White Paper

At the Cutting Edge: The Rise of AI and Technology-enhanced Customer Engagement in the Life Sciences Industry

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Introduction

The COVID-19 pandemic profoundly impacted the interactive environment for healthcare systems and life sciences organisations. The dynamics of the most preferred and impactful channel mix are shifting, leading to a new engagement landscape for companies to navigate. Backlogs and fundamental changes to clinical workplaces are hindering engagement, meaning each interactive opportunity becomes increasingly valuable.

Alongside dealing with pandemic related challenges, 61% of HCPs across major markets reported understaffing due to resignation and burnout. As the number of interactive opportunities remains low in many key countries[1] and the demographic of the customer base becomes younger[2], life sciences companies must change their operating models. They need to ensure they are well-equipped to engage with a more digitally astute audience and leverage technology to provide an optimal overall journey and experience for HCPs.

The field of technology is wide raging but, for the purposes of this paper, the scope focuses on Artificial Intelligence (AI) and use cases for tech-enhanced customer engagement. The promise of AI is significant and life sciences companies must use it to facilitate better and faster decision-making. Specifically, this paper sets out the enabling role that technology and AI will play from a commercial standpoint by focusing on three key themes: creating customer insights, accelerating business operations, and enabling strategic business change through technology.

Healthcare system changes and challenges

To fully understand the role of technology as an interface between life sciences companies and healthcare systems, it is important to acknowledge the pressures that the clinical profession faces.[3] IQVIA research shows that 67% cite workforce shortages and 58% report an uncomfortable work environment with a lack of work-life balance.[4]

The rapidly changing demographics of the customer base is also adding to the challenge, as 56% of doctors in Italy and 42% in France are now over the age of fifty-five, implying that many will retire in the near future. The WHO also published a report showing that 13/44 countries in scope have a workforce in which 40% of doctors are already aged fifty-five years or older.[5] In certain countries, it is also important to understand the ongoing changes to care settings and broader demographics too. For example, in Switzerland, many older male doctors in private practices are being replaced by a younger cohort of predominantly women, often based in group practices or institutional settings. Not only are life sciences companies are competing for an ever-decreasing slice of attention, but they must also prepare to interact with a new wave of digitally astute Healthcare Professionals (HCPs) from a range of backgrounds.

From a healthcare system perspective, there is also significant scope to reduce the strain on HCPs by incorporating AI technology into clinical practice.[7] A study was recently published that compared a generative AI model to real-life doctor interventions, with AI often delivering responses with greater empathy and yielding superior answers to patient inquiries.[8]

Another AI use case involves assimilating and analysing data from large numbers of medical records. In doing so, this will help to optimise prescriptions decisions and patient outcomes, shifting the emphasis away from individual HCPs choosing treatment options. It makes the case for AI to drive decisions based on large scale data, therefore benefitting the population as a whole. In this scenario, the challenge for life sciences companies is to understand how to counter detail an algorithm, alongside engaging with key clinical decision-makers in a more traditional way.

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Figure 1: % Medical doctors aged fifty-five and above in selected countries[6]

Legend: Top 5 Europe countries

Source: IQVIA EMEA Thought Leadership

Customer insights

Speed of operations

Technology-orientated business change

The untapped potential of AI for life sciences companies

The rise of generative AI and the accessibility of large language models (like ChatGPT) allows organisations to capitalise on efficiency benefits that AI brings. There is significant potential for life sciences companies to leverage AI and tech, particularly when it comes to engaging with customers.[9] Three themes are explored in detail below — the first two illustrate primary use cases in the customer engagement area and the last one focuses on realising the full value from tech investments as a key success factor through enabling change.

Use cases 1a and 1b: Building a precise customer insights foundation

1a. Acting on real-time analysis produced by AI

Customer facing teams are constantly gathering data about customers and wider the healthcare environment which can be used to improve operational decision making. Call notes are regularly recorded following conversations and generative AI can be used to analyse this unstructured text, picking out the key messages that arise most frequently.[10] These notes and any AI-driven insights derived from them can be shared enterprise wide to help drive best practice in engagement approach and messaging.

