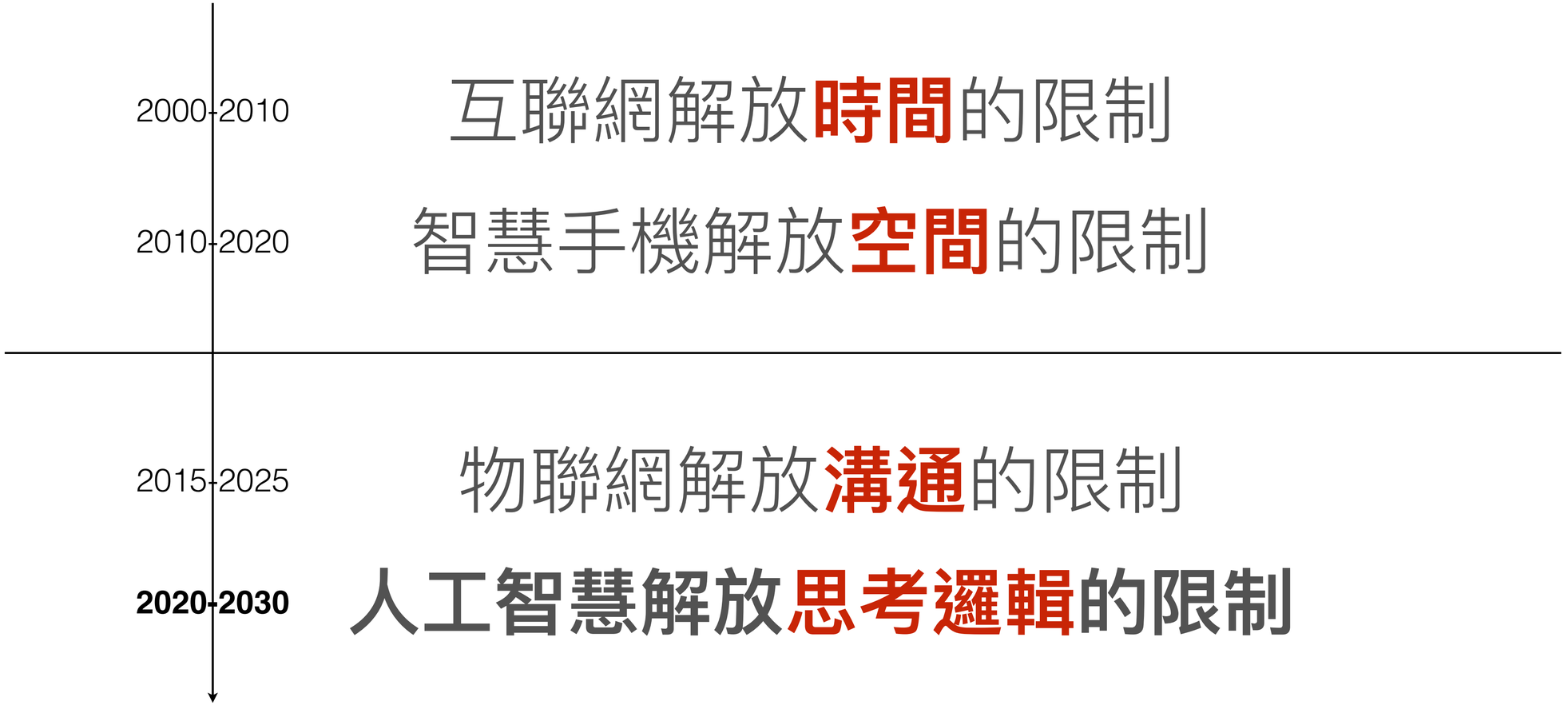
顛覆生活關鍵技術的黃金十年



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The Power of THINK WITH AI

用 AI 需求預測每年影響了140萬瓶 鮮奶

讓消費者喝到最新鮮的牛奶 以及各項蔬果農產品，人民健康飲食

味全

以及許多餐飲零售品牌及通路

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The Power of THINK WITH AI

過去數年來，我們的分享累計幫助超過千人線上/線下更了解 AI 的普及應用

並且仍盡力持續影響更多人

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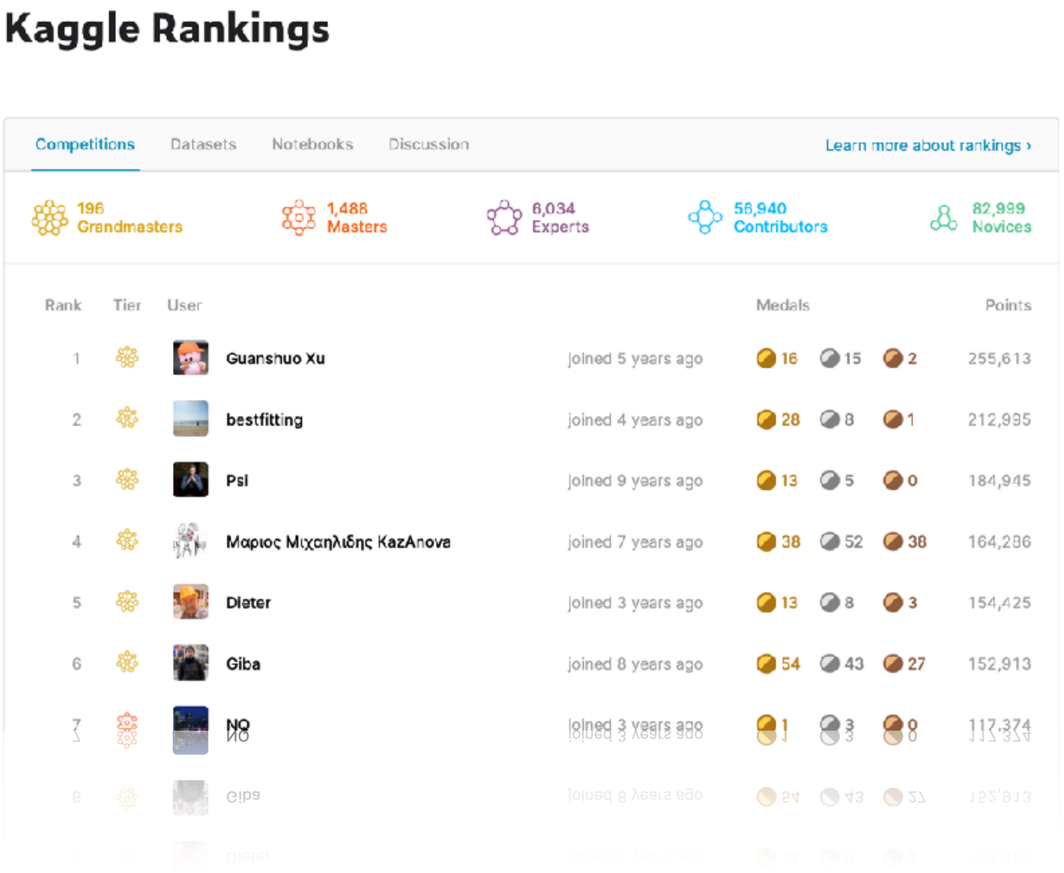
2020 實習計畫：2 位 ROSS MBA 2個月的成果



