LEK™ | 零假设 Null Hypothesis

Content Management Strategies for Pharmaceutical Companies Navigating Omnichannel Marketing

Contents

PART 1: CUSTOMER CENTRICITY

The shift from "brand-centric" to "customer-centric"

Making customer needs and preferences the goal of content

To achieve the goal of centering content services on customer needs and preferences, pharmaceutical companies need to develop and deliver "good" content.

What is "good" content?

Good content is both personalized and progressive.

Doctors are faced with an overwhelming amount of information every day. Within this high-density information environment, doctors — working in a variety of clinical and academic contexts — are interested in different content. What unmet needs do they have that pharma companies can address?

First, doctors' needs vary significantly depending on whether the focus is on clinical practice or academic research. Consider, for example, the personalized key content needs of these two groups of doctors in the field of lung cancer (see Figure 1).

Figure 1
Key areas of focus for doctors' content needs

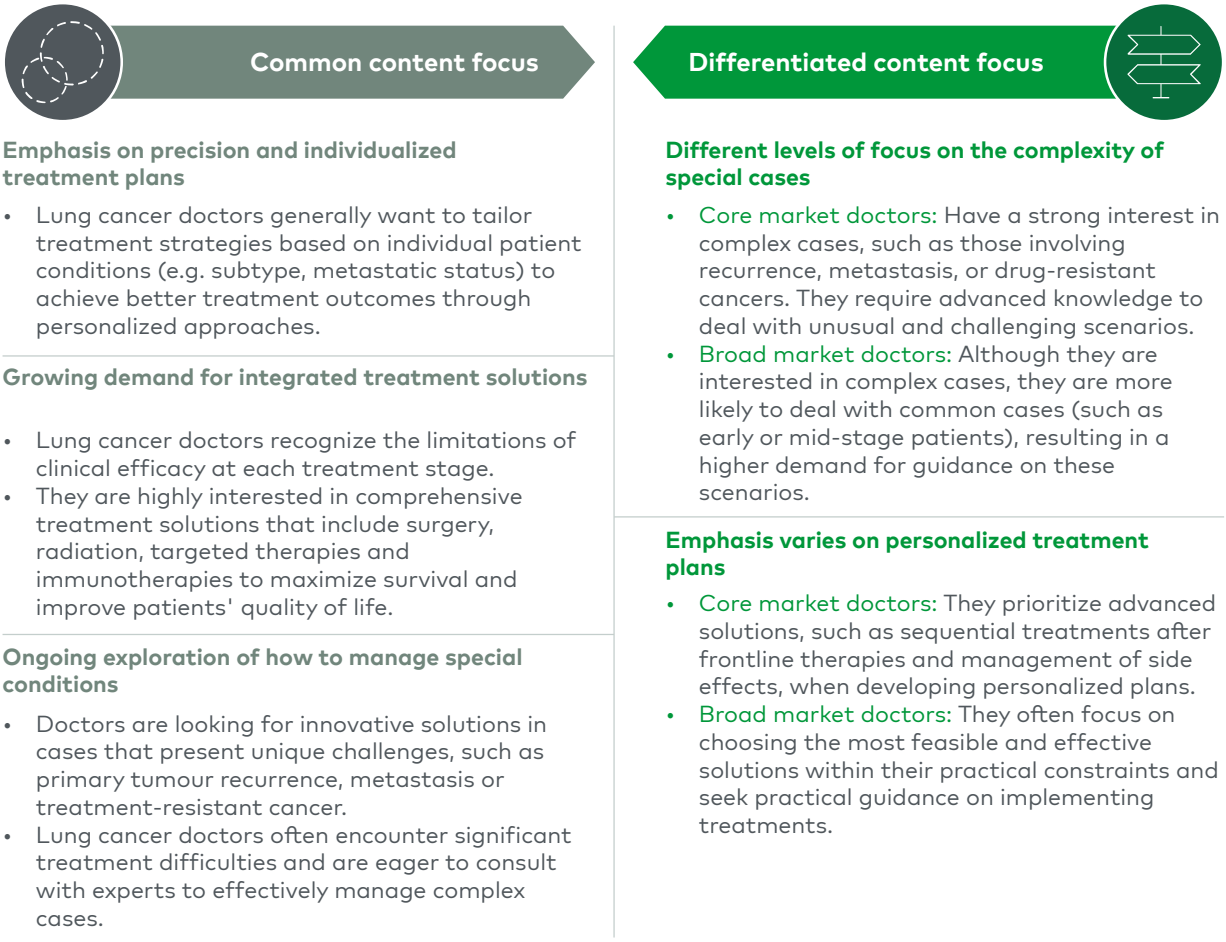
	Clinical practice			Academic support		
Key focus	Treatment plans; Disease diagnosis	Drug information; Patient management		Research hotspots; Trial design	Research challenges; Data analysis	
Content format	Clinical guidelines	Expert consensus	Case reports	Published literature	Research reviews	Academic conferences
Content characteristics	Instructive, educational and interactive			Research-oriented, analytical and predictive		
Update frequency	Requires timely updates to reflect the latest clinical recommendations and developments			Update frequency is relatively low, focusing on research depth and innovation		
Cross-disciplinary Integration	Minimal; primarily focused on specific medical fields			Common; Often requires the integration of knowledge and research methods from various disciplines		

Source: Null Hypothesis; L.E.K. Consulting research and analysis; 128 lung cancer-related questions from 51 lung cancer doctors certified by KnowS® from February 26 to May 26, 2024

Second, content needs also differ among doctors in various market segments. Again, consider the context of lung cancer (see Figure 2):

- **Doctors in core market** focus on topics like metastasis prognosis, immune risks, precision targeting, exploration of new targets and the role of radiotherapy;
- **Doctors in broad market** are more concerned with immunotherapy, early diagnosis, targeted therapy and the clinical applications of radiotherapy.

Figure 2
Analysis of content needs for lung cancer doctors in core and broad markets



Note: "Core market" definition: first-tier cities (Beijing, Shanghai, Guangzhou, Shenzhen); "broad market" definition: other areas outside first-tier cities
Source: Null Hypothesis, L.E.K. research and analysis; 220 lung cancer-related questions from 51 lung cancer doctors certified by KnowS® from February 26 to May 26, 2024

In addition to differing by focus area and market segment, doctors' needs are often progressive. Pharma companies, after satisfying a doctor's current content needs, should explore and address their advanced needs to provide higher-level content services.

For example, younger doctors, who may lack extensive clinical experience, often focus on the basics of safe treatments. Their needs are primarily related to gaining experience in treating different cases. Therefore, pharma companies, when planning content services, could create content that reflects real patient scenarios, and addresses the specific support these doctors may require in treating diverse patients in many aspects of clinical care.

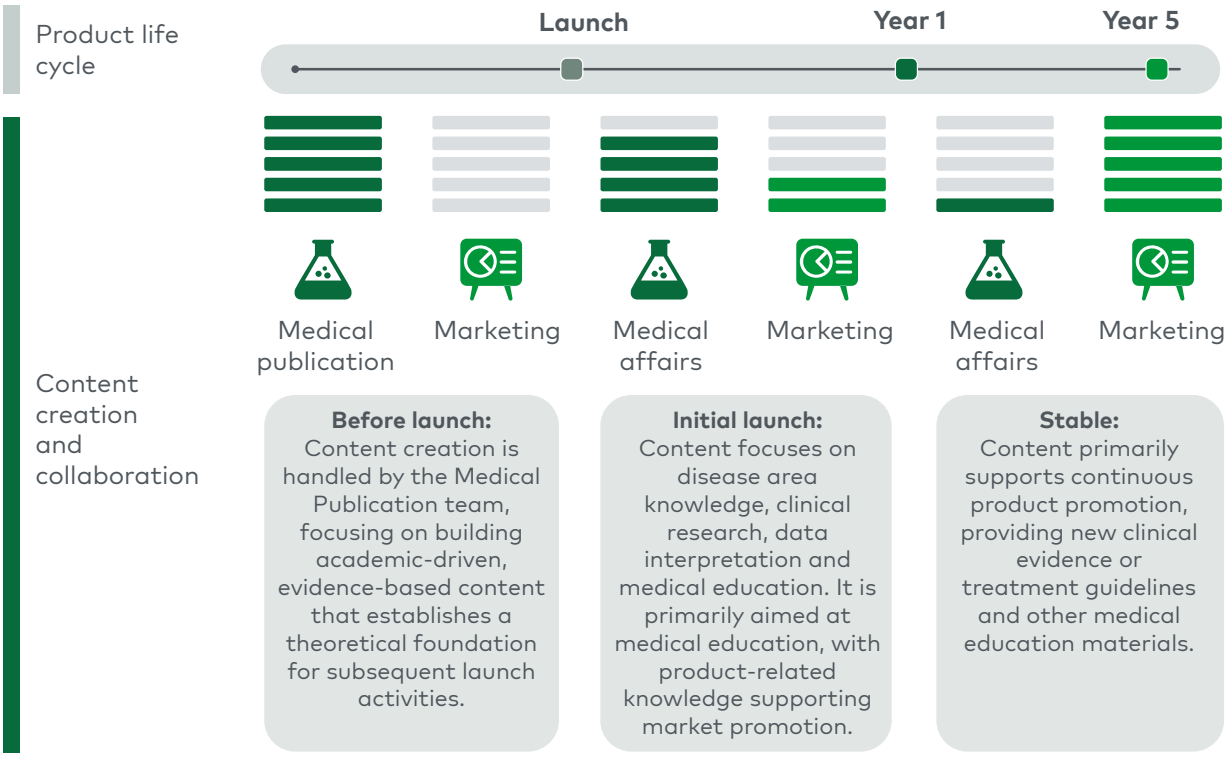
On the other hand, experienced doctors may focus on increasing their impact in their field and therefore seek content on advanced and innovative treatments. When designing content services for these doctors, pharma companies should emphasize inventive and pioneering treatments, such as key findings from cutting-edge research and groundbreaking academic data.

After identifying doctors' current and next-level needs, pharma companies need to prioritize the various content-on-demand services based on both the urgency of the doctors' needs and the difficulty of meeting those needs. This will help pharma companies to gradually expand the coverage for different types of customers and different levels of need.

Current status and key gaps for most pharma companies

Currently, in most pharma companies, the marketing department has the primary responsibility for developing post-launch product content strategies. The medical department plays a supporting role (see Figure 3). The marketing team tends to develop content strategies primarily from a brand promotion perspective, focusing on the clinical value of the product and related academic perspectives, rather than on the specific needs and interests of doctors in their clinical work.