Furthermore, AI makes the process of generating bespoke visuals significantly easier by removing the need for advanced technical skills. Teams can simply ask (via speaking or typing) a large language model (such as ChatGPT) to, for example, create a bar chart showing the number of asthma patients by age in a certain region and show treatment patterns over time. AI can also help with translation and content localisation by personalising the messaging to reflect the environment in the immediate vicinity of healthcare settings.

At the same time, AI regulations and the quality of prompt engineering (i.e., the preciseness of the question that is fed into a platform like ChatGPT) must be carefully considered to achieve an accurate desired output derived from AI.

1b. Building intelligent and dynamic customer personae

Generative AI can further support developing customer insights by generating HCP personae (i.e., customer archetypes that share similar characteristics). By suggesting categories for different persona types based on data, it helps to inform customer facing teams about channel strategy and optimal engagement frequency. For example, feeding engagement history data into an AI platform could give rise to five persona categories as shown in Figure 2.

AI can also be used to regularly refresh these personae as new information becomes available (e.g., social media presence, prescribing data etc.), adding a dynamic element and an extra dimension of insight. In some cases, AI almost works too quickly so the updating process must be moderated to ensure field teams are not confused or negatively impacted from an incentive and territory planning standpoint.

Figure 2: Example post-COVID persona creation relating to different physician types

41%	6%	21%	18%	13%
ESSENTIAL Prefer **least frequent** interaction with reps	**TRADITIONALIST** Prefer **return to F2F** w/ reps post-COVID away from digital	**SEEKER** Prefer engagement via specialized **content platforms**	**CONSTRAINED** Prefer **1x in quarter interaction** with reps	**ENTHUSIAST** Prefer high **multi-platform engagement**

Dr. Jean-Luc Dumoulins, 58; private oncology practice, Annecy

- Skims oncology literature but relies on industry reps to keep him up to date, occasional user of Medscape
- Strong preference for F2F engagement with reps, and has found the range of digital channels and content on offer from companies to be confusing and challenging
- Limited use of digital tools, even during worst of the pandemic
- Working 100% full time, 3-5 years to retirement

Dr. Antônia Pereira da Silva, 39; hospital-based clinical oncologist, Paris

- Institutional setting and guideline-driven; prescribing data may underestimate her influence and potential
- Digital native, divides her time between face-to-face and telehealth engagement with patients
- For engagement with industry, prefers digital channels that accommodate her schedule; prefers MSL engagement over rep visits
- Working 80%, so works closely with others in care team

Spotlight on IQVIA OneKey Synmetrics and Accelerated Insights Data

IQVIA's OneKey physician database contains insights on over 21 million HCPs from across over 110 countries. Names, addresses and specialties are included alongside a unique "digital profile," derived through close monitoring of online platforms, social media and scientific outlets. Digital Opinion Leaders and other influential HCPs are featured by tracking articles, scientific publications, blogs, journals, videos, tweets and posts, producing detailed customer insights.

IQVIA Synmetrics data is linked to OneKey by collecting physician level activity information from multiple company CRM systems. Individual HCP "pressure profiles" are created by aggregating CRM data, providing insights on which channels are the most likely to drive engagement. For example, in the UK, the combined 2022 Synmetrics data for all HCP types showed that F2F and remote contacts increased by 18% overall, and an Accelerated Insights analysis showed hepatologists have the highest digital affinity of all UK specialties.

Figure 3: IQVIA OneKey physician level information: Accelerated Insights and Digital Profiles

OneKey Core

- Work ID (Unique Identifier)
- Full Name
- Title, Role, Position
- Specialties 1,2,3
- Affiliation(s)
- Contact Info: Postal code, Main address, other addresses, phone
- Workplace Departments
- Date of birth, Graduation date

OneKey Insights

- Digital Insights
- Scientific Insights
- Market Access
- Complaints Insights
- Tendency
- Geo coding
- Engagement Insights
- Hospital/Clinic Insights