兩位 MBA Intern
沒有 AI/ML 背景，不會寫程式

拿下 Kaggle, McKinsey
超過 25 個 Top 20% 比賽成果

共有 9 個比賽擠進 Top 1%
4 個直接拿下第一名

目前致力推廣 AI 普及教育至
台大、彰師、北科、元智、淡江
等五十多所大學校系

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關於行動貝果

2015
成立與產品上市

矽谷總部
北京, 上海, 東京,
台北辦公室

史丹佛
柏克萊大學
新創加速企業
及資料科學團隊

矽谷知名基金投資
$2.4億 台幣
資本額

十大最酷
科技新創
科技部推薦

Microsoft
Coca-Cola

2018 微軟大中華區智慧零售 第 1 名
微軟創投加速器及 AI 100 示範原廠
全亞洲千家企業錄取率 1.89%

Gartner

2020 十大策略科技趨勢報告
推薦 MoBagel 為 AI/ML平台關鍵原廠

SoftBank
Innovation Program

2016 1st Round Winner
日本軟銀創新計劃入選
全球錄取率 4.62%

TOKYO
METROPOLITAN
GOVERNMENT

2017 獲選 日本東京都庁
海外技術年度引商 八大企業

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MoBagel 的開始，是為了讓人們更有智慧的生活

2014年11月
舊金山黑客松

2015年1月
大學圖書館

2015年4月
500 Startups

2016年
攜手軟銀 拓展日本

2018年
結盟微軟 前進亞洲

2019年7月 亞洲營運總部

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我們的募資之旅

2014.10 - Competition - **Salesforce $1M Hackathon**

2015.02 - Fundraising Warm Up **- meet several angels**

2015.03 - Seed Round : **500 Startups, TEN … angels**

500 startups

Wretch

Wayne

2016.08 - 1st Seed Round :

FundersClub, CyberAgent, Innov8 Singtel, Clover …

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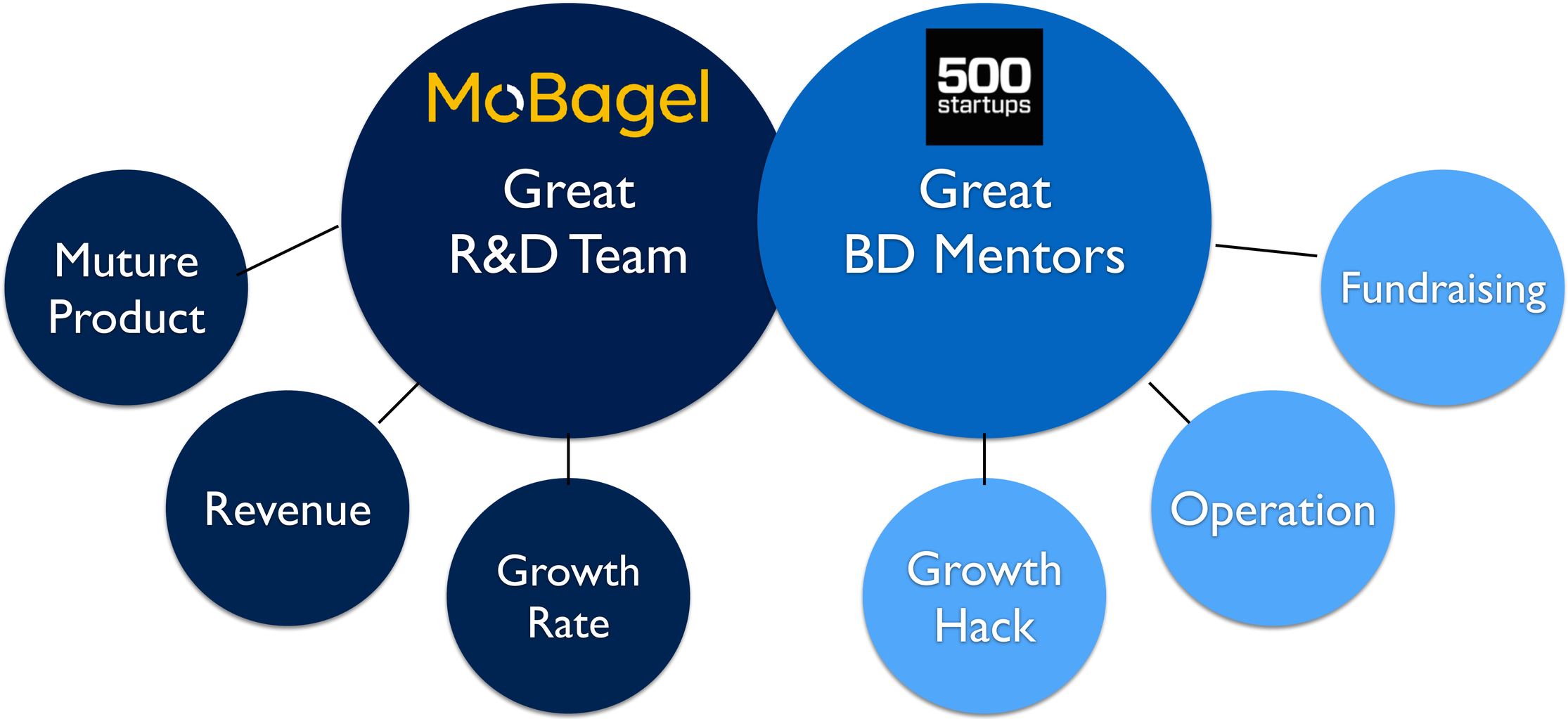
Accelerator Program – 500 Startups



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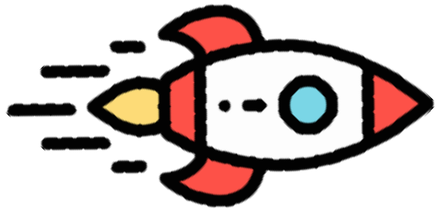
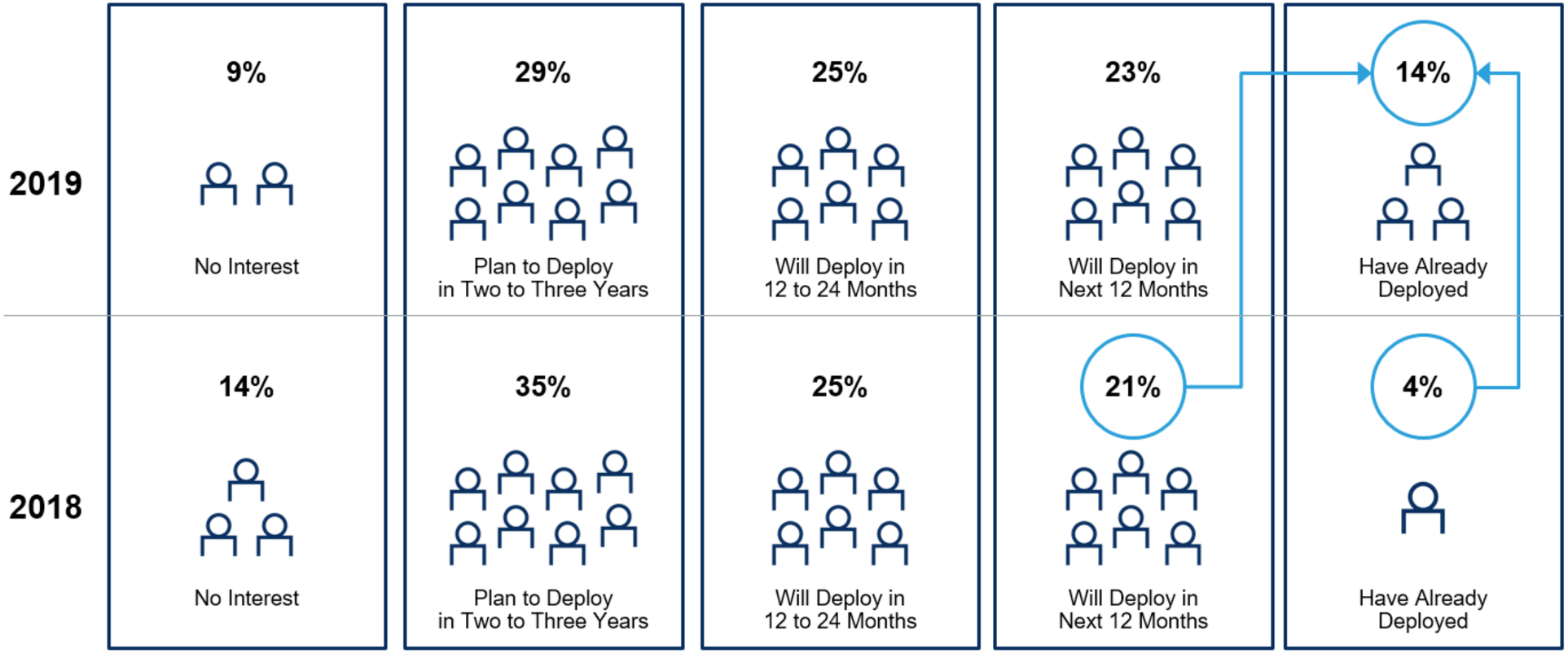
在 AI 產業創業的挑戰

關於AI應用，現狀是...

