Unleashing the Power of AI in the Communication Industry:
A Global and Local Perspective from HPE

釋放人工智能（AI）在通訊行業的力量：
Hewlett Packard Enterprise（HPE）
全球與當地視野

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In light of proliferating advancements in technology, Artificial Intelligence (AI) is reshaping business operations in the communication industry. Hewlett Packard Enterprise (HPE) as avant-gardists of AI solutions strives to accelerate and facilitate these companies in adapting the technology. Antonio Neri, the Chief Executive Officer of HPE envisions AI as the most compute- and network-intensive application of our time, emphasizing its immense growth potential. The IDC AI Assessment Survey 2024[1], commissioned by HPE, indicates that over 90% of Asia Pacific and Japanese organizations have integrated AI, with expenditures set to double. However, Hong Kong trails in AI implementation, ranking 4th in the APJ market. HPE aims to propel Hong Kong's communications sector to become AI innovators akin to its regional counterparts. This article will delve into current AI market trends in Hong Kong's telecommunications industry, address potential challenges and opportunities, and present strategic solutions, including Hybrid Cloud AI, accelerating AI for production, Edge Computing, private on-premises AI solutions, and AI Operations (AI Ops) from OpsRamp.

Macro Market Trends in Hong Kong's Telecommunications Industry

Despite being perceived as slow implementors, the region's AI innovations thrive due to high smartphone penetration and robust telecommunications infrastructure. Over time, AI has undergone continuous enhancements and transformations.

In the rapidly evolving communications industry, AI plays a pivotal role in network optimization and management, customer service engagement, fraud detection, and personalized marketing strategies. Telecommunication service providers face challenges with managing vast amounts of network data generated by end-users, such as latency and packet loss. AI-powered cloud services efficiently store and optimize this data, enabling quick identification of network issues and aiding in market strategy forecasting.

AI virtual assistants are increasingly utilized by telecom companies to enhance customer service engagement and efficiency. These virtual chatbots offer low maintenance costs and can handle a high volume of customer inquiries with accurate and instant responses, freeing up human resources for more complex tasks. Leveraging AI for sentiment analysis and predictive analytics from various data sources like feedback, complaints, and social media posts further enhance customer engagement and tailor services to meet consumer preferences.

Security remains a critical concern for telecommunication providers, with cyber-attacks posing a significant threat. Investing in high-speed servers with AI analytic frameworks can help mitigate information breaches and identify potentially fraudulent activities in real-time. By analyzing customer transaction records and behavioral patterns, AI enhances fraud detection capabilities and safeguards against identity theft and SIM card cloning, ultimately protecting both the company and its customers.

AI algorithms streamline personalized marketing strategies by analyzing customer data and preferences to deliver targeted messages and offers. This data-driven approach optimizes marketing budgets, enables the creation of tailored data plans, and identifies new market trends. By resonating more deeply with clients through personalized interactions and insights, telecommunication companies can drive cross- and upselling opportunities, ultimately meeting the dynamic preferences and needs of their customers effectively.

隨著科技不斷進步，人工智能（AI）正在重塑通訊產業的業務運作。Hewlett Packard Enterprise (HPE) 作為 AI 解決方案的先驅者，致力於加速並協助這些公司適應這項技術。HPE 行政總裁 Antonio Neri 預想 AI 將成為當今計算與和網路密集型的應用程式，並強調其巨大的成長潛力。由 HPE 委託的 IDC 2024 年 AI 評估調查顯示，超過 90% 的亞太地區和日本企業已整合 AI，其開支將預計翻倍。然而，香港在 AI 實施方面卻落後於人，在亞太及日本市場排名第四。HPE 旨在推動香港通訊業成為 AI 創新者，與其他地區看齊。本文將深入探討香港電訊業當前的 AI 市場趨勢，探討潛在的挑戰和機遇，並介紹策略性解決方案，包括混合雲 AI、加速生產 AI、邊緣運算、私有本地 AI 解決方案，和 OpsRamp 的 AI 運營（AI Ops）。

香港電訊業的宏觀市場趨勢

儘管香港被認為是實施速度較慢的地區，但由於智慧型手機滲透率高且電訊基礎建設健全，香港的 AI 創新仍蓬勃發展。隨著時間的推移，AI 將經歷不斷的提升和轉變。

在快速發展的通訊產業中，AI 在網路改善與管理、客戶服務參與、詐騙偵測以及個人化營銷策略中發揮著關鍵作用。電訊服務供應商在管理終端用戶產生的大量網路資料（例如延遲和資料包遺失）時面臨挑戰。AI 驅動的雲端服務可有效儲存並修正這些資料，從而快速識別網路問題，並協助市場策略預測。