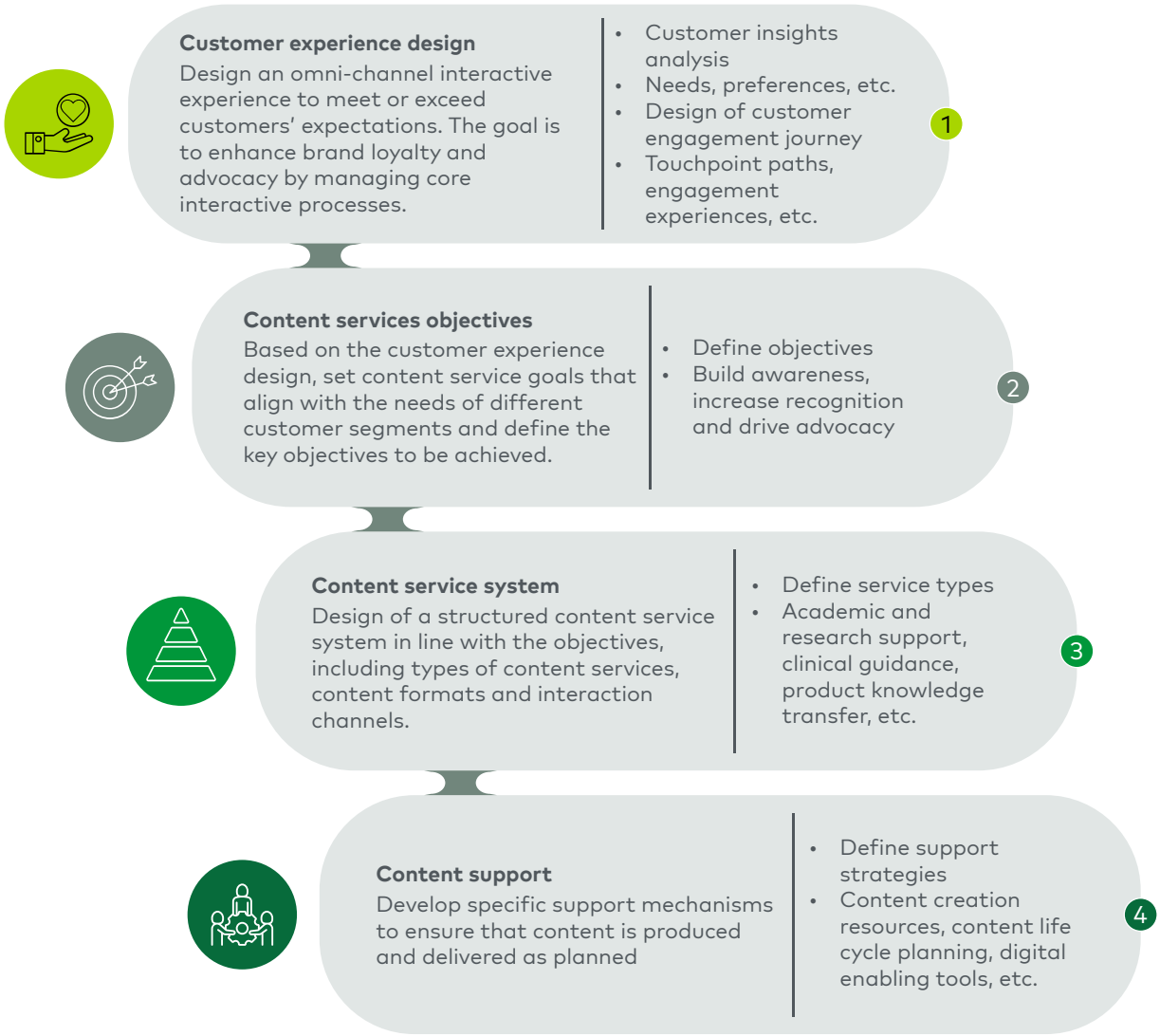
Figure 3
Content production collaboration across different stages of the product life cycle



Source: L.E.K. research and analysis

In addition, pharma companies' strategies often lack a systematic approach to the management of the experiences of different types of doctors (see Figure 4). Many pharma companies have failed to clearly define the types of interactions and content services that are appropriate for different customer segments, i.e. doctors with different focuses and unmet needs. At the content level, communication is often unidirectional and focused on promoting brand.

Figure 4
Content service planning within a customer experience management system

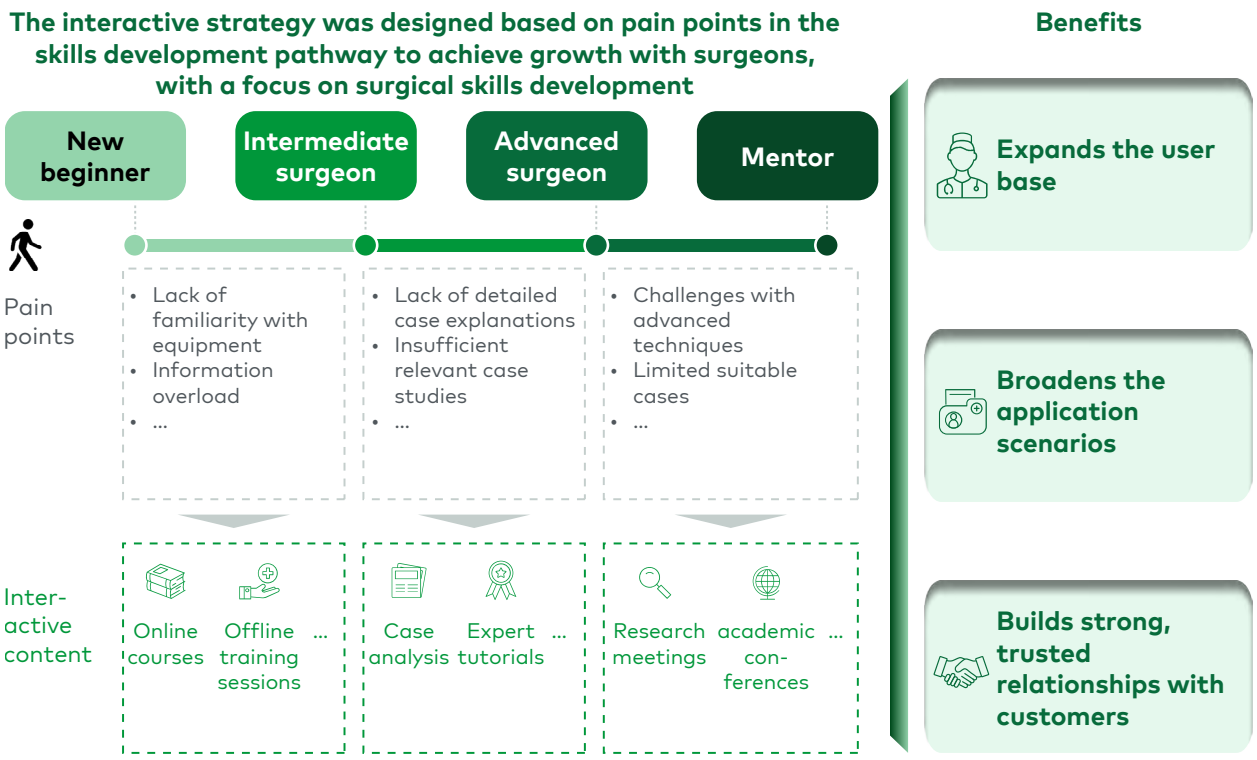


Source: L.E.K. research and analysis

Take the example of a medical device company. The company recognized that its customers had a strong desire to improve their surgical skills. The company developed a content strategy around this core objective, mapping out content service paths to address pain points at different stages of a physician's surgical journey. To meet the needs of new surgeons in developing diagnostic and equipment handling skills, the company combined online resources such as instructional videos with offline training.

The company also provided hands-on support and precise engagement through in-person technical support, while expanding the use scenarios for its medical devices (see Figure 5).

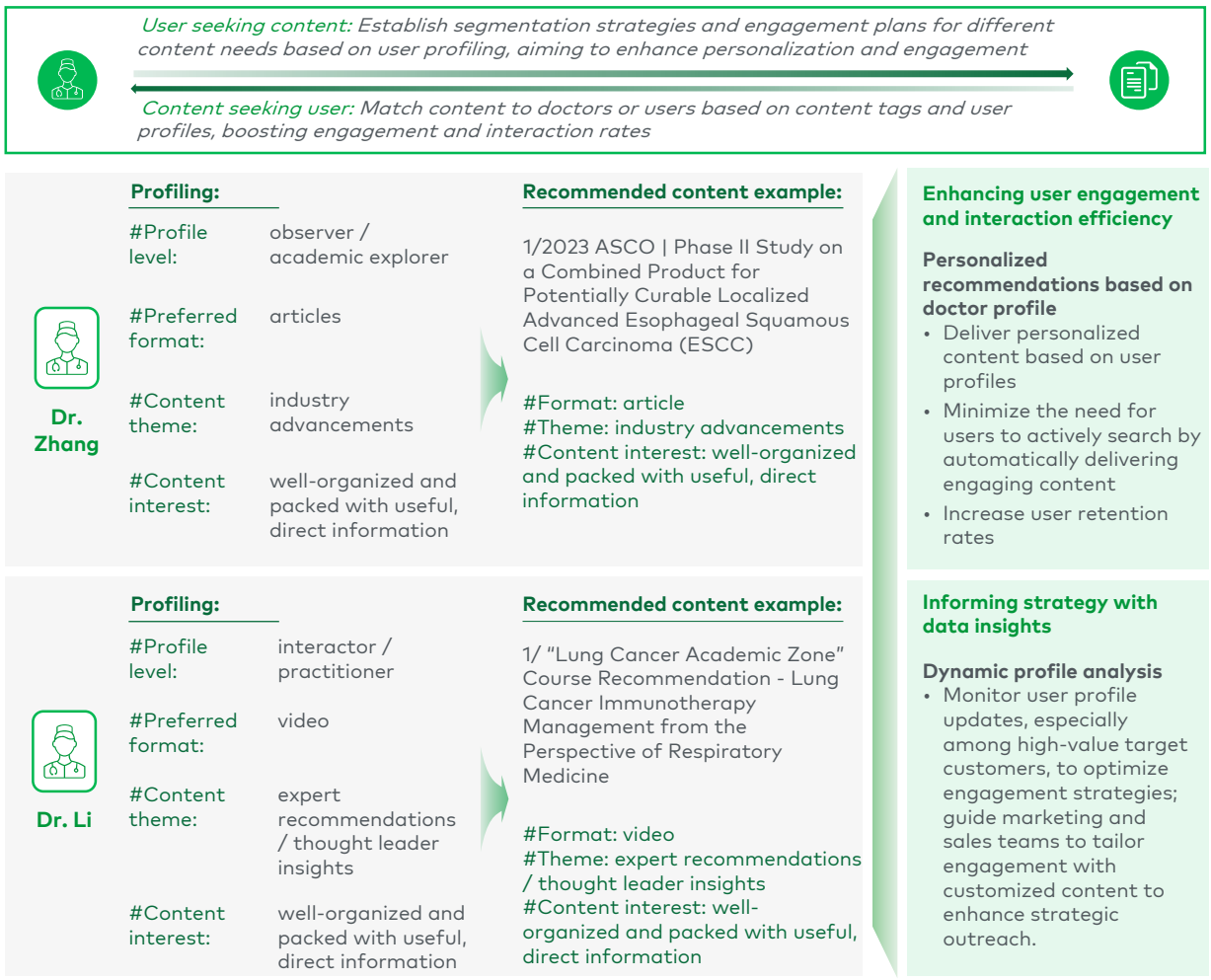
Figure 5
Content strategy centered on customer needs



Source: L.E.K. research and analysis

Some companies dynamically analyze customer profiles to continually uncover individual content preferences, enabling them to deliver tailored content that improves the user experience. For example, a domestic pharma company studied internal and external customer data to gain group insights and used a tagging system to connect physicians with relevant content through two routes: "users looking for content" and "content looking for users". This information was presented to users on the company's online platform via a "You might also like..." feature (see Figure 6).

