



**PHARMA
SUMMIT 24**
Exploring Values of Healthcare

18th April 2024
Croke Park conference centre

Speaker Slides: Paul Pierotti, EY Ireland

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Paul Pierotti,

Partner – Data Analytics & AI Practice



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“Unleashing the value of AI”

Bio:

Paul brings 25 years of experience in applying Data Analytics to improve strategic decisions and business outcomes. This typically involves working with an organisation’s leadership team to define their Analytics and AI vision and business case by use case. He then helps build the related assets that are embedded in operational processes to realise that value.

He has delivered over 50 successful engagements in Health and Life Sciences, including using data to improve Health Care Professional and Patient engagement. Paul has a BSc in Mathematics and MSc in Industrial Mathematics.



PMI Conference

Unleashing the value of AI

April 2024

■ ■ ■
The better the question. The better the answer.
The better the world works.



US - Ireland Report

“

EY's innovative AI Labs are bringing the EU and US closer, with game changing capabilities for clients in big data, AI, smart automation, VR/AR and advanced analytics.

Paul Pierotti

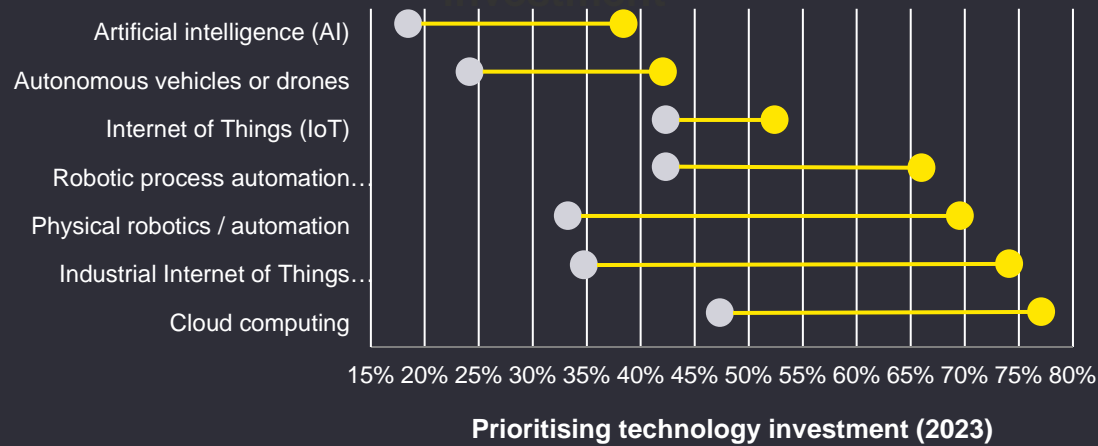
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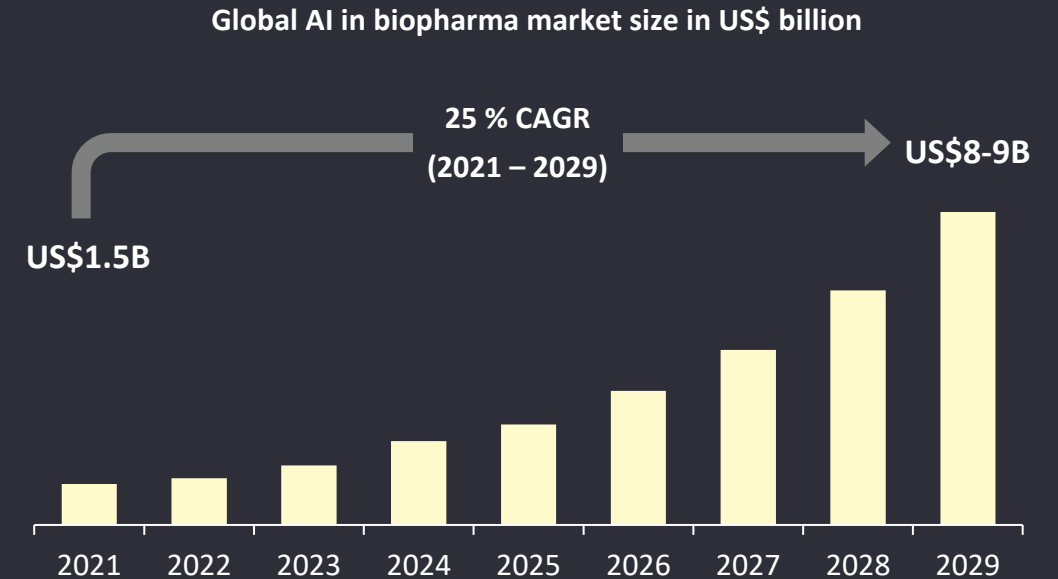
AI provides a unique opportunity for transformation with early adopters particularly in Life Sciences positioned for long term gains