電訊公司越來越多地利用 AI 虛擬助手來提高客戶服務的參與度與效率。這些虛擬聊天機器人的維護成本低，可以處理大量的客戶詢問，並提供精確且即時的回應，從而騰出人力資源處以理更複雜的工作。利用 AI 從各種數據來源（如回饋、投訴和社群媒體文章）進行情感分析和預測分析，可進一步提升客戶參與度，並根據消費者喜好定制服務。

對電訊提供商來說，安全仍然是一個關鍵問題，網絡攻擊仍帶來重大威脅。投資於具備 AI 分析框架的高速伺服器，有助於減少資訊外洩的風險，並即時辨識潛在的詐欺活動。透過分析客戶交易記錄和行為模式，AI 增強了欺詐檢測能力，並防止身份盜用和 SIM 卡複製，最終保護公司及其客戶。

AI 演算法透過分析客戶數據和偏好，進而簡化個人化營銷策略，從而提供目標訊息和優惠。這種以數據為導向的方法可改善營銷預算、建立量身訂做的數據計劃，並找出新的市場趨勢。透過個人化的互動和洞察更深入地與客戶產生共鳴，電訊公司可以推動交叉銷售和追加銷售的機會，最終有效滿足客戶的動態偏好和需求。

Challenges and Opportunities of AI in Communications in Hong Kong

Although AI serves as a valuable tool for enhancing communication companies' daily operations, it is essential to address regional challenges and opportunities to fully realize its potential. By proactively tackling these aspects, telecom operators can better prepare for unexpected disruptions and optimize AI utilization.

Mr. Vincent Kwok, General Manager of HPE, Hong Kong and Macau suggested that one significant challenge that telecom companies face is ensuring data privacy and security in the era of rapidly increasing AI applications. As these companies accumulate vast amounts of data, robust AI technologies are needed to safeguard, analyze, and store this information to build and maintain trust with customers. Additionally, Kwok believes addressing the talent shortage in the AI field is crucial for telecom operators looking to expand their capabilities. With a high demand for AI professionals and engineers, investing in training programs for existing and new employees can help bridge the gap and ensure a skilled workforce.

Another challenge is integrating AI with legacy systems to leverage its benefits effectively. Telecom companies must have the capacity and infrastructure to seamlessly deploy AI technologies, but the integration process can be complex, especially for companies with outdated equipment. While replacing legacy systems can be costly, evaluating the long-term benefits can help telecom operators make informed decisions about investing in updated software and hardware. Furthermore, navigating regulatory compliance issues is essential before deployment. Telecom providers must adhere to local laws around data protection, consumer privacy, and cybersecurity, which can be challenging due to the evolving legal landscape surrounding AI. Kwok concluded that complying with regulatory requirements is crucial to avoid potential legal loopholes that could be exploited by third parties.

On the flip side, Kwok identified opportunities for local telecom operators, such as the rise of Hong Kong's tech-savvy population. With a high smartphone penetration rate and a growing tech-savvy demographic, Hong Kong provides a favorable environment for AI deployment. The population's digital literacy and openness to new technologies make it easier for telecom companies to integrate AI solutions seamlessly into their operations. Additionally, AI's continuous learning capabilities offer potential solutions to the talent shortage issue. As AI technology improves in accuracy and automation, companies can streamline workflows, automate tasks, and make informed decisions without requiring large teams of on-site professionals. AI's automation integration systems can also simplify the complexities of legal compliance, helping telecoms navigate and understand local legislation more effectively.

Hybrid Cloud AI

AI has become a pivotal tool in revolutionizing the telecommunications industry, offering a strategic approach to AI-driven network management, customer engagement, fraud detection, and marketing solutions. The utilization of Hybrid Cloud AI solutions has emerged as a critical need for telecom operators seeking flexible and scalable computing resources. Operators can dynamically adjust computing resources based on demand, seamlessly integrate on-premises infrastructure with public cloud services, and balance workloads between different environments to optimize operational costs while maintaining network performance and reliability.