Figure 6
Precision content recommendation driven by customer content preference analysis ("You might also like . . ." feature)

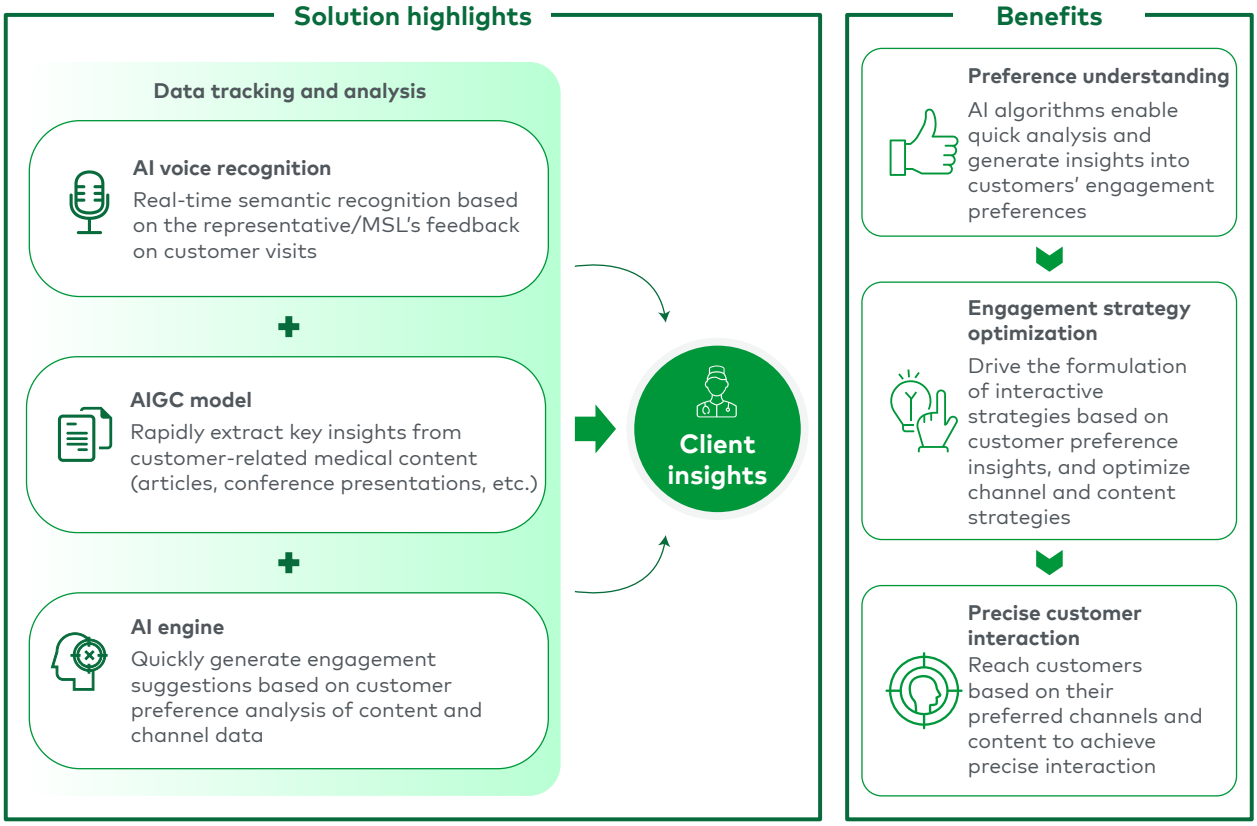


Source: Null Hypothesis; L.E.K. research and analysis

However, many pharmaceutical companies rely solely on experience to inform business decisions. Most lack robust customer insight capabilities. They are limited in their ability to translate these insights into data-driven business strategies. In addition, collecting data on unmet needs and performing accurate analysis remains challenging due to limitations in data availability and accuracy.

Nevertheless, some companies are beginning to gather feedback on content interactions and analyze users' content preferences. For instance, a multinational pharma company developed a unified customer profiling system for both its medical and marketing departments to use. Leveraging artificial intelligence (AI) voice recognition and large language models, the company quickly tracked and analyzed customer insights to explore a preference-driven approach to strategy development (see Figure 7).

Figure 7
AI-driven customer insight analysis to support interaction strategy optimization

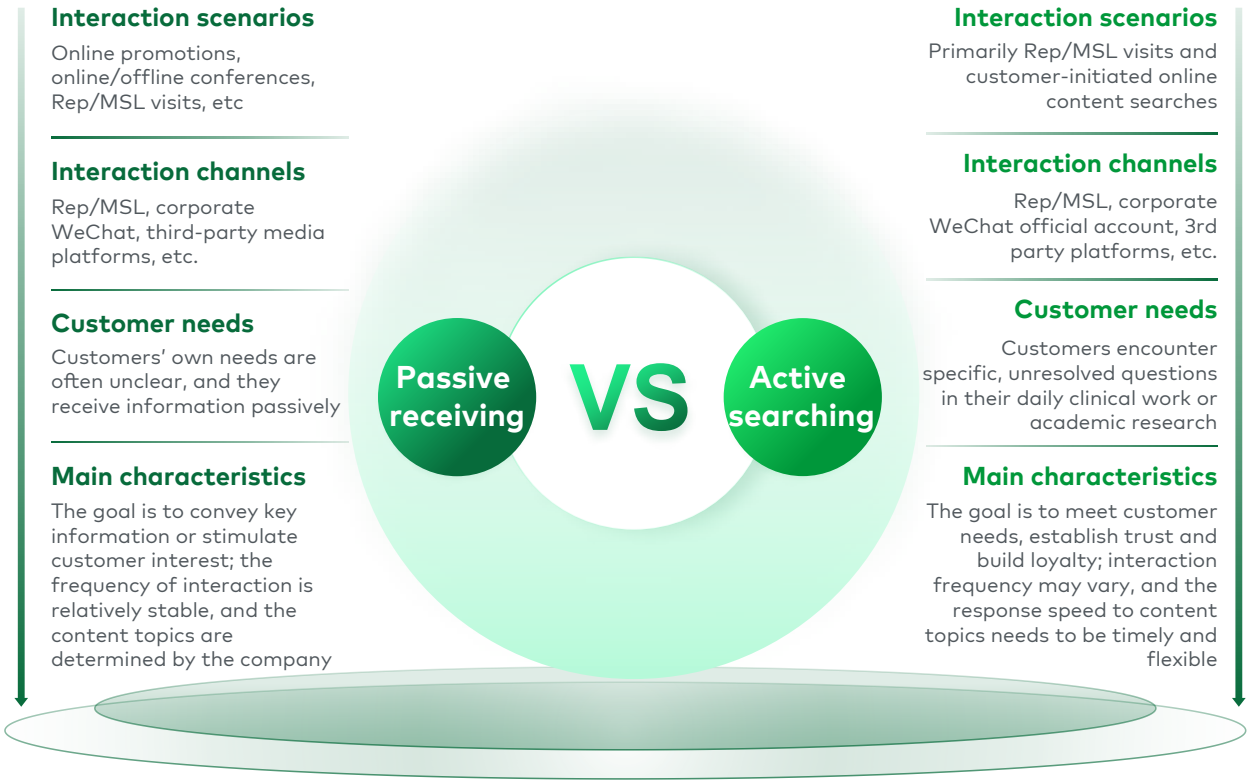


Note: MSL=medical science liaison, AIGC=AI-generated content
Source: L.E.K. research and analysis

How customers engage with content: passive receiving vs. active searching

Passive receiving and active searching are not mutually exclusive, but rather complementary. What needs to be considered is what content preferences and needs are served by each method, and then both approaches should be used in an appropriate way (see Figure 8).

Figure 8
Comparison of two content interaction methods between customers and companies



Source: L.E.K. research and analysis

What defines "good" interaction?

Typically, customers will not actively request specific content from a pharma company until trust is established. Companies must therefore take the initiative and reach out to customers, proactively sharing content to build data foundation, foster interaction habits and increase familiarity, thereby establishing trust and encouraging customers to diligently seek out the content provided by the company.

Additionally, pharmaceutical companies should pay attention to the contexts in which doctors purposefully seek content. We've observed that doctors often actively search for content when they encounter questions during clinical practice or academic research, resulting in content needs that are frequent yet highly random, covering a broad range of topics — and with an emphasis on timeliness. Pharma companies that can efficiently address these particular needs can greatly enhance the interaction experience and increase their credibility with customers.

