蜂行資本 | HIVE VENTURES

TAIWAN ENTERPRISE AI ADOPTION TRENDS

SEP 2021

THE UNSTOPPABLE WAVE OF AUTOMATION

THIS DECADE
WILL BE THE DECADE OF AUTOMATION.

Adoption of Automation has been picking up, and will accelerate through this decade.

Generating significant improvements to productivity to the economies at large.

Source: Ark Invest

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THE BUILDING BLOCKS OF AUTOMATION

THE OPPORTUNITY

DATA CREATION ACCELERATES ITS EXPLOSION

AND THIS TREND WILL BE FURTHER SPED UP WITH THE HYPERCONNECTED WORLD AND 5G.

Source: IDC, Statista, Strategy Analytics Research services

THE OPPORTUNITY

AUTOMATE OR DIE.

THE GAP BETWEEN ADOPTERS WILL BECOME APPARENT AND CONTINUE TO WIDEN WITHIN THIS DECADE: WINNERS WILL START WINNING, AND WILL KEEP WINNING.

ROBUST GROWTH FOR ADOPTERS

140%

OUTPUT INCREASE
Output increased as much as 140% for leading adopters, and 28% on average across all adopters.

89%

FASTER TIME TO MARKET
Time to market improved by 89% for leading adopters and at least 10% for all adopters.

250%

AUTOMATED PRODUCT & SERVICE DEVELOPMENT
Automation in Product and Service development has helped 16% of adopters grow revenues 10-250%.

+

GREATER COST EFFICIENCIES

250%

PRODUCTIVITY INREASE
Adoption leaders have seen 250% increase in productivity, while all adopters saw an average of 40% improvement across the board.

72%

SUPPLY CHAIN EFFICIENCY
72% of adopters saw Supply Chain productivity improvements by at least 5%, with leaders seeing 80% improvements in inventory reduction.

92%

OPERATIONAL EXCELLENCE
Up to 92% operating costs were saved through automation of their operations.

=

STRONGER COMPETITIVE EDGE OVER PEERS

Source: World Economic Forum, McKinsey Global Institute

THE OPPORTUNITY

THE TIME IS NOW

COVID-19 ACCELERATED THIS SHIFT EVEN FURTHER.

Business leaders see Business Resilience and Generating Business Insights faster as key initiatives to help them navigate unprecedentedly uncertain times like these.

Source: Bain Automation Survey 2020, The Economist

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THE OPPORTUNITY

THE VALUE OF THESE COMPANIES IS MASSIVE

AND THE VALUE CREATED IS EXPECTED TO LEAD THE ENTIRE INTERNET & TECHNOLOGY PACK.

THIS SUB-SECTOR HAS ALREADY OUT-GROWN TECH AT LARGE

Source: Hive Ventures The Atlas Index, Aug 2021

AND WILL CONTINUE TO GROW TO OVERTAKE INTERNET ERA

Source: Ark Invest, 2021

THE OPPORTUNITY

AND THE MOMENTUM HAS BUILT UP FOR YEARS ALREADY

INVESTMENT MOMENTUM HAS BEEN BUILDING UP OVER THE PAST DECADE EXPECTED TO EXCEED THE INVESTMENT ACTIVITY FOR THE INTERNET & ECOMMERCE SECTORS IN 2021.

INVESTMENT ACTIVITY IN THE DATA & AI SPACE IS CATCHING UP WITH INTERNET & ECOMMERCE SECTORS

Source: Hive Ventures, The Atlas Index

HOW READY ARE WE?

STATE OF TAIWAN ENTERPRISE AI REPORT

台灣企業AI趨勢報告

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台灣企業AI趨勢報告

ASVDA 亞洲矽谷 ASIA SILICON VALLEY DEVELOPMENT AGENCY

Startup Island TAIWAN

台灣人工智慧學校

cacaFly

ALPHAcamp

conner DATA

InfuseAI

PROFET AI

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METHODOLOGY

研究方法

Hive Ventures 蜂行資本《台灣企業AI趨勢報告2021》報告，旨在研究台灣企業在整個生態系統中，採用人工智能和機器學習技術及其應用的情況，同時並與其他經濟體進行比較，以幫助本地和全球生態系了解並協助企業的數位轉型。