Leading organisations are at an early stage of adoption for AI and prioritising investment



- Organisation Outperforming for Shareholder Return
- Organisation Not Outperforming for Shareholder Return

Early adopters in Pharma are positioned for long term gains



Key Drivers for Life Sciences investment in AI



Increase in patient volume and complexities



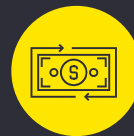
Large inflow of patient health related data



Growing demand for personalised medicine



Technological advancements and innovations



Growing need to reduce health care costs using technology



Rising prevalence of chronic diseases

The potential for using AI for value has accelerated with the introduction of Generative AI

Artificial Intelligence

AI, or artificial intelligence, is a field of computer science that focuses on creating intelligent machines capable of tasks requiring human intelligence.

Machine Learning

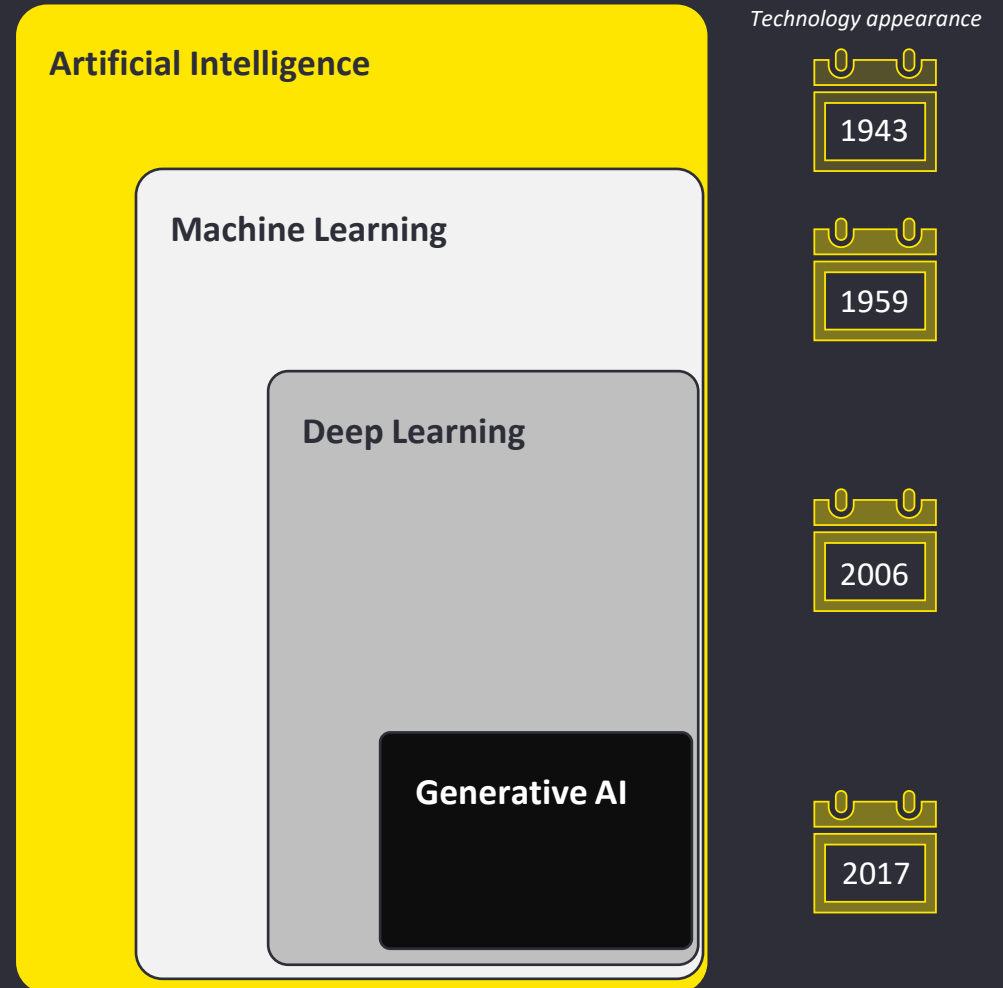
Machine learning is a subfield of artificial intelligence, which is broadly defined as the capability of a machine to imitate intelligent human behaviour.