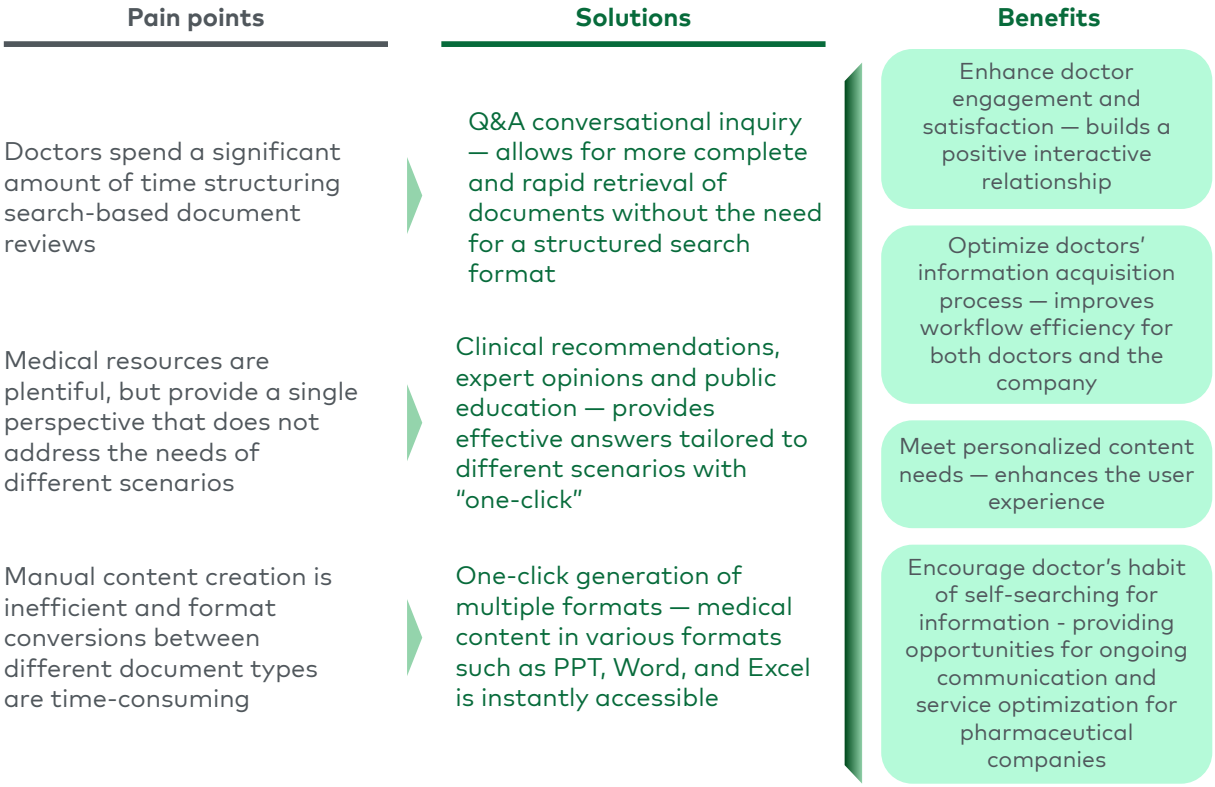
Current status and key gaps for most pharma companies

Today, most pharmaceutical companies provide content services at the business unit (BU) level to meet the active content needs of key customers. Some companies have also established cross-departmental processes to address customer content requests, such as setting up internal content search FAQs for Reps.

However, we see that companies lack a consistent analysis of content needs across different customer types and a structured approach to delivering different content services. Most pharma companies have limited content production and delivery capabilities and have yet to develop a platform that supports rapid, on-demand content creation and timely customer access. An empowered content platform would allow physicians to access scientific content tailored to their needs at any time, providing a simple and convenient process that encourages active content requests.

For example, one pharmaceutical company achieved a partial balance between content delivery and active content search by doctors by developing a Q&A tool based on AI-generated content (AIGC) technology that prioritizes the delivery of medical content with key product information when doctors submit queries related to the company's products. This tool quickly generates content to meet doctors' content needs while seamlessly embedding the brand strategy (see Figure 9).

Figure 9
Content platform for timely customer reach



Source: Null Hypothesis; L.E.K. research and analysis

While there are some solutions available to help doctors actively request content, it remains a challenge to determine the number of doctors who have truly developed the habit of actively seeking information. Many doctors, especially at a senior level, are simply more accustomed to passively receiving information. Even when faced with a content need, they may not be inclined to use the active search channels provided by the company. To change doctors from passive to active, pharma companies need to design content from the doctors' perspective, taking into account their different academic needs and usage habits. This means creating a highly interactive, scenario-based content platform. For example, companies could guide physicians to enter their content needs in a conversational context, such as during interactions with Reps/MSLs, possibly including interactive content summaries or prompts to enrich the experience.

Plan content marketing strategy with a single view of customer analytics

Unified customer profiling and analysis system

For many pharmaceutical companies, analyzing physician profiles has been standard practice since the early days of multichannel marketing. Some such initiatives originate from the digital/IT department, others from marketing or medical department. With different analysis dimensions, use cases and expectations, each function has its own view of customer profiles.

What defines "good" profiling?

To create a coordinated omni-channel effect, departments need to establish a unified customer profiling and analysis system. This means generating insights into customers' clinical behaviors, beliefs, preferences and academic interests to create a consistent view across departments. Consistency ensures that the customer insights used to inform business strategies are accurate, timely and logically aligned across teams. Cross-departmental alignment on the customer profile makes it easier to coordinate content strategies based on these shared insights.

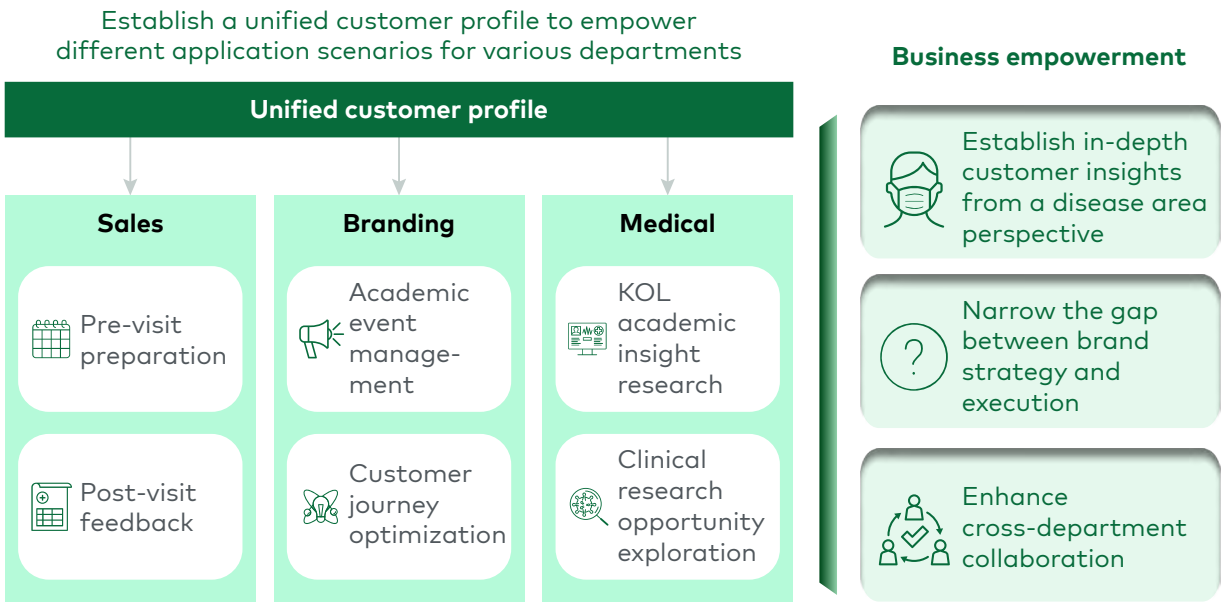
Current status and key gaps for most pharma companies

Most pharmaceutical companies have developed a tagging and customer profiling system with consistent customer insights at BU level. However, many have not yet adopted a unified corporate profiling system that spans departments such as medical, marketing and sales. Integrated customer insight from a disease-focused perspective is relatively absent at the BU level, as is a strategy for building corporate/brand influence through content marketing.

In addition, even when customer insights are consistent across the organization, there are often significant gaps between the brand-focused marketing models and the sales-focused execution strategies.

Without a clearly defined function, teams often conduct their own customer insight analysis independently. This makes cross-departmental coordination difficult. The establishment of a dedicated function to align customer insights across the organization can help to address these issues. A number of multinational pharmaceutical companies are already working towards a uniform profiling system at the corporate level. Based on this system, they have implemented insight-driven intelligent applications to support different types of business needs and enable data-driven decision making, tailored to the business context and functions of each department (see Figure 10).

Figure 10
Unified corporate profiling system



Note: KOL=key opinion leader
Source: L.E.K. research and analysis

Consistent messaging based on insights from the customer's conceptual journey

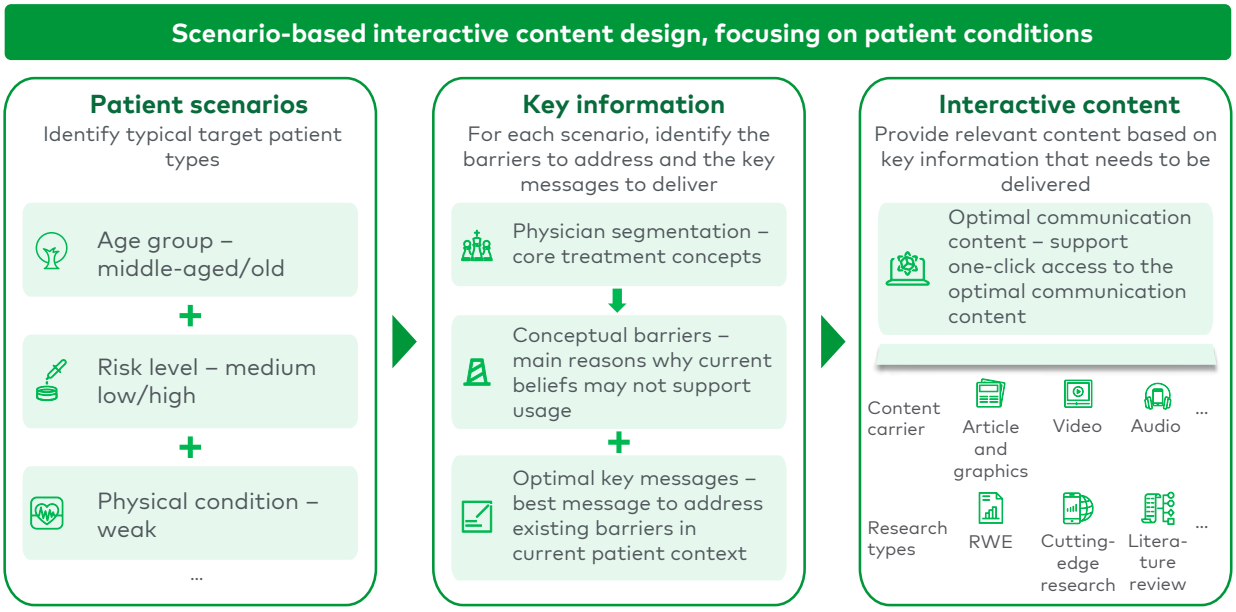
Most pharmaceutical companies are intentionally building their academic promotion capabilities by interacting with doctors through professional content, such as clinical stories and medical knowledge. Meanwhile, these resources continue to improve doctors' understanding of disease treatments and product perception. Yet some companies segment concept development strategies by customer type only, resulting in an overly broad progression between conceptual stages. This makes content execution challenging and reduces the coherence of message delivery.