大家都希望能運用AI技術，使公司業績成長、利潤提升...





* reference from Gartner

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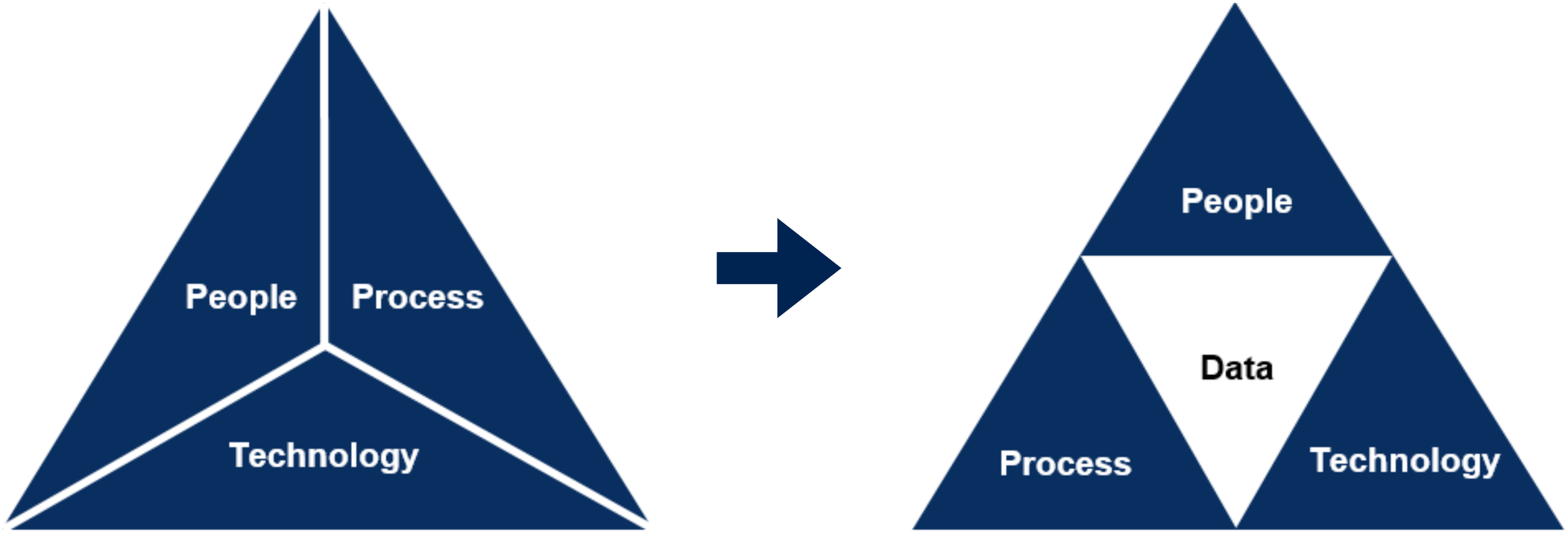
Data is the New Core Capability of Business



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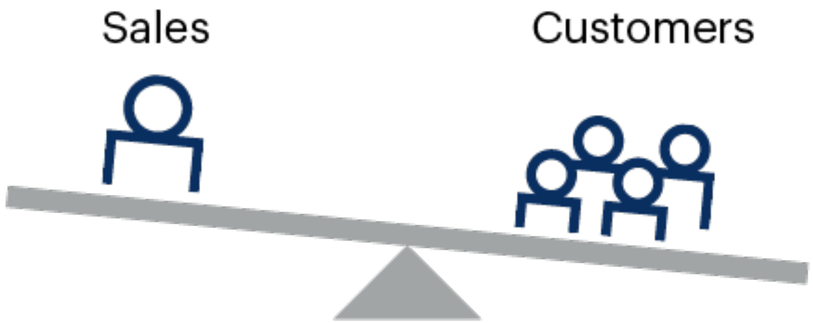
AI in Sales Workflow

Saving time and effort, and providing insights

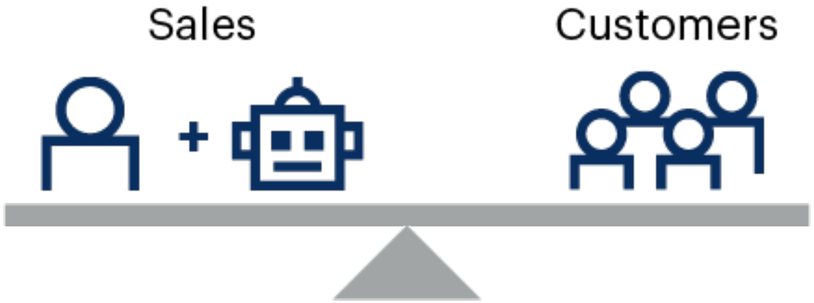
Traditional Workflow



- High pressure
- Less efficient
- “One after the other“

AI

AI-Supported Workflow



- Sensitive to all data
- Efficient
- More activities

* reference from Gartner

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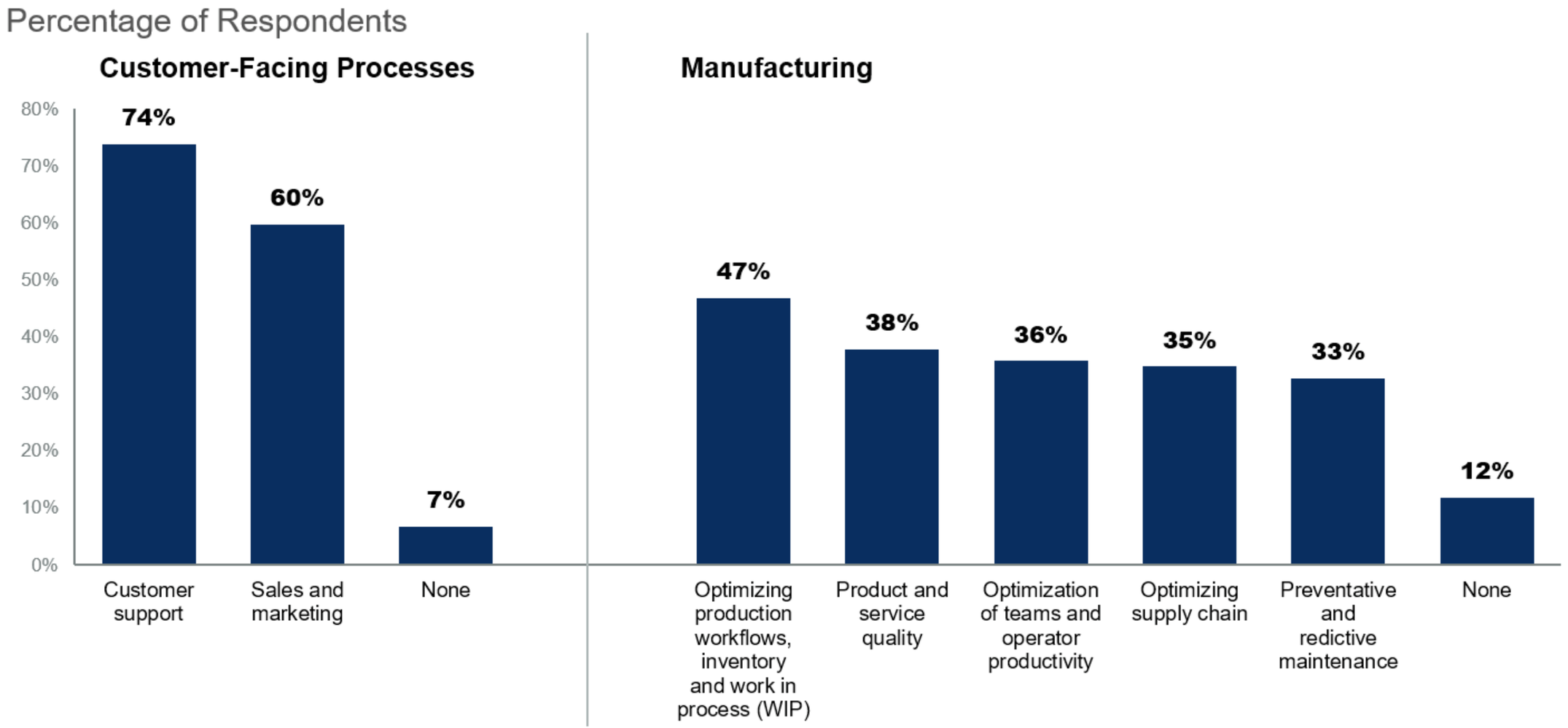
2 sides of leveraging AI