Deep Learning

Deep learning is a subset of machine learning, which is essentially a neural network with three or more layers.

Generative AI

Generative AI is a type of artificial intelligence that can create new content such as images, text, audio, or video based on the data it has been trained on, using techniques like large language models, transformer neural networks, and generative adversarial networks.



The potential benefits are significant

Marketing	45% increase in targeting accuracy	
Digital & IT	~30% Cost Savings	
Sales	10% increase in HCP prescribing and	25% sales force reduction
Procurement	90% increased efficiency in vendor selection and	10% increase in cost savings
Supply Chain	10%-20% cost savings	15% improved supply chain reliability
Clinical Operations	20% faster clinical trials	
Medical Affairs	20% increase in HCP engagement	
Patient Services	25%-30% cost savings	
Compliance & Legal	44% task automation	
Manufacturing	10% Increase in product yield and	15% Regulatory cost reduction

There is significant opportunity for AI to transform Life Sciences Commercial Operations

SIMPLIFIED PROCESS MAP SHOWING POTENTIAL HIGH VALUE USE CASES



Example deep dives highlighted on accompanying slides

USE CASES DESCRIPTION

- GAI enabled L&D platforms can deliver educational content, training materials etc.
- AI assistants can aid sales representatives with real-time customer intelligence, sales insights and customer recommendations
- AI enabled digital assistant can help field force to draw field plan for the day, determine NBA/NBO etc.
- Aid personalisation by providing content and solutions across right channels at right time throughout a customer journey
- GAI applications can be used for automated content generation like product catalogue, digital content for websites, HCP engagement etc.
- Leverage GAI for disease mapping, identifying demographics of people with same diseases, create cohorts and improve targeting
- GAI enabled applications answer customer queries about products, services or orders, recording AEs etc.
- Applying AI on HCP functional (role, geography, etc) and behavioural data to improve segmentation and targeting to drive improved engagement and outcomes
- GAI enabled chatbots to educate Patients on drug dosage, disease outcomes and progression
- Virtual Assistants to assist Patients on drug use, dosage reminders, monitor drug compliance, vital signs and health indicators etc.

Demo: Customising a campaign for a local market



PA You



ChatGPT

It looks like you've sent an image of three people in a meeting setting. The two on the left appear to be sharing a pleasant moment, with the woman smiling and holding a mug, presumably enjoying a drink. The man next to her is looking at the other person, who is holding a book or a notebook, maybe presenting or discussing something. It's a black and white photo that seems to capture a professional yet warm interaction. How can I assist you with this image?

📎 Message ChatGPT...



You

I am looking to localize this image for the Japanese market. The couple you see facing forwards are 60 years old. Can you please make them both Japanese while maintaining their age of 60 years old.



ChatGPT



Message ChatGPT...





You

Can you please make the couple look a little more worried



ChatGPT



The image has been adjusted to reflect a more worried expression on the couple's faces, suitable for the context you described.





You

Can you please change the image so it is the woman alone talking with a contact centre operator? Show the contact centre operator. They should look involved in the discussion and less concerned



ChatGPT



You

Both are in separate locations. Can you please therefore show them alongside each other both



You

Both are in separate locations. Can you please therefore show them alongside each other both facing forwards



ChatGPT



Here's the image with both the woman and the contact center operator displayed alongside each



You

Thank you. Now show the woman alone looking at her emails. She looks happier as her issue is resolved