What defines "good" messaging?

In reality, a series of progressive conversations are often required to change doctors' perceptions and address various conceptual barriers. Academic framework and conceptual pathways should be designed with practical patient scenarios as a standard, creating logically connected storylines that guide doctors through the stages of perceptual development.

The design of conceptual pathways based on patient scenarios means the creation of content that helps doctors build confidence in the treatment of different types of patients on the front line of clinical care. In these scenarios, doctors can express different treatment concerns depending on a patient's condition, disease progression and specific characteristics. Academic support around risk control and patient benefit helps physicians address these clinical challenges (see Figure 11).

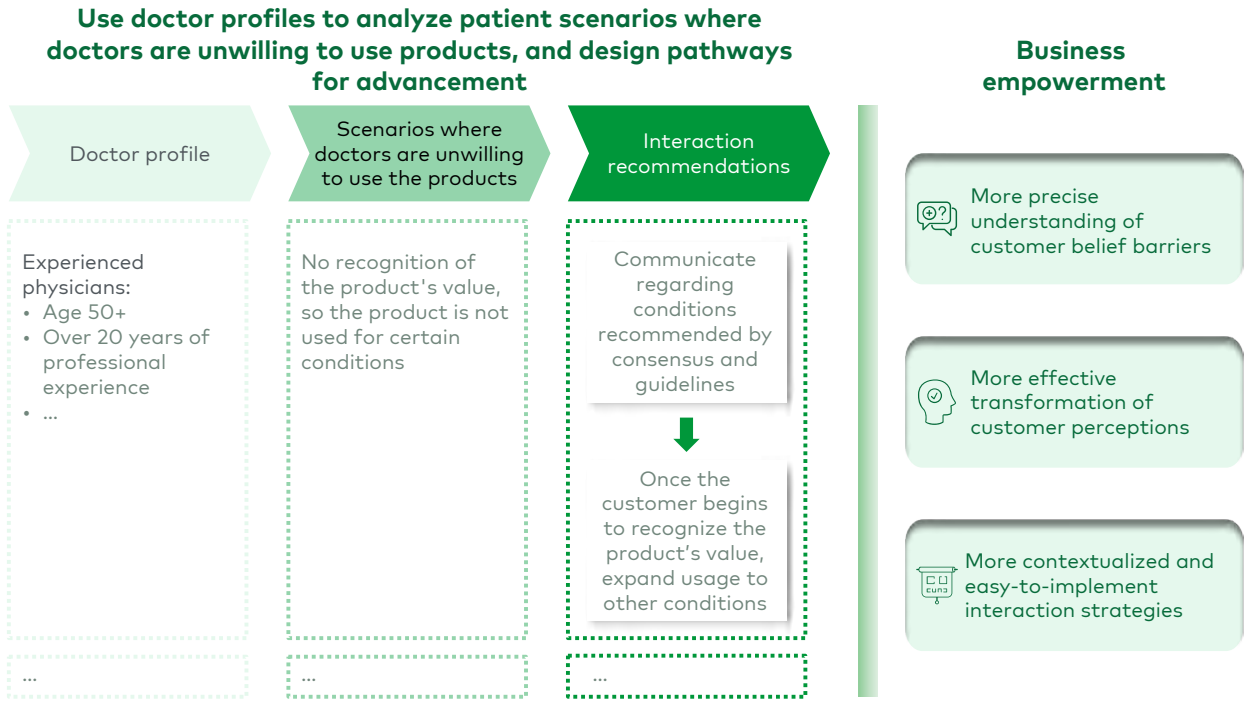
Figure 11
Conceptual advancement based on patient scenarios



RWE=Real-world evidence
Source: L.E.K. research and analysis

For example, a global medical device company designed a customer pathway around patient scenarios, focusing on doctors' beliefs about specific disease conditions. Senior doctors were encouraged to build knowledge and skills through content such as guidelines for treating recommended conditions and key challenges in basic disease scenarios. As doctors gained confidence, the content introduced more complex cases and a gradual expansion of the device's range of applications (see Figure 12).

Figure 12
Interactive recommendations based on patient scenarios



Source: L.E.K. research and analysis

When defining patient scenarios, it can be challenging to decide which disease-related characteristics to use as differentiating dimensions. Besides considering the product's target patients, it's also essential to consider other key factors that might influence treatment decisions, such as a skin disease patient's work status or a cancer patient's comorbidities.

Not every doctor needs to follow every step of the conceptual journey, nor do they need to overcome every obstacle to progress. The journey should account for a range of belief obstacles among different doctors in specific patient scenarios, as well as the logical order of these obstacles and the prioritization of critical information needed to resolve them. This approach helps create an optimal pathway for customer belief transformation.

Current status and key gaps for most pharma companies

Most pharma companies can design customer pathways and conceptual journeys based on customer segmentation and can deliver the key messages corresponding to each stage. However, there are two main issues:

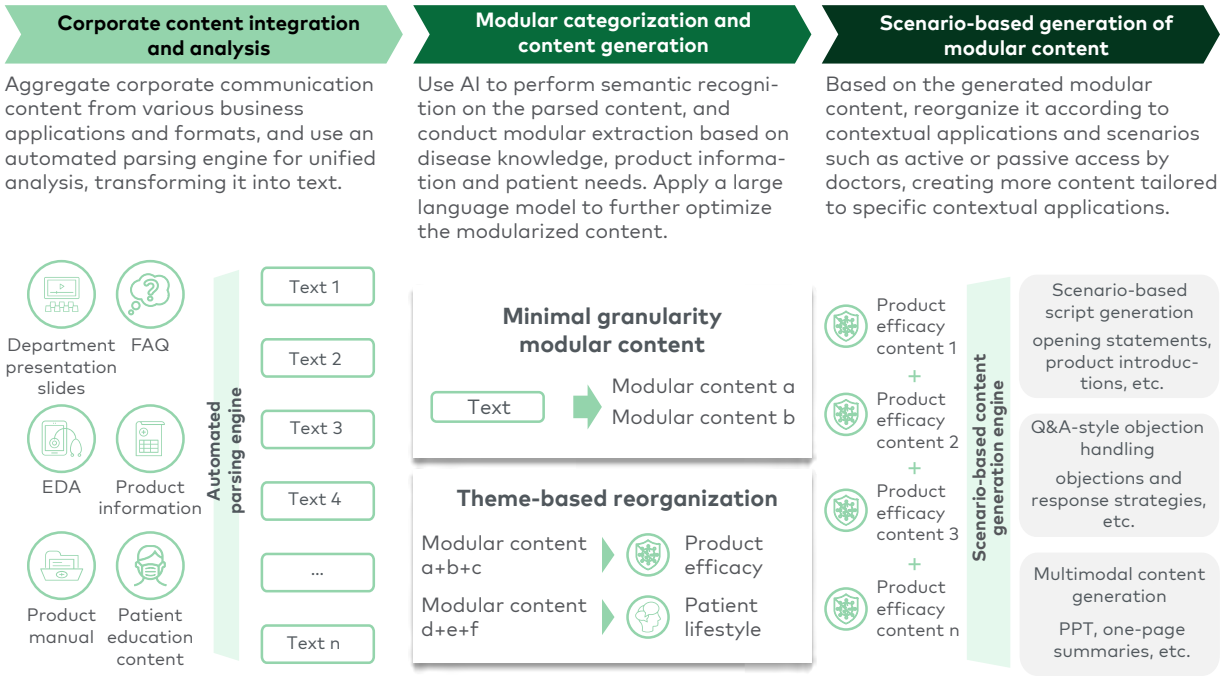
1. Customer segmentation and conceptual journey granularity are too coarse
2. There is a severe lack of diverse content that conveys the key messages

Most pharma companies have not integrated granular design and training for sales teams, and their marketing models do not incorporate detailed segmentation of perceptual barriers and related information. In addition, front-line teams need to accumulate insights by accurately identifying, exploring and recording customer perceptual barriers through regular engagement - a capability that is generally lacking in today's pharmaceutical companies. Companies also lack agile content management mechanisms to deliver concise, varied and accurate key messages, making it difficult to produce enough tailored content to address specific perception barriers for individual doctors.

The inability to sustain content production is also a significant factor. Content management systems are often complex, undermining efforts to produce high volumes of content focused on a single core message. Doctors may find it difficult to fully understand or retain information from the lengthy formats, such as EDAs and slide decks, that most pharmaceutical companies still rely on as primary content for customer interactions. In addition, the tendency to rely on third-party vendors or outsourcing partners for content production makes it difficult to quickly produce high-quality, short-form content that reflects key messages in a logical sequence.

Modular content can help to address these challenges, as this approach facilitates content reuse and rapid replication, increasing content production capabilities and generating more content that can be applied to specific scenarios (see Figure 13).

Figure 13
Modular content generation



Note: FAQs=frequently asked questions; EDA=definition; PPT=PowerPoint
Source: Null Hypothesis; L.E.K. research and analysis

Digital and AI applications

Accuracy of content and traceability of evidence are essential when producing content containing medical information. Some pharma companies have already started to use AI technology to rapidly generate medical content tailored to different contexts and roles, based on both existing medical content and the latest scientific evidence (see Figure 14).