Core: 250+ attributes

Academics: Universite Paris
Specialty: Neurology
Position: Hospital Practitioner, Member of Board
Birth Year: 1966 | *Graduation Year:* 1997
Tendencies: Multiply sclerosis
Prefix | Gender | Language | Status (Valid/Invalid) | NHS status | Creation date | Update date
Prescription Potential | Call Pressure Index | Nr of companies visited the doctor last 12 month
Total F2F, Remote, Emails: last 12 month | last 6 month | last 3 month | in previous month IDENTIFIERS (UCIs)
Workplaces: 2 | *Colleagues:* 145
Workplace addresses: Postal codes, Addresses, Phones, Faxes, GEO coordinates, Bricks, Hierarchy

Omnichannel

Call Pressure: 83 / year
Digital remote Accessibility Score:
Score 5: Highly available for Digital remote engagement

OneKey ID: **WFRM06016450**
Dr. Jean-Luc Dumoulins
Doctor, Oncologist, MD, PhD

Digital

Social media profiles: 3
Twitter | ResearchGate | LinkedIn | Facebook
Followers: 59 | 172
Relations: 116
Social Mentions: 121
News / Blogs / Mentions: 46

Digital ID

Social | Mobile | Email | Advanced TV | Programmatic | Native
HCP DIGITAL ID enables the Brand **message or ad to reach the right audience**, at the right time at scale

Use case 2: Enhanced speed of operations

The value that AI brings to organisations is not just limited to making better decisions but also accelerating decision-making processes. One use case involves helping field teams navigate complex problems at speed (e.g., quickly choosing an optimal engagement approach for specific HCPs). This leaves customer facing teams to focus on delivering the important messages, with less time spent on deciding what channels or content will drive the greatest impact.

Central to the channel and content optimisation process is the capturing of all customer touchpoints as journeys become more complex. HCPs may interact via websites and travel to in-person conferences, whilst checking social media on the way; this is why implementing a cutting edge, tech-enabled customer engagement system is important, as delivering a combination of channels and differentiated key messages over time drives the best results.

Similarly, quickly capturing email consents from HCPs at scale is fundamental to developing longstanding relationships with customers. Best practice involves

Delivering a combination of channels and differentiated key messages over time drives the best results

linking tech-enabled customer engagement systems with HCP consent capture and management platforms, consequently allowing internal and external users to give, modify and store various consent types.[11] The tech environment must be designed to ensure compliance with local regulations such as GDPR and allows direct access for HCPs to amend their preferences. This is particularly important during the launch phase as companies strive to secure a high degree of overlap between high-value and consented HCPs at speed.

The rise of AI-enabled Next Best algorithms to support engagement execution

Across the life sciences industry, significant focus has been placed on developing algorithms and AI solutions that support faster customer engagement decisions. The Next Best Sequence algorithm recommends an optimal sequence of interactions to lead a positive outcome, bringing together sales data with engagement history from CRM systems. The most impactful engagement sequences are identified, and recommendations appear when the field teams access their customer engagement platform. At a broader level, Next Best Sequence works in conjunction with a series of other algorithms,[12] allowing teams to prioritise what content to send to a customer and via which channel:[13]

Figure 4: Set of IQVIA Next Best algorithms to support engagement with HCPs

NEXT BEST CUSTOMER	NEXT BEST MESSAGE	NEXT BEST CONTENT	NEXT BEST CHANNEL	NEXT BEST SEQUENCE
Target high-value HCPs	Emphasize the most impactful message	Provide content most likely to resonate	Deliver via preferred channels	Streamline the flow of outreach activities

Case study on commercial and medical success through implementing tech

Situation

A top 20 pharmaceutical company had challenges with siloed teams across their medical and commercial functions due to legacy structures and processes, leading to a disjointed approach when engaging with customers. Collaboration and co-ordination across the business is more important than ever and companies must make the most of all available interactive opportunities as total engagement volumes remain below pre-pandemic levels. The company also suffered from a lack of information flows, overlooking data and analytics as a means to support discussions with HCPs.

IQVIA Solution

The company chose to collaborate with IQVIA to implement an Orchestrated Customer Engagement (OCE) platform[14] that provided transparency for medical and commercial teams around interaction history and unique omnichannel engagement journeys. The fact that the project was executed jointly better allowed for customisation and the

platform featured relevant competitor analysis, market share charts and real-world data. As well as analysing the current situation, AI-driven algorithms were incorporated into the platform, allowing the most impactful content to be shared in line with the optimal sequence.