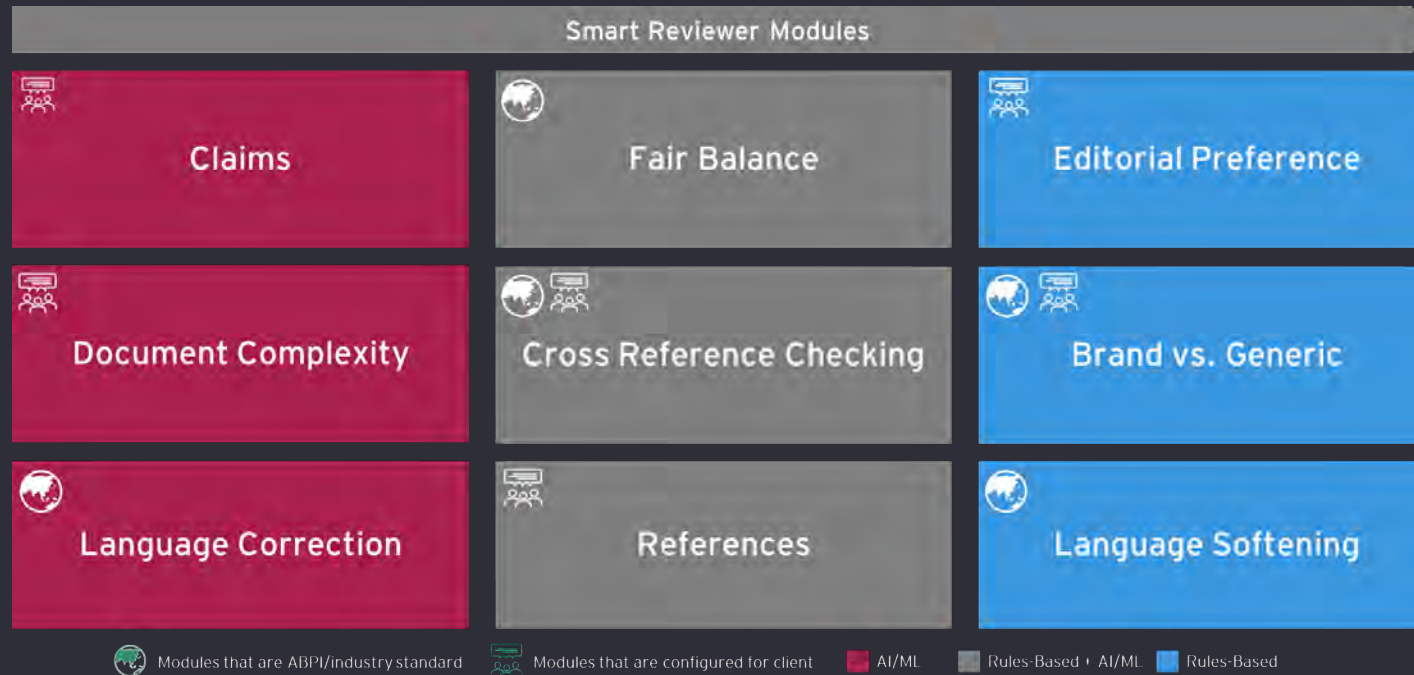


ChatGPT



Here is the image of the woman looking at ↓ emails, with a happy and relieved expression.

EY Smart Reviewer is data-driven technology solution leveraging artificial intelligence and natural language processing to significantly accelerate and optimize the content review lifecycle



Smart Reviewer...

- Identifies spelling, grammar, and SmPC pharmaceutical references
- Highlights **common challenges**, e.g., **fair balance**, **brand vs. generic usage**, **need for language softening**
- Learns from **standardised examples** and becomes more familiar with **client-specific content** over time, **improving accuracy of findings**
- **Categorised annotations** by area of specialty that they are tied to

Smart Reviewer...

- Does not change or edit content
- Is not a replacement for reviewers
- Is not able to read images/screenshots (AI industry challenge)
- Is currently **not setup to ingest assets in other languages**

Streamline market access operations making them more efficient

Within market access there is continued reliance on manual processes to generate content such as HTA submissions and value dossiers, and to manipulate data such as economic models. However, AI offers a promising future where these **resource-intensive tasks can be streamlined, improving efficiency and scalability**. Beyond that, it amplifies the capacities of market access teams, **accelerating complex problem solving**, providing **customised content generation**, and **automating previously manual processes**.