Figure 14
AIGC empowering content needs for various roles in the medical department

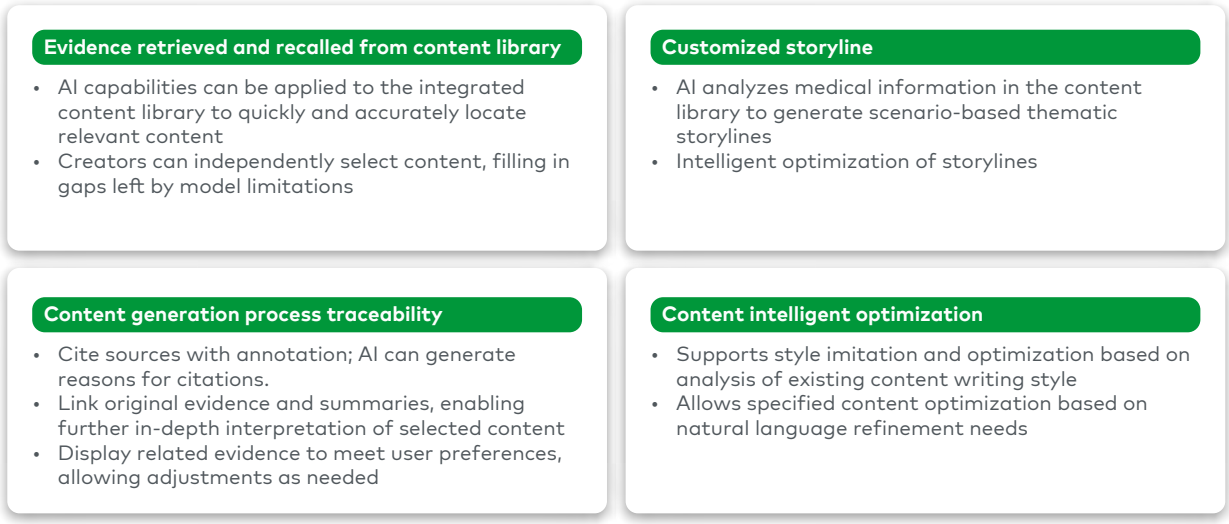
User role	Content requirements	Traditional working methods	Innovative working methods - AIGC	Efficiency improvement
MA	Retrieve the latest literature on the product to update core medical education slides	1. Literature search 2. Initial literature screening 3. In-depth literature review 4. Information extraction 5. Content writing	1. Literature search 2. AI-generated interpretation slides 3. Manual formatting and simple edits	65%
	Based on extensive literature review, identify unmet clinical needs and generate medical insights	1. Literature search 2. Initial literature screening 3. In-depth literature review 4. Detailed interpretation 5. Medical insights writing	1. Literature search 2. AI-assisted literature interpretation to screen target articles 3. AI-generated medical insights 4. Manual intervention for refinement	75%
MI	Generate product-related, themed content for use by marketing colleagues	1. Literature search 2. Initial literature screening 3. In-depth literature review 4. Information extraction 5. Content writing	1. Literature search 2. Rapid selection of target literature based on AI summaries 3. AI-generated slides/articles 4. Manual intervention for refinement	80%
MSL	Produce monthly literature digest newsletter	1. Literature search 2. Manual abstract review to select target literature 3. Manual interpretation of English literature to generate a newsletter	1. Literature search 2. AI-assisted tagging for target literature selection 3. AI-generated newsletter	90%
	Handle objections from KOLs during communication	1. Understand KOL needs 2. Translate needs into search queries for literature retrieval on PubMed 3. Review literature abstracts to select target articles 4. Manually write slide content to address KOL needs	1. Directly input KOL questions 2. AI automatically retrieves all relevant evidence from PubMed 3. AI generates interpretative slides of target literature	80%

Note: KOLs=key opinion leaders; AI=artificial intelligence; AIGC=artificial intelligence generated content
Source: Null Hypothesis; L.E.K. research and analysis

Integrating the latest medical literature with previously developed corporate content and implementing a unified content management system has become a standard process for medical content creators in many pharmaceutical companies. This approach enables the efficient retrieval of resources from content libraries. It also enables the creation of new content tailored to specific scenarios. Building on this foundation, some companies are now applying AI technology at various stages of the process, including resource retrieval, storyline generation

and customization, content creation with traceable medical evidence, and content optimization. By efficiently leveraging AI technology while ensuring scientific rigour and traceability, companies are creating medical content that is truly centered on user needs (see Figure 15).

Figure 15
AI-empowered content creation



Note: AI=artificial intelligence
Source: Null Hypothesis; L.E.K. research and analysis

Challenges remain in the practical application of AI, including the complexity of medical content, rapid industry change, ethical and privacy issues, and the difficulty of technology integration. A closer look reveals additional barriers, such as the maturity of AI technology, data quality and availability, collaboration between professionals and AI, and regulatory adaptability. Nevertheless, AI continues to bring revolutionary advances to content management systems in the pharmaceutical industry. We believe that as technology evolves, regulatory frameworks improve and industry awareness increases, pharma companies will see further opportunities to capitalize on significant breakthroughs in the application of AI to content management.

PART 2: OMNICHANNEL SYNERGY

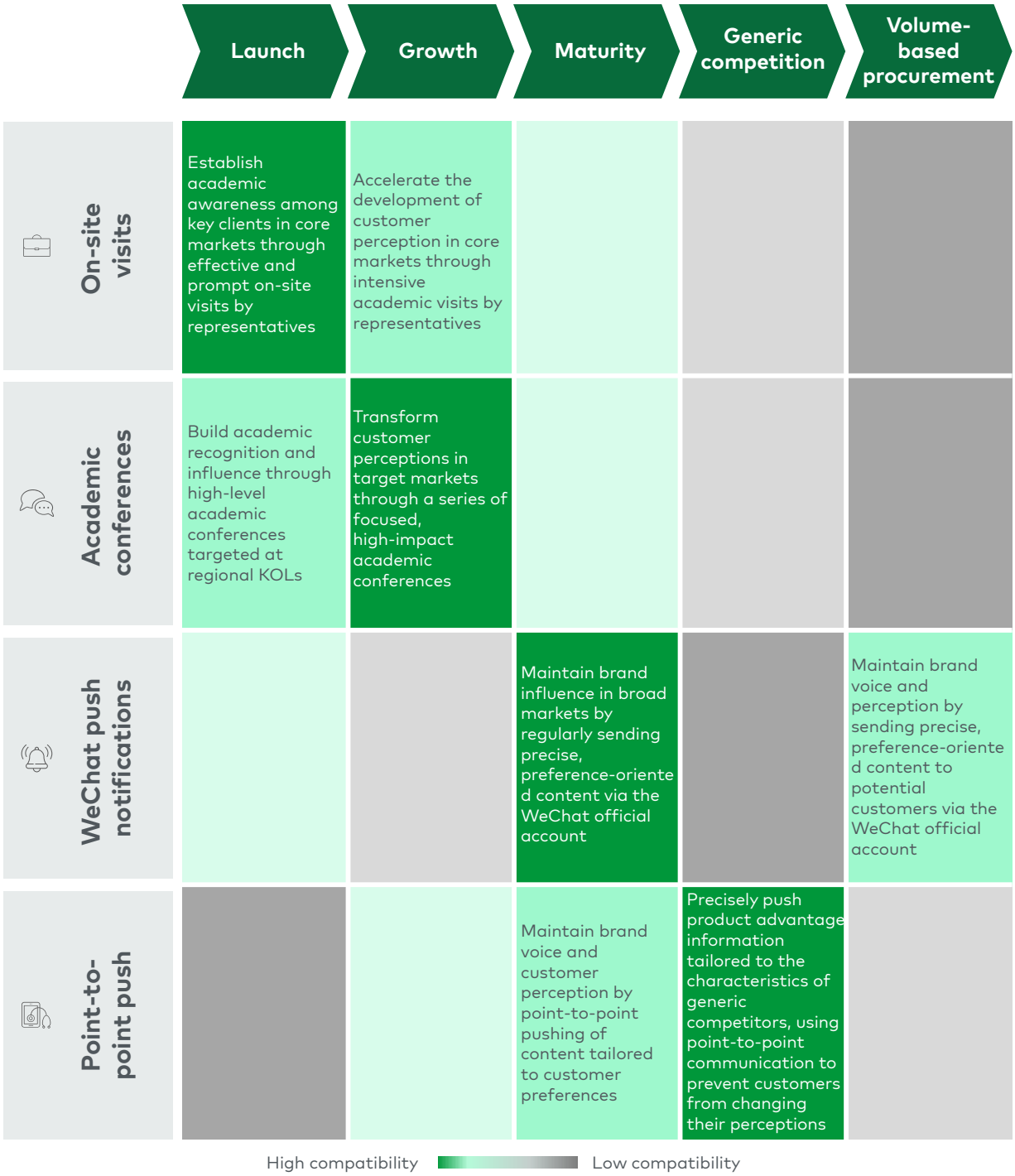
Transitioning from multichannel marketing to omnichannel marketing

Enhancing customer engagement efficiency through an omnichannel matrix

In the early years of emerging marketing channels, particularly digital, pharmaceutical companies eagerly expanded across platforms. In recent years, however, the focus has shifted from simply increasing the number of channels to asking critical questions: "Does my product really need so many channels?," "What does each channel contribute to influencing physician perceptions?" and "Which channels are most effective?"

Designing an effective omnichannel marketing matrix requires tailoring it to the unique characteristics and life cycle stages of different products. For example, mature products that have already been through volume-based procurement tend to have a high level of awareness among physicians. In such cases, online channels can be as effective as offline channels in delivering product information. Here, the synergy of online/offline multichannel coordination becomes particularly important, enabling rapid expansion of reach and improving engagement efficiency (see Figure 16). At the same time, there are subtle differences between therapeutic areas, even within the same stage of the product life cycle. For example, oncology physicians often expect more academic information, such as clinical data and research, making face-to-face visits and academic conferences more important than for chronic diseases such as diabetes or hypertension.

Figure 16
Channel mix in different stage of product life cycle



Note: KOLs=key opinion leaders
Source: L.E.K. research and analysis

When designing an omnichannel marketing matrix, companies should also consider doctors' preferences. According to a recent survey by Yixuejie (医学界), doctors' preferred channels for receiving information about new drugs shifted after anti-corruption campaigns (see Figure 17). In 2024, the importance of WeChat subscription accounts, third-party medical websites/apps and online academic conferences has risen. Notably, email is gaining greater acceptance among doctors, while the importance of WeChat groups and face-to-face visits has declined somewhat.