Impact

Access to this level of insight allowed both medical and commercial teams to use this information to better plan their engagement approach and prioritise spending time across different regions and customers. Next Best algorithms were pivotal to suggesting future interactive approaches for both medical and commercial teams, supporting success in maximising the effectiveness of messages. This was particularly important during MSL conversations in leveraging the latest clinical trial data, helping to transform clinical practice and improve patient outcomes.

Figure 5: OCE interface on a mobile device
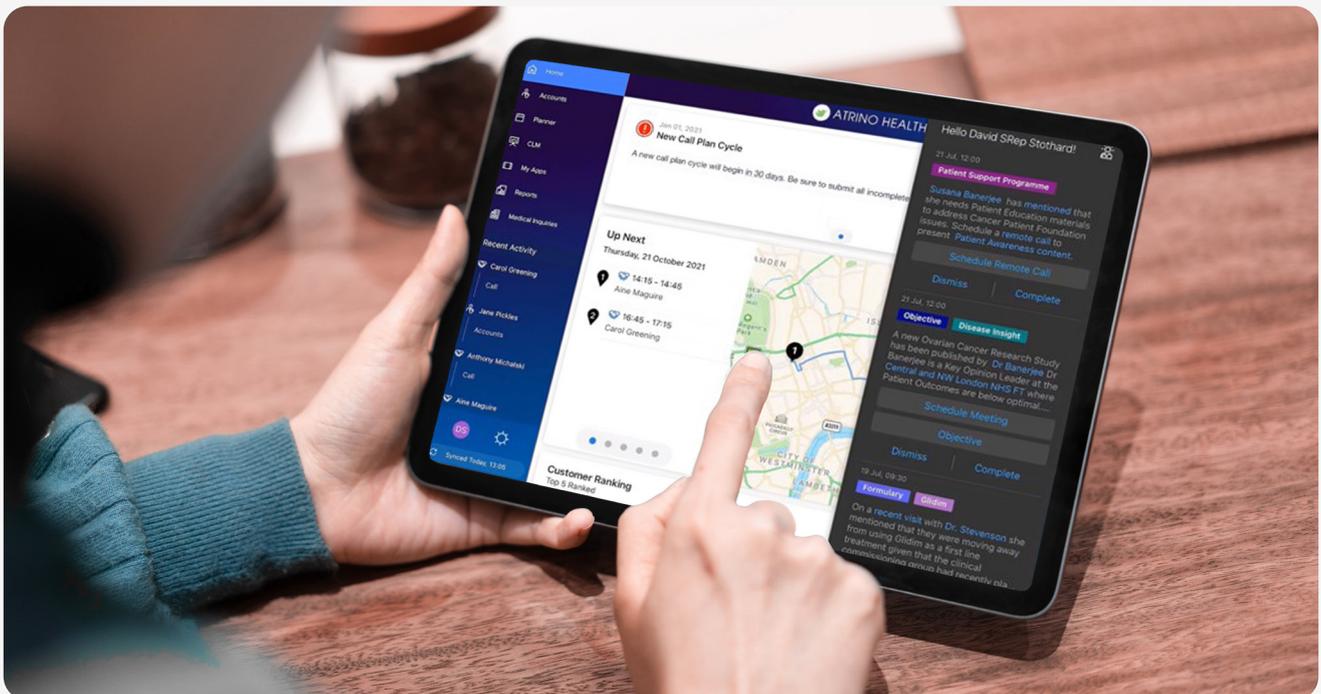
The role of technology and AI on creating and maximising the impact of content

Many companies find meeting the HCP requirements for relevant, differentiated content challenging. Disseminating information via a variety of channels requires careful thought so that the key messages standout. For example, delivering an in-person presentation is inherently different to watching a video online, so the messaging and visuals need to be adapted accordingly.

Diligent use of the CRM system to input call summaries can empower real-time adjustments to messaging and optimise content to better meet HCP needs. Using tech and data together to understand what works best is crucial for several reasons:

1. Building trust with busy key opinion leaders and decision makers

2. Spending less time experimenting with different engagement approaches

3. Sharing learnings to maximise the value of interactions with similar stakeholders

Large language models can produce novel ideas based on vast amounts of data

At the same time, generative AI can support content creation, as large language models can produce novel ideas based on vast amounts of data. Large language models (such as ChatGPT) are already showing promise as results are produced in a matter of minutes or even seconds depending on the complexity of the prompt.