* reference from Gartner

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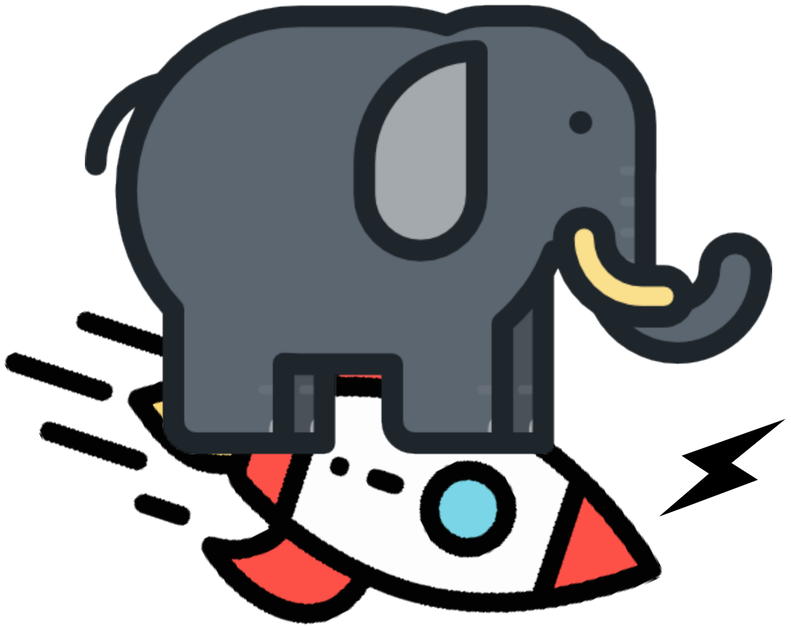
關於AI應用，現狀是...

然而，過度複雜的分析流程及人力投入，讓AI的應用看起來像是...



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企業採用 AI 的最大挑戰

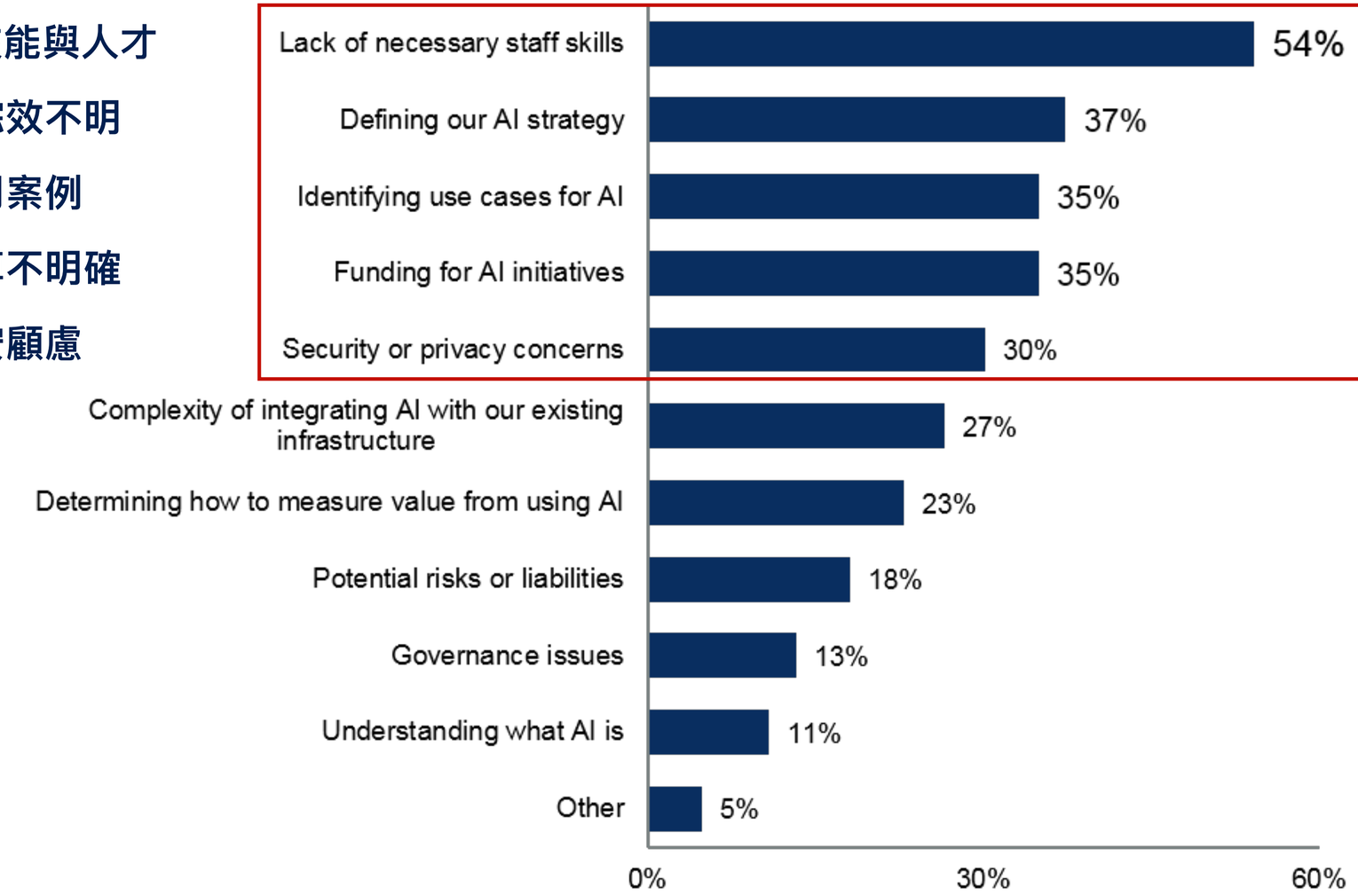
缺乏關鍵技能與人才

AI的策略綜效不明

尋找AI應用案例

對於AI預算不明確

個資與資安顧慮



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2020 十大策略科技趨勢報告：AI/ML平台關鍵原廠

Top 10 Strategic Technology Trends for 2020: Democratization

10 March 2020 | ...model-based algorithm configuration (SMAC) DataRobot 4Paradigm DataCanvas **MoBagel** AI/ML platform autoML platform Interoperability and partnerships with various...