Telecom providers can elevate their AI experience by synergising Hybrid Cloud AI. Leveraging the benefits of both technologies allow

AI 在香港通訊業的挑戰和機遇

雖然 AI 是提升通訊公司日常營運的重要工具，但要充分發揮其潛力，必須解決區域性的挑戰與機遇。透過主動解決這些方面的問題，電訊營運商可以更好地為意料之外的干擾做好準備，並提升 AI 的運用。

Hewlett Packard Enterprise 香港及澳門區總經理郭榮忠先生表示，在 AI 應用迅速增長的時代，電訊公司面臨的一個重大挑戰是確保資料隱私和安全。由於這些公司累積了大量數據，因此需要強大的 AI 技術來保護、分析和儲存這些資訊，以建立和維持與客戶之間的信任。此外，郭先生認為解決 AI 領域的人才短缺問題對於希望擴展自身能力的電訊營運商來說至關重要。由於對 AI 專業人員和工程師的需求殷切，投資現有和新進員工的訓練項目，有助於彌補缺口，並確保擁有一支技術嫻熟的工作團隊。

另一項挑戰是將 AI 與傳統系統整合，以有效利用其優點。電訊公司必須具備無縫部署 AI 技術的能力和基礎設施，但集成過程可能很複雜，特別是對於設備過時的公司而言。雖然更換舊系統的成本可能很高，但評估其長期效益可以幫助電訊商在投資更新軟體和硬體方面做出明智的決策。此外，在部署之前，掌握法規遵循問題是非常重要的。電訊供應商必須遵守當地有關資料保護、消費者隱私和網路安全的法律，而由於圍繞 AI 的法律環境不斷演變，這可能是一項挑戰。郭先生總結說，遵守法規要求對於避免可能被第三方利用的法律漏洞至關重要。

另一方面，郭先生也指出了本地電訊商者的機會，例如香港精通科技人口的崛起。香港的智能手機滲透率高，精通科技的人口不斷增加，為 AI 的部署提供了有利的環境。香港人口的數碼意識和對新技術的開放態度，讓電訊公司更容易將 AI 解決方案無縫整合到營運中。此外，AI 的持續學習能力為人才短缺問題提供了潛在的解決方案。隨著 AI 技術在精確度和自動化方面的提升，企業可以簡化工作流程、自動化任務，並在不需要龐大的現場專業團隊的情況下做出明智的決策。AI 的自動化整合系統也能簡化複雜的法律合規性，協助電訊商更有效地掌握與瞭解當地的法律。

混合雲 AI

AI 已經成為革新電訊產業的重要工具，為 AI 驅動的網路管理、客戶參與、詐欺偵測和營銷解決方案提供策略性方法。對於尋求彈性與可擴充運算資源的電訊商而言，混合雲 AI 解決方案的運用已成為一項重要需求。營運商可根據需求動態調整運算資源，將企業內部基礎架構與公共雲端服務無縫整合，並在不同環境間平衡工作負載，以最佳化營運成本，同時維持網路效能與可靠性。

電訊商者可藉由混合雲 AI 的協同效應，提升其 AI 體驗。利用這兩種技術的優點，電訊商者可以

telecom operators can streamline IT operations management, employ predictive analysis for network failure prediction, and enhance incident management for faster response times. This integration ensures a holistic approach to AI deployment, enabling operators to maximize network performance, manage workloads efficiently, and enhance overall network reliability.

簡化 IT 作業管理、採用預測分析來預測網路故障，並加強事件管理以加快回應時間。此一整合可確保 AI 部署的整體性，讓電訊業商能發揮最大的網路效能、有效率地管理工作量，並提升整體網路可靠性。

Conclusion
Peripherally observing AI's growth potential can blindly drive business leaders into being overly confident in the technology. In addition to creating a robust network of AI infrastructure, educating users of AI is a focal point of its successful deployment. Without the sufficient know-how to operate the powerful solutions, AI will only be an empty vessel. Despite the exponential growth of AI technologies, it will not substitute most jobs in the telecommunications industry. Rather, AI will be each company's work companion, improving and optimizing business processes, while maintaining high levels of integrity.

結語
片面觀察 AI 的成長潛力，可能會使商業領袖對這技術過於自信。除了建立強大的 AI 基礎架構網路之外，教育 AI 的使用者也是其成功部署的重點。如果沒有足夠的操作這些強大解決方案的知識，AI 只會是一個空殼。儘管 AI 技術呈指數級增長，但它不會取代電訊業的大部分工作。相反，AI 將成為每家公司的工作夥伴，改善並提高業務流程，同時保持高度的完整性。