Below are some examples of how this technology can be used to speed up processes:

- **Analysing multiple lengthy documents** (e.g., "What are the most important outcomes from the latest clinical trial for competitor X that MSLs need to be aware of")

- **Summarising information** (e.g., "Condense all the text relating to product Y into three key messages to be used in a digital sales aid")

- **Insight and material creation** (e.g., "Write an engaging email to HCPs that details the safety and efficacy of product Z")

The point of large language models is not necessarily to replace human workers, simply to make certain daily activities easier. Companies using tech tools like ChatGPT will gain a competitive advantage through efficiency enhancements, as exemplified in this content creation context. Inevitably, a degree level of human oversight will be required to quality check the outputs from platforms like ChatGPT to ensure a high level of accuracy and compliance from a medical and legal perspective.
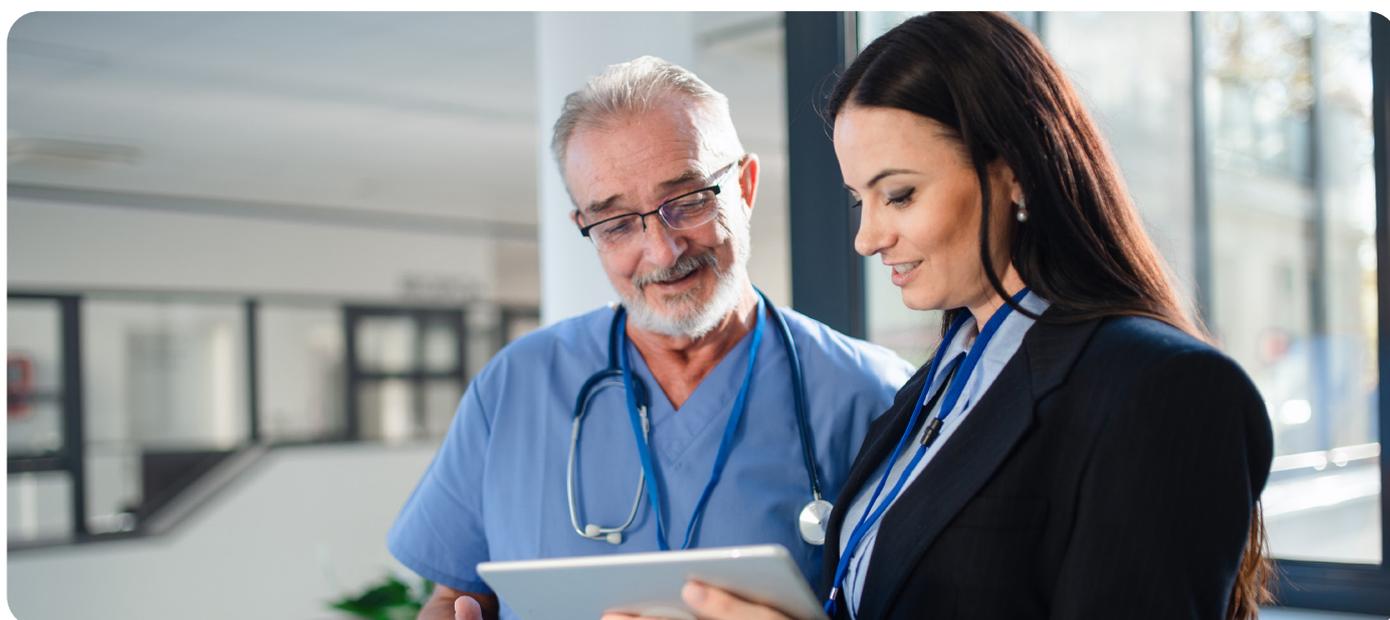
How important are visuals aids (such as iPads/tablets) to convey content during sales calls?