AI in Market Access & HEOR

Literature Review and Analytics ▲

- ▶ SLR screening and synthesis automation
- ▶ Payer data analytics and visualisation
- ▶ Comparative effectiveness research
- ▶ Use of RWE to establish knowledge about disease burden, efficacy and safety

HEOR Modelling ▲

- ▶ Cost benefit and effectiveness model optimisation and outcomes prediction
- ▶ Real-world evidence analysis for pattern identification
- ▶ PICO analysis support for research questions formulation

Content Generation ▲

- ▶ Dossier creation (HTA dossiers, GVDs)
- ▶ Objection handling generation

Value Based Contracting & Outcome based Contracting ▲▲

- ▶ VBC predicative outcomes forecasting
- ▶ VBC scenario planning simulation
- ▶ Outcomes-based contracting design

Pricing and Reimbursement ▲▲

- ▶ Dynamic price optimisation
- ▶ Reimbursement customisation for patient and offices
- ▶ Payer negotiation scenarios and war-gaming
- ▶ RWE to support economic value, including for budget impact and to support claims

Patient Services ▲▲

- ▶ Patient support program automation and personalisation



Problem solving



Content generation

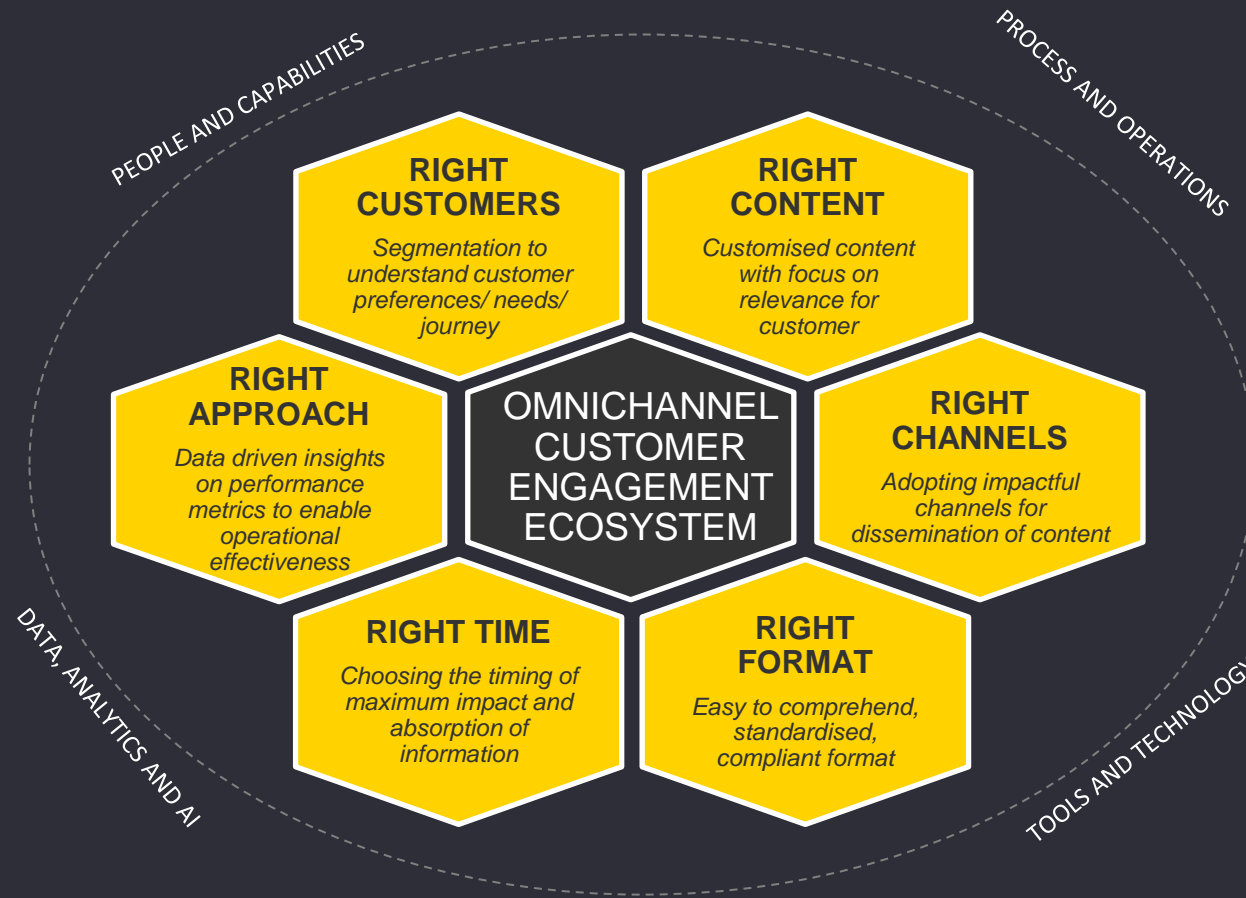


Process automation

Understanding the value drivers of an integrated omnichannel customer engagement ecosystem to drive effective HCP engagement...