Figure 17
Acceptance of new drug promotion methods

Channel	2024	2023	
WeChat official account	79%	76%	↑
Third-party medical website/APP	65%	63%	↑
Online academic conferences	43%	39%	↑
Email	26%	19%	↑
Medical website operated by a pharmaceutical company	24%	25%	↓
WeChat discussion group	12%	20%	↓
Face-to-face visit	11%	14%	↓

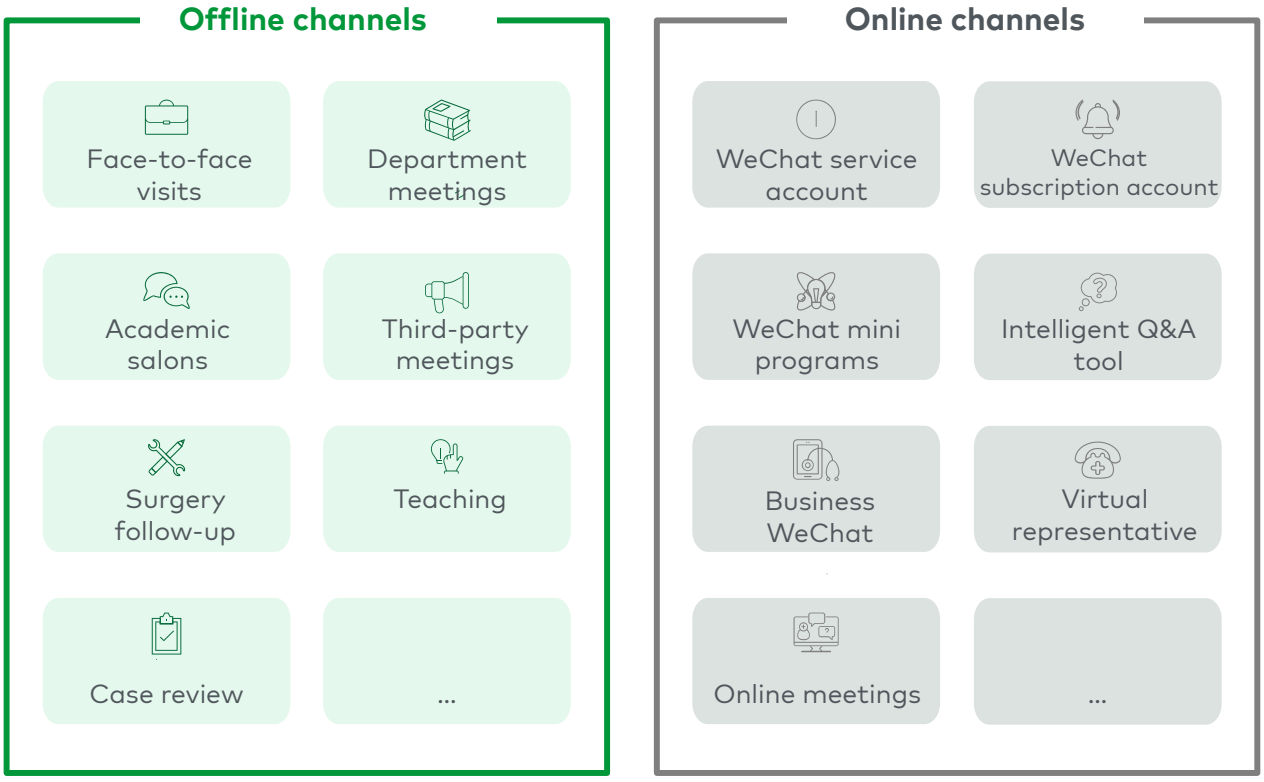
Survey question: Through which channels would you prefer to participate in new drug promotion activities? (Multiple choice question, select up to 3 options)

Source: Yixuejie (医学界); L.E.K. research and analysis; analysis of 529 duplicated samples from the 2024 and 2023 annual surveys

Current status and key gaps for most pharma companies

Most companies have adopted multichannel engagement models that integrate traditional and emerging channels, such as face-to-face visits, phone calls, WeChat groups, online meetings and WeChat subscription accounts (see Figure 18).

Figure 18
Overview of multichannel marketing for doctors*



Note: Some of them are channels of medical device companies
Source: L.E.K. research and analysis

However, many companies fail to establish an effective channel matrix due to two main reasons:

- **Lack of strategic clarity on the most effective channel mix for each product:** This includes positioning the role and objectives of each channel.
- **Fragmented management across departments:** Different channels are often managed by different teams. For example, field visits are managed by the sales team, online channels are overseen by digital teams within business units or at the corporate level, and conferences are spread across the marketing, medical and sales departments. This lack of centralized management leads to misaligned channel positioning and audience analysis, preventing effective synergy.

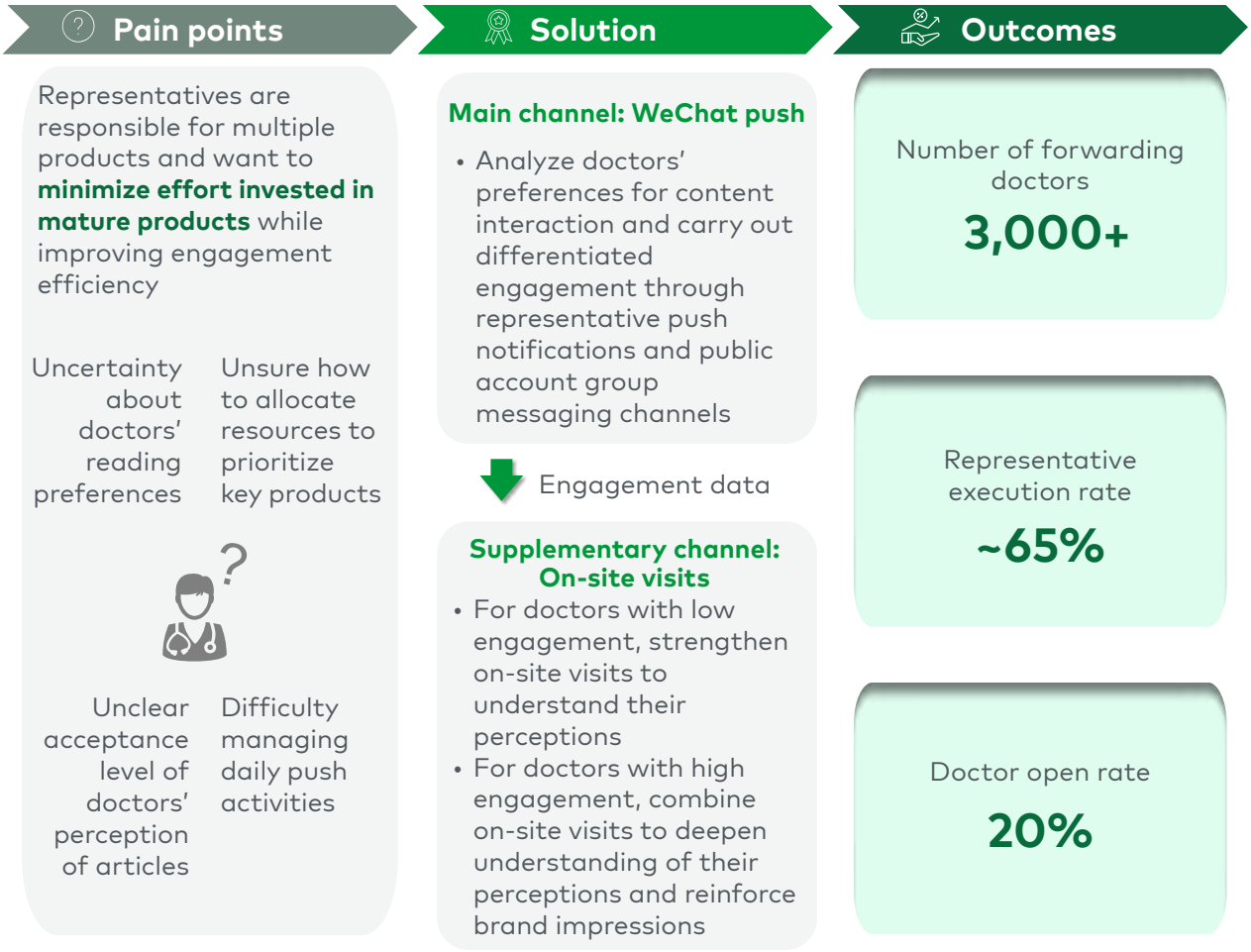
Case example: A pharma company has defined a clear positioning of each channel. Despite the limited number of channels, it achieves synergy around the main channels.

Since the product is mature, the company positions WeChat push as the main channel of engagement, supplemented by offline visits, which reduces the

representative's workload and improves engagement efficiency through intelligent push suggestions. The intelligent push engine analyzes customers' content preferences through content tags and provides personalized push suggestions to help representatives achieve one-click push. The engine also provides visit suggestions based on the results of WeChat push interactions. For example, if a doctor does not open a push article multiple times in a row, the tool will suggest a follow-up visit. Conversely, if the doctor shows strong interest through multiple forwards or "likes" or direct WeChat communication with the representative, the engine will suggest an in-person visit and provide topic suggestions based on previous interaction history. This tool effectively increases the number of doctors covered and dramatically improves article open rates (see Figure 19). To achieve this goal, the company not only provided features that were easy for representatives to use but also implemented certain incentives in the early stages of the tool's launch.

In parallel, continuous change management initiatives have been implemented to increase the understanding and adoption of the tool.

Figure 19
Channel positioning and synergy of the company



Source: L.E.K. research and analysis

Pharma companies can also leverage the same channel to deliver tailored content for different products. Taking virtual representatives as an example, their roles and engagement strategies can be clearly defined based on the objectives of marketing innovative, specialty and generic drugs.