One of the most frequent ways that technology and content come together is when field teams use pre-loaded slides on mobile devices with customers. Supporting interactions with relevant images and diagrams can help bring conversations to life, especially for more visually orientated HCPs. However, IQVIA's ChannelDynamics™ data shows a disparity around visual aid use in 2022 across the EU4+UK:

Perhaps surprisingly, on average, only 12% of interactions involve sharing digital content using a portable handheld device, with the highest proportion coming from Spain at 20% and a low of 6% in France. The reason for this is twofold:

1. Printed materials are still a prominent part of the marketing mix (at circa. Fifty percent on average across the EU4+UK)

2. Life sciences companies are not doing enough to encourage use of digital visual aids; either because the quality of content is not strong enough or people not equipped with skills to capitalise on tech to help deliver the key messages.

The analysis in Figure 6 shows that, today, companies are not best placed to take advantage of "just in time" content (i.e., real-time updates of content that can be actioned immediately). The future of customer engagement is moving towards a greater importance of visual aids to digitally adapt messaging more quickly so that it is relevant and resonates strongly with key stakeholders.

The future of customer engagement is moving towards a greater importance of visual aids to digitally adapt messaging more quickly

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Figure 6: Split of visual aid materials used in 1:1 promotional settings by country throughout 2022

Legend:
- No
- Yes, laptop-based material
- Yes, material presented on a portable hand-held device (iPad or other tablet device, smartphone,...)
- Yes, printed material
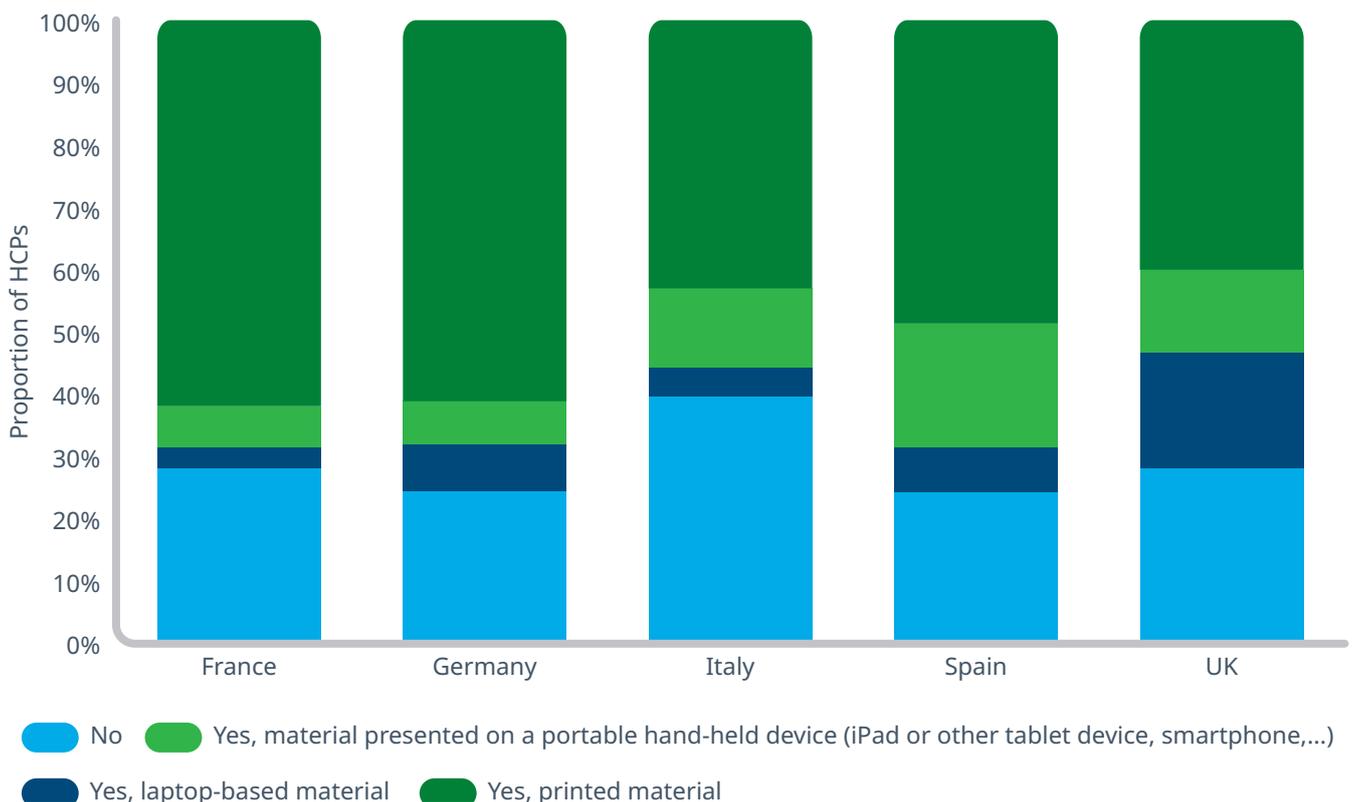
Managing tech-orientated business change