New realities in customer engagement

1. Explosion in digitalisation and content volume
2. Rising complexity of therapy areas and pipeline
3. Hyper-personalisation of customer journeys
4. Evolving customer preferences



Key considerations for Life Sciences organisations

1. Scrutinising relevance of content
2. Modularising content structure
3. Unifying customer experiences across channels
4. Enabling speed to market

AI ENABLED AND OPTIMISED OMNICHANNEL CUSTOMER ENGAGEMENT ECOSYSTEM

RIGHT CUSTOMERS

Segmentation to understand customer preferences/ needs/ journey

- ▶ Identify new HCPs earlier in the patient pathway
- ▶ Expand segmentation to consider both behavioural and role / regional data and leverage AI to create more refined and statistically valid groupings

RIGHT APPROACH

Data driven insights on performance metrics to enable operational effectiveness

- ▶ Assess the effectiveness of HCP Engagement performance metrics by new segment and product
- ▶ Identify the optimal engagement strategies per segment and rep

RIGHT TIME

Choosing the timing of maximum impact and absorption of information

- ▶ EY research shows that many HCPs are “overwhelmed” with medical material
- ▶ More refined and dynamic segmentation and performance monitoring will help identify when and how often to target each group

RIGHT CONTENT

Customised content with focus on relevance for customer

- ▶ Automate across the medical marketing material value chain
- ▶ Understand and customise specific material per segment to increase impact

RIGHT CHANNELS

Adopting impactful channels for dissemination of content

- ▶ Understand the evolving HCP channel preference and maximise the use of digital and remote where preferred
- ▶ Customise the interventions to align with the needs and characteristics of each HCP

RIGHT FORMAT

Easy to comprehend, standardised, compliant format

- ▶ Automate the review process to ensure consistency and compliance
- ▶ Leverage LLMs to simplify wherever possible

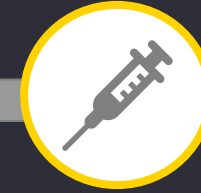
AI holds considerable potential to enhance the patient journey and improve patient outcomes, by addressing many common patient pain points



Screening & Diagnosis



Treatment



Management

Common Pain Points	<ul style="list-style-type: none"> • Challenging diagnosis • Missed or delayed diagnosis • Long waiting times • Difficulty scheduling appointments 	<ul style="list-style-type: none"> • Treatment side effects • Lack of personalised attention • Coordination of care • Mental health support 	<ul style="list-style-type: none"> • Management of symptoms • Multi-comorbidity management • Lack of social support
Opportunity	<ul style="list-style-type: none"> • Earlier identification of patients • Enhance diagnostic speed and precision • Support patients with appointment scheduling 	<ul style="list-style-type: none"> • Enable patients to manage side effects at home • Enhance care pathway experience for patients • Digital solutions to support mental health hygiene • Use of RWE to drive decisions and personalise treatments 	<ul style="list-style-type: none"> • Management of symptoms remotely • Solutions to support medication management • Peer support solutions
Role of AI	<ul style="list-style-type: none"> • Identification of potential patients through patient records within EHRs • AI based clinical decision support tools • Appointment scheduling apps • Telemedicine 	<ul style="list-style-type: none"> • Summarise patient condition, diagnosis and treatment • Personalised treatment plans • Augment patient interactions with tailored guides • AI-enabled digital mental health solutions • Care coordination solutions • Analysis of RWE 	<ul style="list-style-type: none"> • Remote patient monitoring tools • Medication management solutions • Patient education • Patient Communities and peer support solutions