線上調查於 2021 年 1 月 10 日至 2021 年 2 月 28 日期間進行，共收集到247位受訪者的回應，代表了不同的行業、公司規模和專業部門。

受訪企業類型分布

受訪企業規模分布

METHODOLOGY

研究方法

根據每個組成類別的加權平均得分，將受訪者分為不同的成熟度級別，分別是數據準備度、團隊準備度和運營準備度。每個組成部分的準備度得分是根據每個組成部分類別的調查中各自的加權平均得分計算出來的。

DATA成熟度　TEAM成熟度　OPERATIONS成熟度

Industry	Enterprise Data Score	Enterprise Data Level	Enterprise Team Score	Enterprise Team Level	Enterprise Operations Score	Enterprise Operations Level	Enterprise AI Maturity Final Score	Enterprise AI Maturity Level
FULL SCORE	50	5	165	5	360	5	1,000	6
Banking & Financial Services 銀行金融服務	25.15	2.62	72.69	3.38	117	2.31	390.92	3.15
Gaming 遊戲	19	2.33	75	3	60.33	2.67	304.33	3
System Integrators 系統集成商	17.14	2.67	58.71	2.81	83.71	2.19	293.57	3
Marketing 行銷	18.2	2.8	97	2.2	87.8	2.2	392.2	2.8
Oil, Gas & Chemicals 石油 & 化工	12.4	2.7	38.5	2.2	105.2	2	264.2	2.7
Others 其他	10.15	2.35	42.95	2.8	81.1	2.1	236.45	2.65
Value Added Resellers 經銷商	13	2.8	65.6	2	94.6	2.8	315	2.6
Telecommunications 電信	23.57	2.14	61.71	3	108.57	2.14	350	2.57
Internet & Media 網路 & 媒體	18.67	2.33	61.67	2.33	79.48	2.1	298.24	2.48
Manufacturing 製造	14.83	2.35	45.5	2.44	99.09	2.2	277.94	2.46
Healthcare 醫療保健	16.33	2.28	62	2.33	84.67	2.06	300.61	2.39
Consulting 諮詢公司	15.36	2.36	53.5	2.14	80.43	1.79	272.71	2.29
Public Sector 公共部門	12.14	2.29	52.14	2.14	64.86	1.86	240.43	2.29
Consumer Packaged Goods 消費品	0.5	2.25	27.25	1.5	23.25	1.5	97.5	2.25
Retail 零售	29	2.2	42.8	2	96.8	1.8	301.8	2

ENTERPRISE成熟度

THE ENTERPRISE AI MATURITY CYCLE

企業AI成熟曲線

OVERVIEW

成熟曲線概述

THE ENTERPRISE AI MATURITY CYCLE

企業AI成熟曲線

LEVEL 0	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5	LEVEL 6
AWARE	INFRA	DEFINE	R&D	OPERATE	INFUSE	DEMOCRATIZE

考慮導入AI中

企業準備導入 AI 。並開始驅使企業朝著同一個AI願景發展。

建立數據 INFRASTRUCTURE

無數據不AI，開始建立數據基礎架構以確保獲得達成AI 願景目標所需的高質量數據。

建立BUSINESS CASE與實驗

識別應用場景和建立商業案例。開始檢驗數據，以建立實際案例的PoC。

模型研發

確定部署預算來做AI，選定工具、解決方案和伙伴，以補強組織的執行能力。

項目與模型部署

AI 項目已經驗證，有部署，已經體現商業價值。

擴大覆蓋範圍與部門

AI 正在被部署到更廣泛的業務。投入更多的開發，更多的部門部署，更多的團隊參與。

AI無處不在

AI 成為企業的DNA。 AI 將不再是一個獨立的計劃，而是存在各個部門之間的共同語言和合作。

KEY HIGHLIGHTS

報告亮點

產業AI導入概況

由於政府、產業智庫和媒體的不斷推動，企業導入 AI 的概念已經廣泛普及。大多數人已經明白，導入AI的解決方案對企業來說是重要且迫切的。

在我們的調查中，雖然有 52.5% 的受訪企業認為這是比較急迫的，但仍有 29.6% 的受訪者持觀望態度。在我們過去與企業主的訪談和對話中，這些觀望和焦慮的企業主大多源自於不熟悉自己企業的哪些方面應該並可以轉型，以及轉型後能帶來的實際效應。

這也正是引發我們進行這項完整研究的原因，去幫助更多企業了解其經營領域內的真實案例，以及台灣新創企業如何幫助他們進行這項探索。

對於那些嘗試數位轉型的企業來說，大約在2015-2016年間，AI 導入成為一波風潮，在2017-2018年則又迎來一波強勢的高潮；部分原因可以歸類為政府建立並推動了工業4.0。