Analysts: CK Lu, Mark Driver, David Cearley, Magnus Revang

「Gartner 2020 十大戰略性科技趨勢」報告
行動貝果被推薦為 AI/ML 平台的關鍵原廠

Gartner

Table 1. Sample Key Vendors of autoML, Based on Gartner Client Interactions

Key Vendors of autoML	Technology Type	autoML Functionality Type	What Gartner Clients Appreciate
auto-sklearn	Freeware	Toolkit based on Python's scikit-learn library	The combined algorithm selection and hyperparameter (CASH) optimization approach and sequential model-based algorithm configuration (SMAC) 開源非商業方案
MoBagel	AI/ML platform	autoML platform	Interoperability and partnerships with various automation and digital transformation platforms 數位轉型自建AI平台
Amazon SageMaker Azure Machine Learning Google Cloud AutoML IBM Watson Machine Learning and IBM Watson OpenScale	Public cloud platforms with autoML functionality and cloud service APIs	Suite of ML products and APIs	Ability to build ML models with your data — "no model code required" philosophy and developer-friendly, fully integrated cloud service 公有雲服務

Source: Gartner (March 2020)

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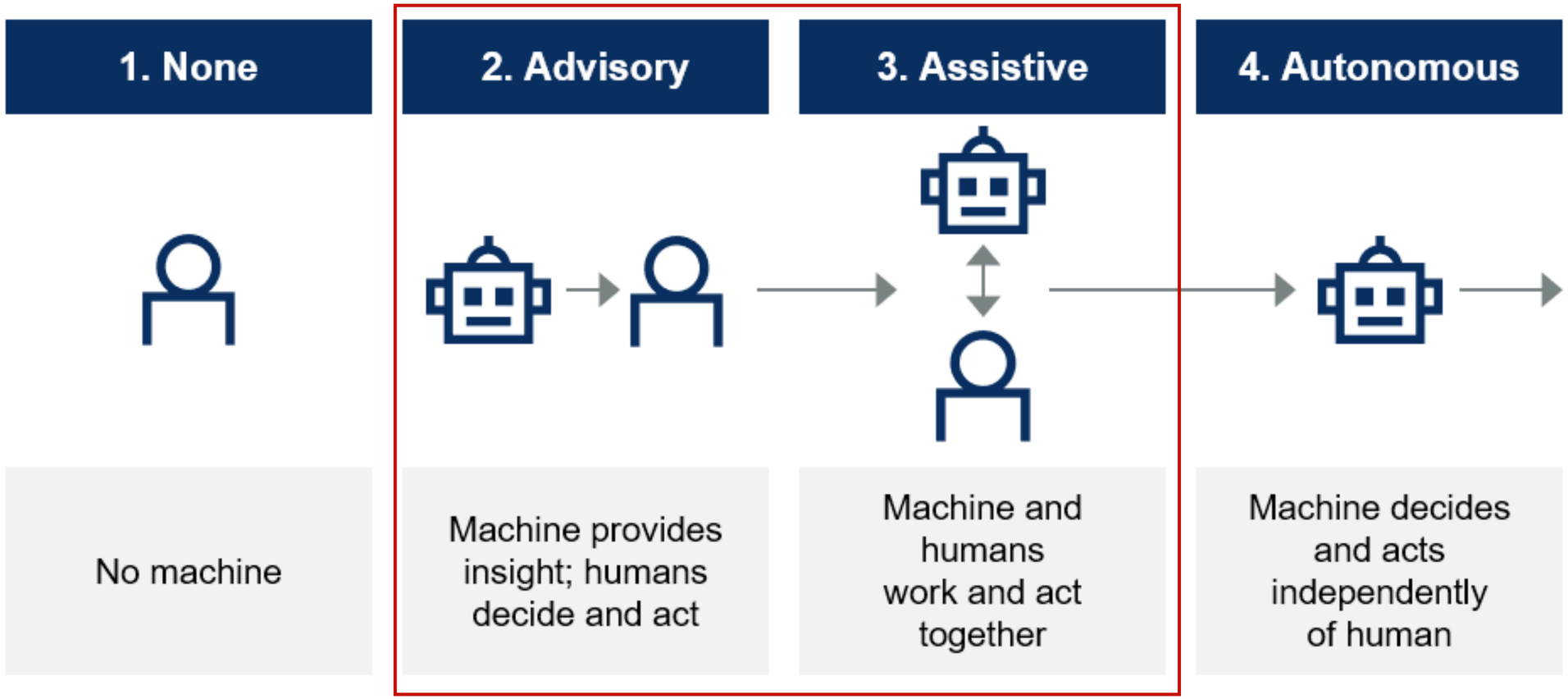
Our Vision – Think with AI



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Benchmark - Google AutoML vs MoBagel Decanter AI

Kaggle Public Dataset: Rossmann Store Sales Prediction

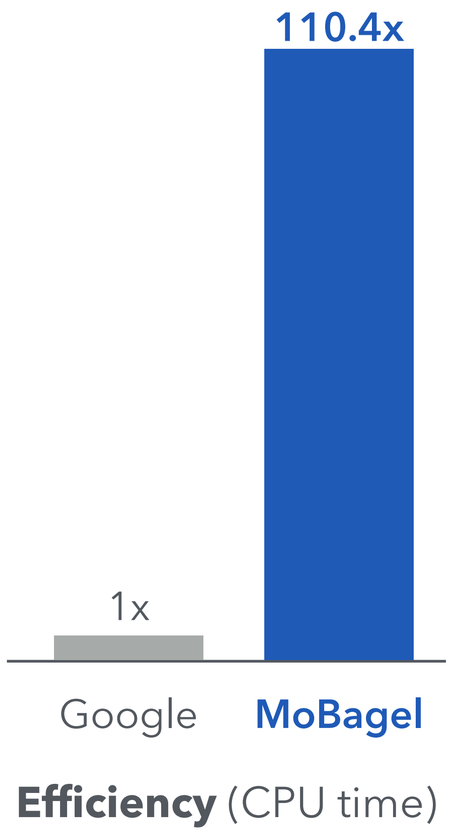
Accuracy (based on R-squared)
Google AutoML : 0.924
Decanter AI : 0.9469

Efficiency (based on CPU-Hour)
Google AutoML : 2,208 CPU-Hour
Decanter AI : 20 CPU-Hour

Results:
Decanter AI is **110x faster** and more economic

銷售預測 比 Google AutoML 快 110倍

R-Squared



Efficiency (CPU time)