The most frequent challenge life sciences companies face in driving value from technology is understanding how to make the most of their investments in technology. The key to tackling this is to collaborate closely with stakeholders, both internally and externally, such that all needs and perspectives are fully recognised.[15] This is the bedrock on which effective adoption and transformation strategies are built. It is people within organisations that must be onboard with new ideas and engage sufficiently to use all available tech resources to their full potential.

The importance of managing business change can be demonstrated in the context of content approval in order to fully realise the efficiency gains brought about by AI. The value of implementing AI is significantly watered down if content can be modified in minutes or seconds, but the internal approval process takes weeks or months to put into action. As a result, companies must review and redesign processes and workflows such as unnecessary barriers are lessened or removed to enhance operations. One way of addressing this challenge is to compile a bank of pre-approved content modules which can be easily modified to suit different HCP personae, without going through the entire approval process from scratch each time.

Figure 7: Change enablers to embrace technology

Collaboration between teams	Plan for change	Incentivise tech change	Adopt a tech-enabled mindset
• Encourage collaboration between IT specialists, data scientists and commercial functions to ensure rapid uptake of tech-enabled customer engagement systems across the business • Ideally, this would involve bringing together strong technical expertise with business knowledge and use cases	• Plan for potential change resistance by consulting cross-functional teams, with the aim to understand the impact that any given tech-focused process enhancements may bring	• Incentivise field teams to encourage best practice in uptake of technology • Reward those who demonstrate proactive tech-enhanced changes to how they engage with customers (e.g., for making use of personae when sending out materials) • The criteria must be set out clearly in advance and success may carry a monetary value as well as recognition from senior management	• Instil a mindset that is open to technological change and developing the necessary tech skillsets, potentially requiring major adjustments in workforce planning and hiring • Consider increased training, bringing in external talent or partnering to access new tech capabilities

Conclusion: How can organisations use technology and AI to better support customer engagement?

Given the challenges that healthcare systems face, the wider customer engagement landscape is changing, and life sciences companies need to adapt too. A key part of the progression is to embrace technology and AI such that customer facing teams are better equipped to interact with customers with an optimised channel mix through which they can highlight the most impactful content.

Many organisations are already investing in commercial technology, with some pioneering best practice, built around three overarching themes:

- **Building a precise customer insights foundation** — use data collected from customer engagement (such as call notes) to form a detailed view of important HCPs. Information must then be combined with AI to create customer personae which also reflect the digital profiles of the next generation, enhancing future engagement decisions. Companies also need to link tech-enhanced customer engagement systems and compliant consent management platforms, therefore ensuring an impactful, cohesive and integrated approach to engaging with customers

- **Accelerate operations** — AI-driven algorithms such as Next Best Sequence that support faster engagement approaches need to be implemented, helping to deliver the most important messages via the most impactful channel at speed. AI also facilitates quick content creation, specifically though the use of large language models (such as ChatGPT) that can be used to summarise multiple documents and generate new insights

- **Managing tech-orientated business change** — to obtain the full value from investments in technology, it is essential to appreciate that people are central to making effective business change. Cross functional teams must be brought together as well as a collaborative ethos so that ways of working change for the better. Ultimately, it is people who will drive processes and workflows improvements that allow organisations to make the most of operational efficiencies through technology

As the customer base evolves, with fewer interactive opportunities and a diverse mix of channel preferences, technology will inevitably play an increasingly important role in developing close connections with HCPs. Realising the true value of tech and AI is essential for long term customer engagement success — life sciences companies must act fast and start their journey today!

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