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企業導入AI的急迫性

B2B VS. B2C: AI導入的積極程度有顯著差異

零售業和快消產業在導入AI的急迫程度處於領先地位。這些行業比較習慣擁抱變革，追尋新技術來預測客戶偏好的變化。儘管同為B2C產業，遊戲、網路、媒體行業，甚至銀行和金融業則略有落後，但顯然面向終端消費者的行業普遍更願意導入 AI，來預測或是適應市場需求變化、產生新的收入以及提高客戶忠誠度。

在 B2B 方面有個有意思的發現，像是製造業和醫療保健行業，雖都是傳統 AI 應用的重點產業，卻表現出截然不同的反應。這可能是由於這些行業當前導入情況十分複雜多樣。雖然部分製造業和醫療保健行業對 AI 導入的急迫程度未如2C來的急迫，但很有可能是因為這些企業早已開始進行部分導入，且是業界公認的先行者，因此對於急迫與否的認知相對較低。

各部門導入總體概況

銷售與行銷部門在導入中領先

顯而易見，銷售和行銷為導入AI最領先的部門之一。在業界已經有很多相關產品和工具可以應用 AI。例如智能客戶數據分群、個人化或程式化廣告投放以及客服聊天機器人等。多樣化的產品使銷售和行銷團隊可以很快地以SaaS的形式導入這些應用，對接快速且成本相對親人。

而世界其他各地也存在同樣的趨勢，因為銷售和行銷部門通常是面對外部的業務部門，因此，在運營中能夠更自由地導入外部解決方案。

我們認為，雖然已經有無數的 MarTech / SalesTech 公司提供簡單的整合和分析，但更精明的用戶已經在尋求更複雜的解決方案，希望能夠將應用服務擴展到更多的業務功能和數據孤島中，從而在整個組織中實現更好的智能決策，而不僅僅是為了銷售和行銷部門提供單點解決方案。

A RISING FORCE

後起直追的潛力

THE ENTERPRISE AI MATURITY CYCLE

絕大部分企業已展開行動!

僅15.7%的受訪企業還在準備導入中。

絕大部分企業(58.6%) 仍在實驗與初步導入階段，尚未實現落地。

資料科學家: AI的軍火庫

台灣企業資料科學家數量近似美國2018年分布

人員儲備已備妥，可望台灣企業未來2年的持續發展與調整

美國企業資料科學家變化趨勢: 2018 vs. 2020

企業資料科學家數量: 美國vs.台灣

模型開發節奏正在倍數加快

人才儲備已到位，產能READY

開發中的模型數量已等同並超越過去的產量: 產量大幅提升, 今年產量預計DOUBLE

已開發模型數量 vs. 開發中模型數量：加速中的進度

THE EFFICIENT ECONOMY

追求速度與效率的經濟體

ENTERPRISE AI MATURITY CYCLE

企業導入AI的策略性目的

傳統的COST DOWN心態大轉變!

增加收入,

創造新收入來源更受重視!

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模型部署率

全球平均僅有13%模型能夠進行部署

台灣大部分企業部署率超越20%!

ENTERPRISE AI MATURITY CYCLE

各規模企業AI成熟度分布

大型企業歲更有資源，但規模可能成為推動AI落地的瓶頸。

中大型企業 (200-500人)則呈現出更大的靈活度。

集合了資源與敏捷性的企業，將有機會成為此時代的領導者。

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TOWARDS PROLIFERATION

持續擴大中的覆蓋與應用

展望未來

未來應用導入趨勢

從「生產工具」轉向「運營效率」

從單點試驗，走向橫向鋪開

THE FUTURE

展望未來

協助快速擴散的平台應用將崛起

- 加快實驗/試錯的平台 (ie. AutoML)
- 自動化標準流程的平台 (ie. AIOps)
- 加深跨部門/團隊協作的平台 (ie. MLOps)
- 保持靈活性的數據平台 (ie. 數據虛擬化)
- 簡化AI使用的應用 (ie. Low Code/No Code)

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THE FUTURE

展望未來

AI的導入並不是萬能靈藥

應管理好期望，選擇好的Use Case，持續加深擴大

企業AI的成熟度是動態的

持續關注，持續優化，不進則退

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THANK YOU!

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