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我們如何用技術創業
解決產業問題

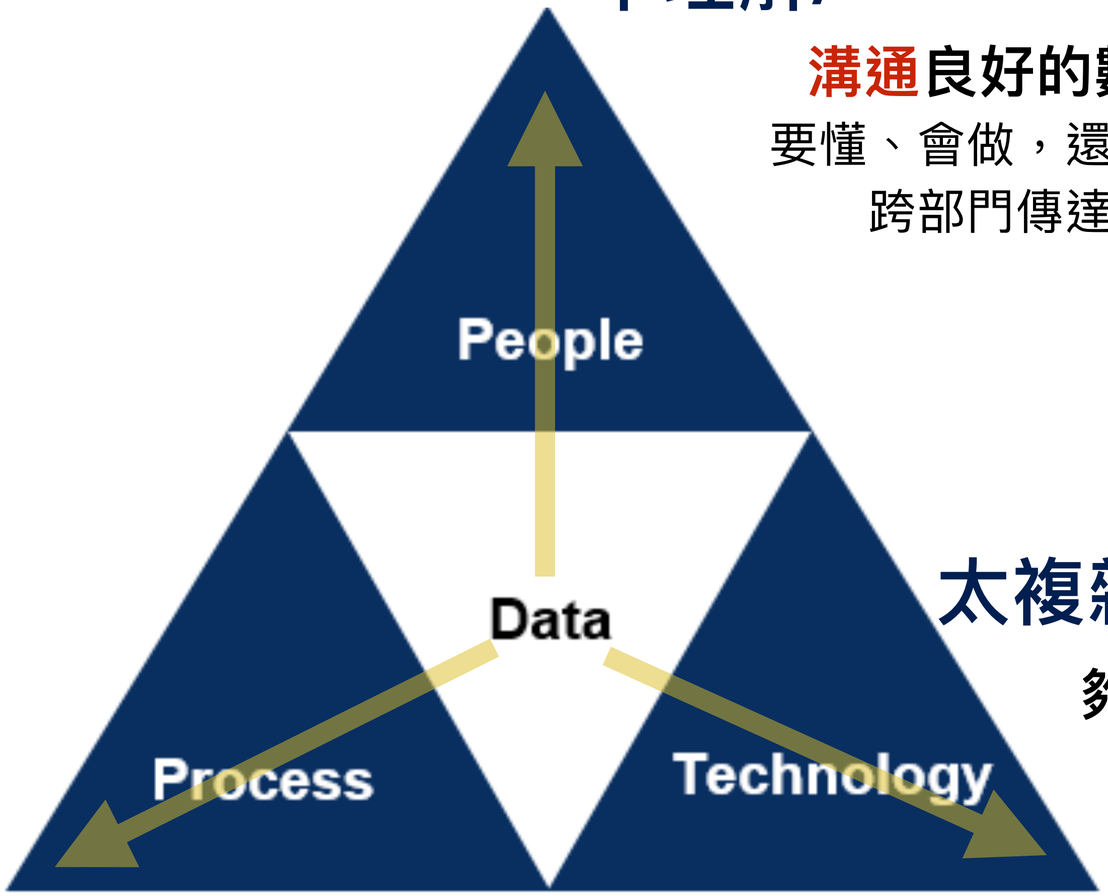
如何做到企業級 AI ：三大象限最大化

不理解/

溝通良好的數據團隊

要懂、會做，還要能說故事

跨部門傳達與認同



不想改變/

數據驅動思維

運用數據進行商業決策

翻轉原有工作模式

太複雜/

夠簡單才能最大化使用

使用低門檻 AI 工具

快速驗證想法

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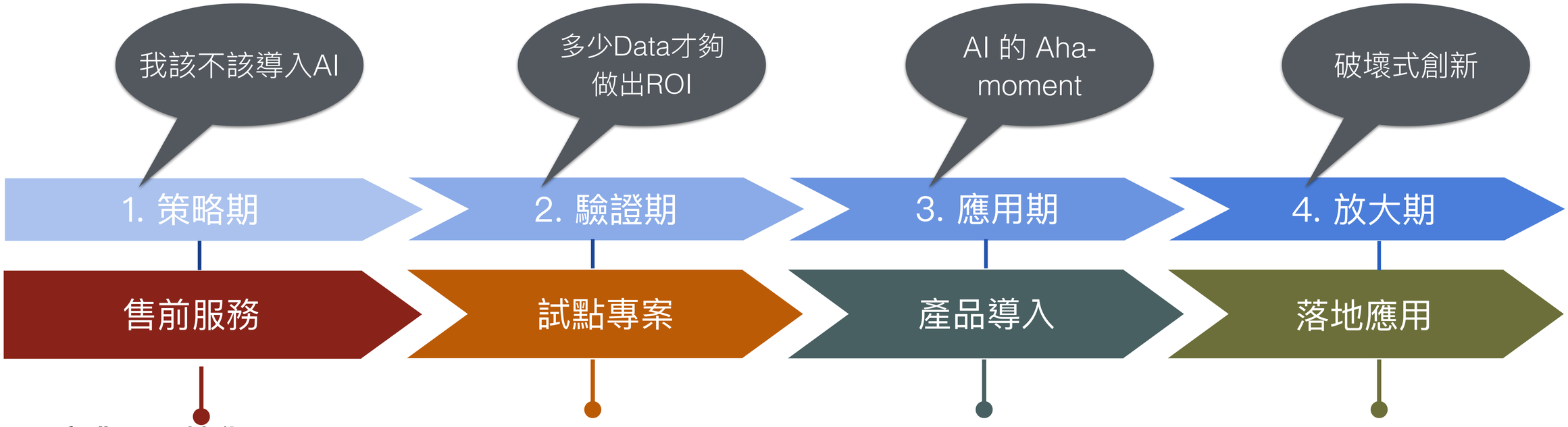
企業 AI 落地進程



- 商業問題轉化
- 命題交流與建議
- 產品試用
- 產出「命題討論提案」、「試用帳號」

- 資料健檢
- 需求釐清、專案執行與效果驗證
- 產出「資料診斷報告」、「需求規劃書」、「成果分析報告」等

- Decanter AI 安裝部署
- 企業 AI 培訓
- 數據分析顧問諮詢
- 產出 Decanter AI 相關教學、文件、諮詢服務

- 多場景應用串接
- 產出不同場景之模組化應用設計

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我們如何協助企業賦能 AI 數位轉型？

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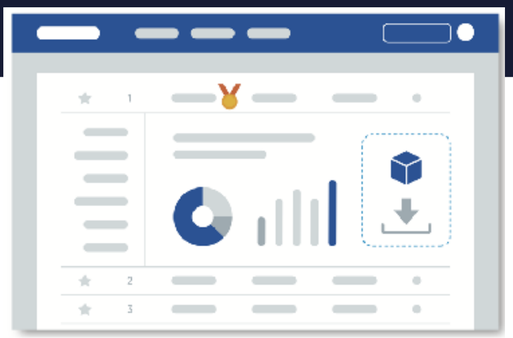
內/外部數據 + 產業經驗

Decanter AI™

自動建立獨特的規則模型與報告



商業決策規劃

收集內/外部數據
結合產業經驗

自動化數據分析平台

預測結果找出商業洞見

運用預測幫助
企業提升競爭力

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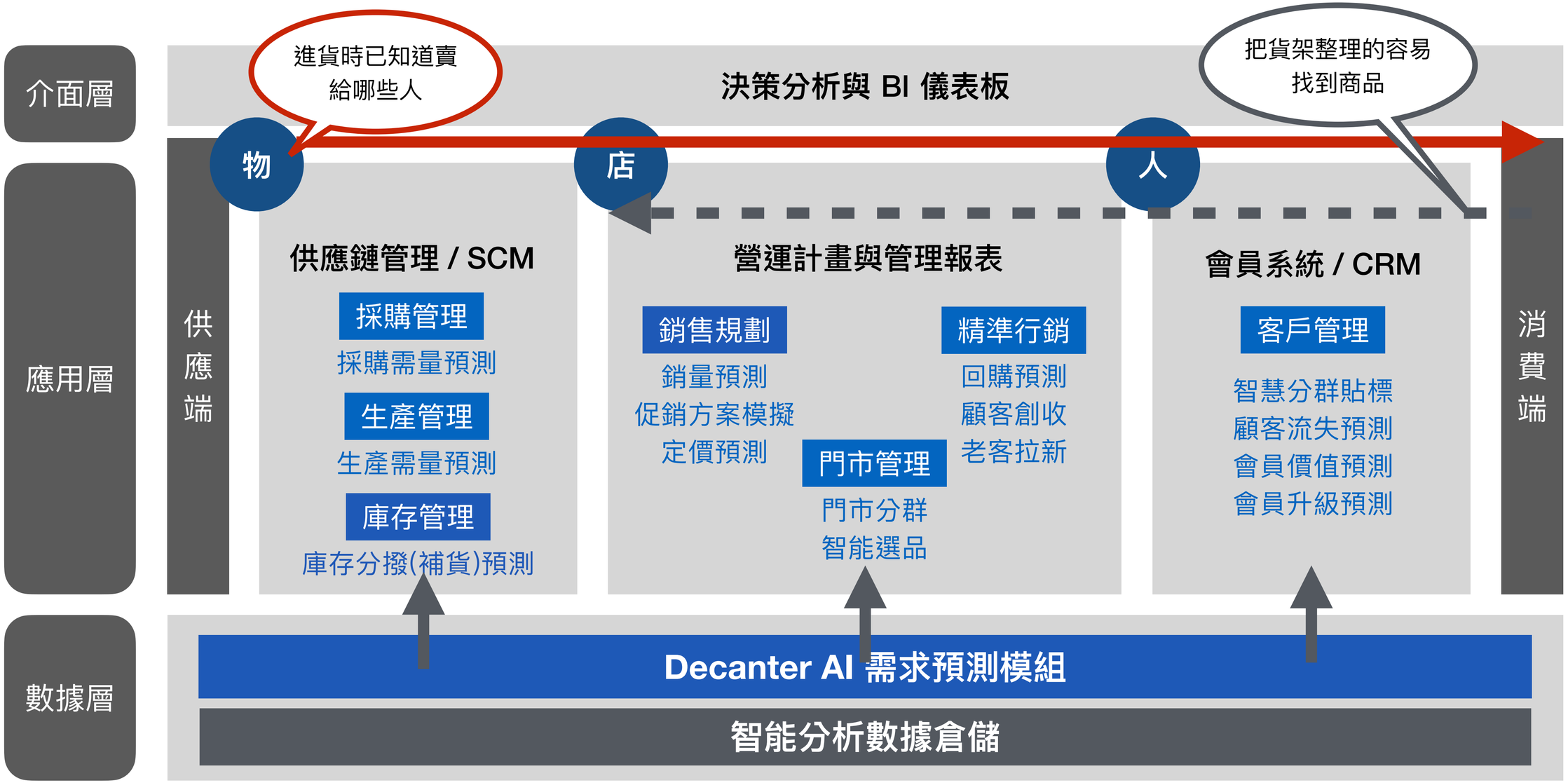
Decanter AI 智慧零售解決方案：預測需求讓被動的人找貨變主動的貨找人