The screenshot shows the ProcureGPT RFP Negotiation Assistant interface. At the top, the logo 'ProcureGPT' is displayed. Below it, the breadcrumb 'RFP Response Analysis Negotiator' is visible. The main heading is 'RFP Negotiation Assistant'. A sub-heading states: 'This application assists in processing RFPs and generating negotiation strategies. Follow these steps:'. A numbered list of five steps follows: 1. Define your procurement need with KPIs. 2. Upload the RFPs from different vendors. 3. Review the generated executive summaries for each RFP. 4. Generate and Review negotiation strategies. 5. Generate, Edit and Save the outreach emails. Below the list, the section '1. Define Your Procurement Need' is active. Under this section, the sub-heading 'Objective details and negotiation priorities' is shown. There are four input fields: 'Order Quantity:', 'Budget:', 'Desired Timeline:', and 'Volume Discount:'. Each field has a placeholder text 'Enter value...'. Below this, the section '2. Upload RFP Documents' is shown. It includes a file upload area with a cloud icon and the text 'Drag and drop files here' and 'Limit 200MB per file • TXT, DOCX, PDF'. A 'Browse files' button is located to the right of the upload area.

Often more than **60% of work effort** in the procurement process is within *Assess & Select* and *Negotiate Price/Terms*.

The Challenge

- Assessing and selecting the right vendor in the procurement process is the most labour extensive task as part of the procurement process and requires organisational knowledge to be efficient.
- Specialist skills which are scarce are key to making the negotiation of prices and terms efficient and get the best possible price and security throughout the rest of the procurement process.

The Solution

- ProcureGPT reads, understands and summarizes RFP responses.
- It **develops negotiation strategies** for individual vendors to optimise each offer.
- **Communications are drafted** to execute the negotiation strategies for each vendor.
- ProcureGPT can **participate in live negotiation conversations** to reach the strategic objectives for each negotiation.

Creating an Enterprise AI Strategy - *Developing Strategy and Innovation simultaneously*

Exploratory pathway



Use-case Selection and Technology Roadmap



Technology Analysis

2-6 Focused Short-, Medium-, and Long-term use-cases

Models and acquisition plan, infrastructure, estimated costs and timelines

Strategic pathway



Risk, Governance and Compliance



Organizational Transformation

Policies and procedures, risk report and governance recommendations

GenAI internal adoption strategy and organizational transformation roadmap

About EY AI Labs; Where innovation leads to real business outcome



Microsoft



OpenAI

AI Labs is a multidisciplinary centre of excellence for driving innovation through the applications of AI technology, machine learning and advanced analytics.

PILLARS

AI and Generative AI Strategy

Revolutionizing customer and employee engagement with Generative AI technology

Advanced Manufacturing, Quality & Supply Chain

Supporting internal and external Manufacturing, Quality and Supply Chains to leverage key analytics and data to enable visibility & optimization

Customer and Growth

1. Customer focus on Generative AI contact
2. Re-imagining customer engagement and alignment with cutting edge technologies

Enterprise

Advanced design and solutions across tax, payroll management, procurement readiness & cost efficiency

EXAMPLE AREAS

- AI Strategy & Roadmap
- AI Use Case Development and Rapid Prototyping
- AI Value realisation



- Supply Chain Control Tower
- Yield optimisation
- Real Time CMO & Supplier analytics
- PLANT to PLAN digitization
- Predictive Quality
- Cell & Gene Therapy Integration



- Digital HCP Engagement and Campaign Management
- Commercial Analytics (GtN, etc)
- Intelligent Patient Services
- Drug Launch Management
- Next Generation Market Access



- **Intelligent Finance and Procurement**
- **Digital Payroll**
- GBS Control Tower
- AI Enabled Marketing Material



Platinum Sponsor:



AXIS Healthcare Consulting were the platinum sponsor at the 2024 Pharma Summit for the second year running. Founded and led by Brenda Dooley, they are a specialist boutique HTA agency with an in-house expert team with experience in NICE, SMC and NCPE appraisal processes. AXIS's depth of extensive HTA experience make them the trusted partner for reimbursement success, offering a full suite of HTA support in UK and Ireland.

Contact them at: <https://axishealthcareconsulting.com> or email info@axisconsulting.ie

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Hibernian Healthcare's mission is to provide best in class services, both HCP and Patient focused – delivered in an efficient, flexible and sustainable manner along with CellaED Defibrillator distribution.



Salutem Insights are a leading Irish health economics consultancy company that provides high-quality health economic research, such as health technology assessments (HTA), burden of illness reports, systematic literature reviews, and reports on the Irish healthcare system. They also help companies navigate through the Irish reimbursement system.



As Ireland's leading healthcare provider, United Drug ensure medicinal products get to the right place at the right time through their operations in distribution, wholesale, community pharmacy and homecare services.

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