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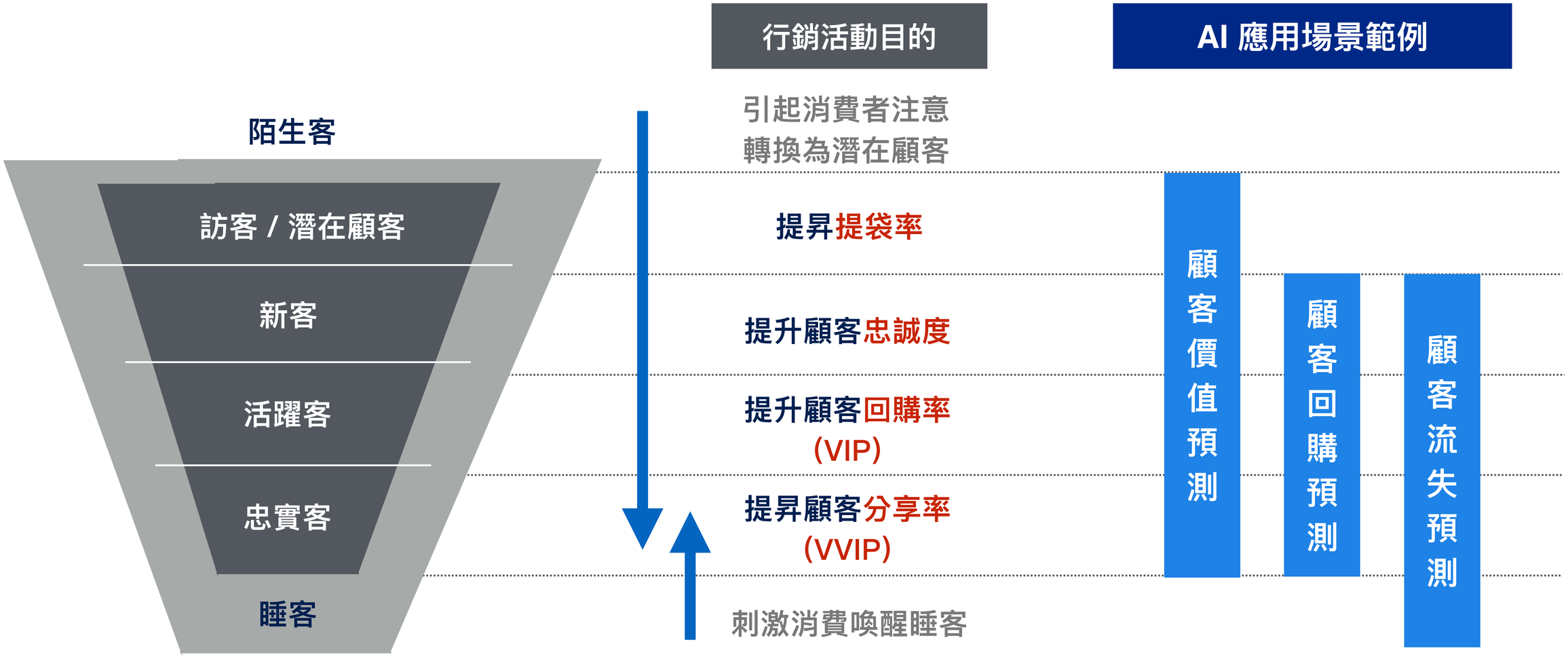
洞燭先機：把每一位顧客都打造成 VVIP



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客戶貼標：描繪每一個顧客的真實畫像

將客戶資訊, 行為數據, 交易數據標籤化，除了用數據分析還原數據背後的「人」，

更運用預測模型標籤未來客戶行為與價值

分析型標籤

促銷偏好　官網互動內容

活躍客　小資　低頻高單價人群

預測型標籤

有回購傾向客戶　預測為高終身價值用戶

將有流失傾向客戶　預測為易被喚醒客戶

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客戶分群：找到每一種顧客都開心滿意的方程式

運用客戶資訊, 行為數據, 交易數據, 將類似的客戶歸入同一群組，

並可分析群組數據為群組命名，協助展開差異化的營銷活動

1 傳統條件式分群

手動自定義事件多維條件

A 群組

客戶標籤：活躍客

客單價大於500台幣

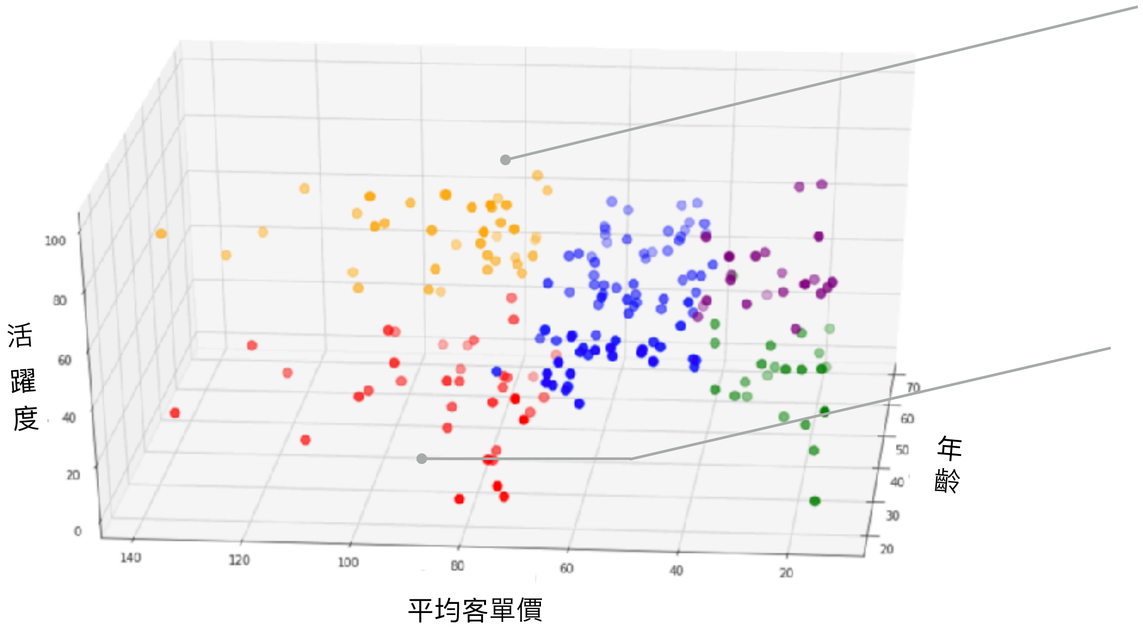
B 群組

客戶標籤：小資

年齡介於20~30

2 多維度分群建模 DecanterAI

運用分群演算法分析多維度客戶畫像，自動聚集類似客戶成為同群組



群組 1

平均客單價介於500~1000台幣

活躍度介於60~100

年齡介於50~70

....

群組 2

平均客單價介於300~700台幣

活躍度介於0~40

年齡介於30~70

....

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顧客/會員促銷名單：把每一次的品牌對話轉換為商機

品牌營銷信息量龐大，品牌想要與顧客有效溝通，

將**對的商品**在**對的時機**推薦給**對的人**，有效導購以提升**提袋/轉換率**與**客單價**

新品推出，
誰最可能需要?

節慶檔期如何
有效促銷?

紅綠組合，
哪些人買了A
會想買B?

保濕系列

彩妝系列

美白系列

系列
商品
LINE
FB
推播

精準推薦導購
提昇10倍命中率

Decanter AI

28歲，家庭主婦
過去客單$3k及商品C

24歲，小資女
過去客單$1.5k及商品AB

20歲，女大學生
過去客單$1k及商品B

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Testimonial - Accurate and Faster PDCA with AI

Data Science Community Meetup in Taiwan
Topic: Big Data Analysis and Application in Telecom Industry
Speaker: **Chunghwa Telecom - Big Data Department**
(Top1 Telecom in Taiwan)

"Using Decanter AI to rapidly build models and make predictions, our highly efficient **marketing PDCA achieved 10 times Lift**."

Benchmarks
IEEE：Lift 3.5X is already very good
Chunghwa Telecom achieved 10X (based on Decanter AI)
Verizon Manager：Lift 5X

*2018.03.27

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Testimonial - Accurate Prediction Disrupts Supply Chain's 4R

The CIO of WeiChuan (one of the largest food manufacturers in China)
Jiade Wei spoke at 2019 VCI Supply Chain E2E Planning Innovation Summit:

Decanter AI as the **core analysis and decision making platform** for within Weichuan
has helped solve supply chain problems (4R - Right Product, Right Place, Right Time, Right Price)

The **average sales forecast of SKUs is 95% accuracy**, and production scheduling and
inventory management is 85% accuracy, which is **20% and 30% improvement** from before

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Testimonial - Accurate Seize Every Customer Opportunity

Over 6,000 global partners attended Advantech IoT Co-Creation Partner Conference in October 2018, where **Advantech** announced the collaboration with **Decanter AI** for a **Smart Retail SRP (solution ready package)**, allowing retail stores to quickly implement an smart AI solution to accurately predict in real-time **customer traffic (average 90%)**, **sales forecast**, and **member repurchase prediction**.

UShop Intelligent powered by Decanter AI

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* reference from Gartner

5 Levels of AI maturity

Level 1 Planning	Level 2 Experimentation	Level 3 Stabilization	Level 4 Expansion	Level 5 Transformation
• Early AI interest with risk of overhyping • First AI (speculative) use cases identified • Pioneers explore available AI techniques and solutions • Determine what AI means for your organization and define AI accordingly	• AI experimentation: in a data science context, or with cloud AI APIs or with intelligent applications • Successful AI POCs, typically on revenue increase use cases • AI lab. First recruitment of AI experts; identifying and upskilling your AI personnel	• AI in production, creating value by e.g., process optimization or product/service innovations • Budget is assigned to corporate function(s) • Mastering end-to-end AI development and implementation • Cross-enterprise data management and platform for AI • AI community of practice or (virtual) center of excellence	• AI is pervasively used across the organization • C-level ownership of AI • AI ethics, governance and risk management • Hybrid centralized/ decentralized AI organization • Strategies and ongoing innovations with AI as a given • Significant impact on workforce, roles and skills	• AI is pervasively used and seamlessly integrated for digital process and chain transformation, and disruptive new business models • AI is part of business DNA • Shift from AI projects to AI products • Synergy of human & AI in augmented intelligence • Profound impact on people, culture and society at large • A combination of in-house and external hiring
AI影響力調研	**成功的 AI 試點**	**AI 融入日常運行**	**從經營層決定 AI 策略發展**	
Select and prioritize AI use cases	Prove the business value of AI use cases	Stabilize infrastructure to access data and AI tools	Scale AI. Expand data sources.	Share your AI advantage with others by delivering AI products

透過 AI 發展出新的商業模式

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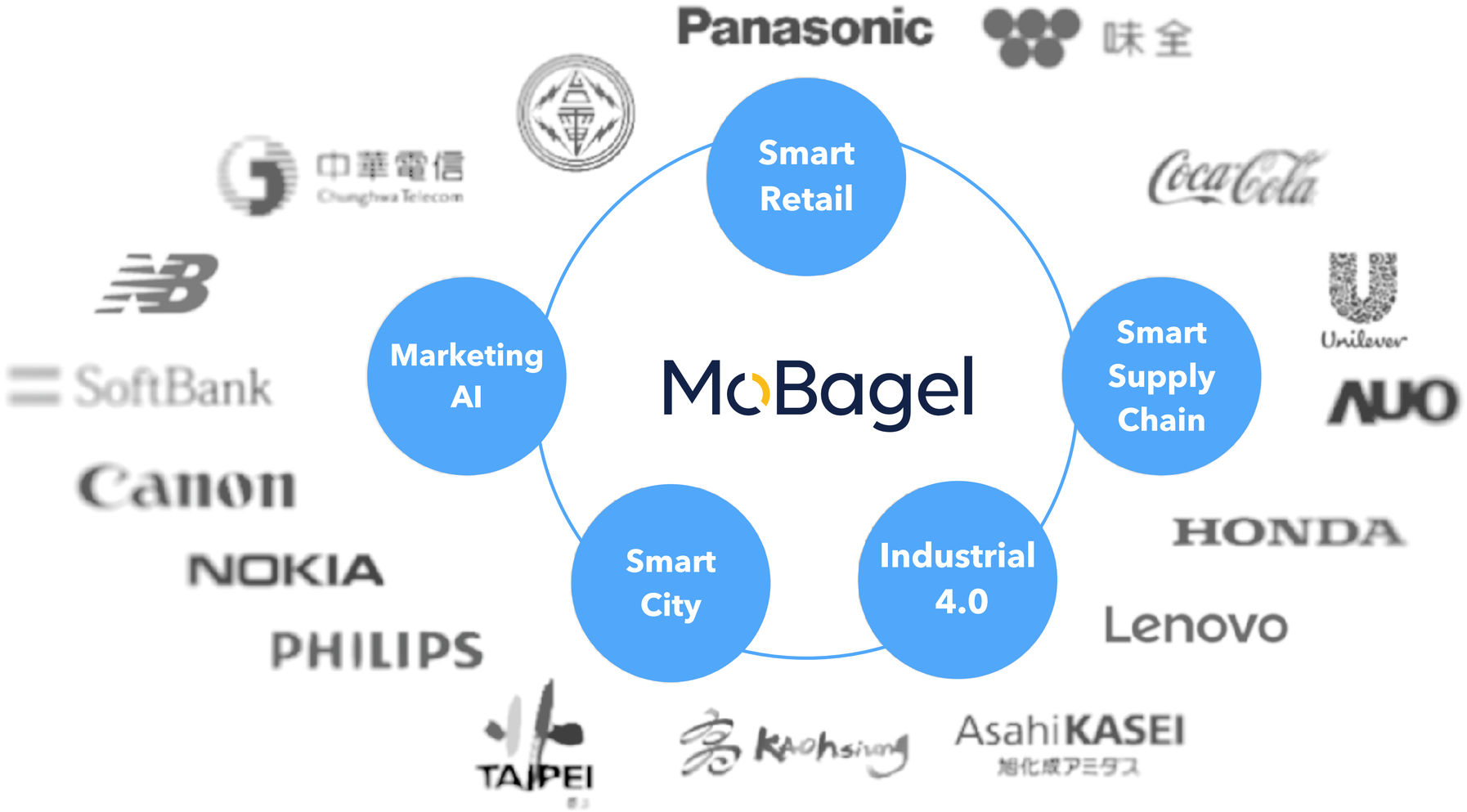
(Level 5)

Our Goal - Enabling **AI Transformation** for 50,000 Enterprises by 2025



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矽谷對我的第一堂課

我到矽谷第一次 創業 meetups
十歲小孩的 pitch
重新定義 失敗/成功 的為什麼

與這個世界的連結才是人的價值

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THANK YOU !

鍾哲民 (Adms Chung)

十年後的我，是我今日的導師

歡迎加 FB 好友

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