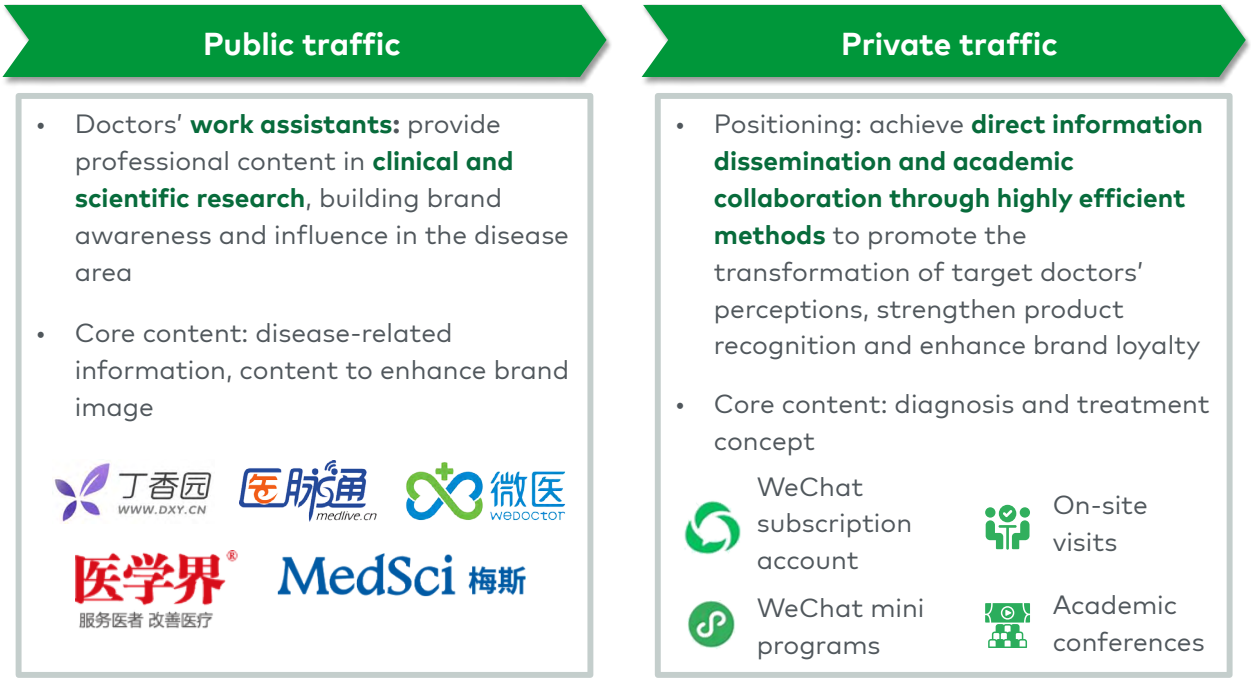
- For innovative drugs, virtual representatives play a critical role in supporting medical representatives in core markets. They act as a resource for addressing doctors' academic inquiries and improving response efficiency.
- For specialty drugs, virtual representatives focus primarily on increasing disease awareness in broad markets. In core hospitals, their role shifts to empowering medical representatives to engage in academic communications.
- For generic drugs, where the goal is to achieve extensive market penetration, virtual representatives are positioned to maximize outreach by delivering standardized and basic disease education content.

Establishing content synergy across channels to provide a consistent customer experience

How can companies achieve seamless integration and continuity of content delivery across channels to provide customers with a consistent engagement experience from a brand or company perspective?

Content delivery must be based on an effective channel matrix. It is worth noting that "content" here goes beyond influencing diagnosis and treatment. It has a broader scope, including disease information, brand image, etc. Building on this foundation, the information delivered through various channels should form a cohesive storyline. For example, initial messaging on public platforms about diseases and the brand can cultivate doctors' awareness and identify high-potential customers to direct to private platforms. Content on diagnostic and treatment concepts can further develop doctors' perspectives (see Figure 20). For more detailed insights into delivering consistent content based on customer perceptions, please see "Part 1: Customer Centricity."

Figure 20
Content delivery from public domain to private domain

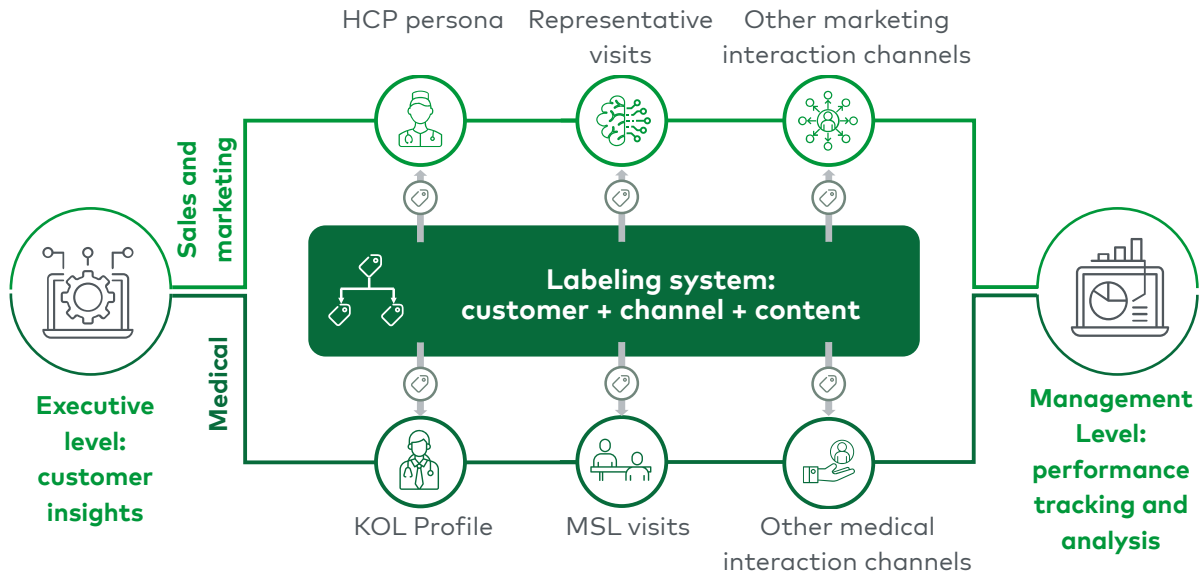


Source: L.E.K. research and analysis

Current status and key gaps for most pharma companies

At present, many companies have made significant efforts to deliver consistent content on private domain platforms, such as on-site visits, academic conferences and corporate WeChat groups. For example, they have established comprehensive labeling systems that link customers, channels and content. This approach enhances the alignment among different customer segments with different channels and content, thereby improving marketing efficiency. Additionally, key information for the content on each channel is standardized and clearly defined. Interactive content is then tailored and recommended to each channel based on doctors' conceptual barriers and content preferences, achieving a certain level of cross-channel content coordination and consistency (see Figure 21).

Figure 21
Labeling system to enable omnichannel collaboration

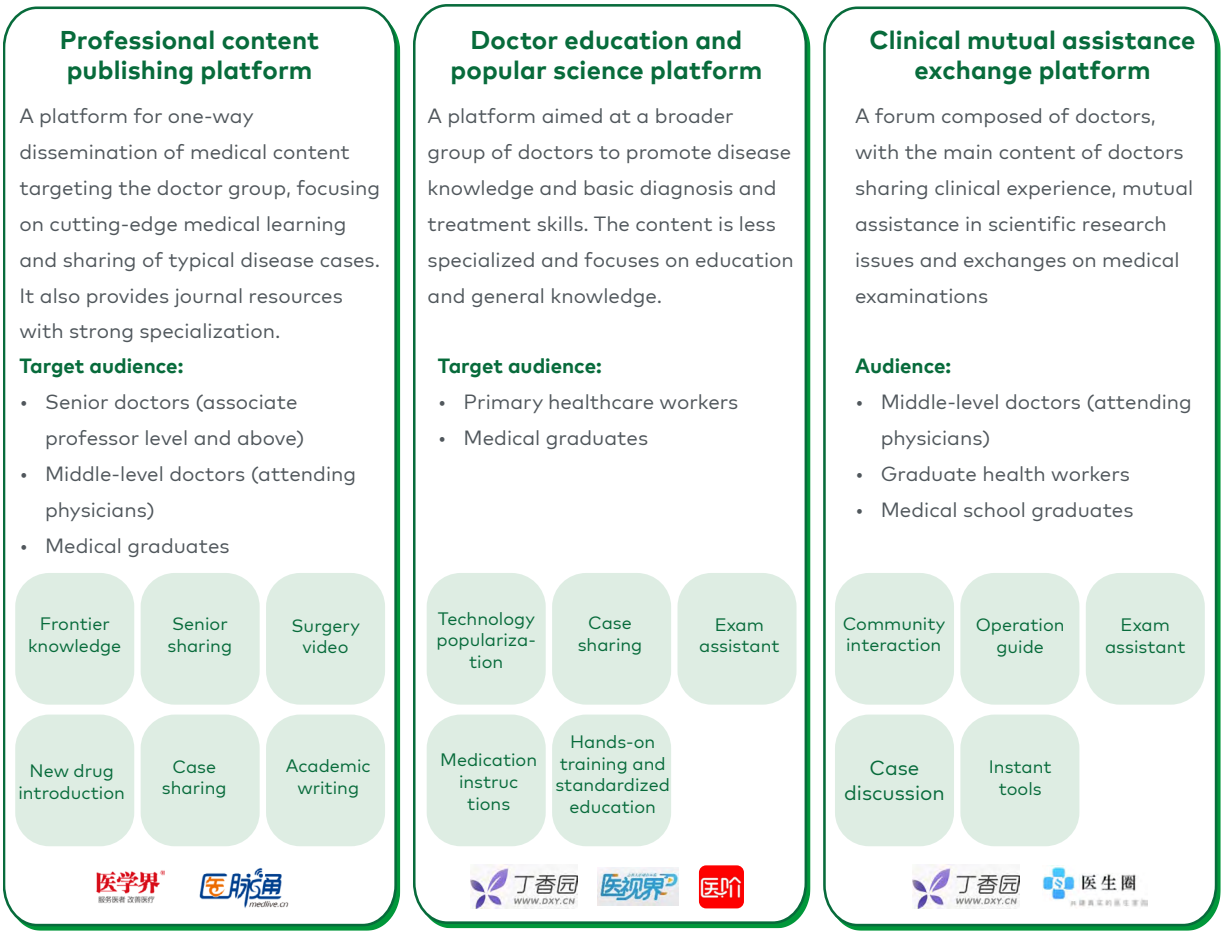


Note: HCP=healthcare professionals; KOL=key opinion leader; MSL=medical science liaison
Source: L.E.K. research and analysis

However, pharma companies continue to face challenges in two key areas: 1) how to coordinate the delivery of disease- and brand-related content across multiple public domain platforms to attract more customers, and 2) how to enhance content collaboration on private domain platforms to accelerate progression in customer perceptions.

For public domain channels, companies should first define the positioning, target audience and key engagement scenarios for each channel, then design targeted content based on the scenarios to achieve more effective engagements (see Figure 22).

Figure 22
Analysis of key users and scenarios of public domain channels



Source: L.E.K. research and analysis

The primary challenge currently faced by private domain channels is the lack of strong coordination among departments during the early stages of content and campaign planning. Instead, departments often create fragmented, isolated plans, resulting in an overall content strategy that fails to align with the doctor conversion pathway.

To address this, companies could consider establishing a content center of excellence, similar to a channel center of excellence. This organization would integrate key departments, including marketing, sales, training and medical, to centrally manage and coordinate content. Such an approach would enhance collaboration and ensure a consistent, seamless interactive experience for doctors.

Additionally, the marketing strategy should serve as the foundation for the work of all departments. For example, the medical department should contribute scientific evidence that supports the marketing strategy, thereby strengthening the credibility of the brand story and content. The training department should design

training content based on the customer conversion journey mapped out by the marketing department, ensuring it aligns closely with the overarching marketing strategy. Frontline sales teams should also be actively involved in the planning process to ensure alignment with real-world operational practices.

Using the customer touchpoint journey as an analytical lens to achieve channel synergy

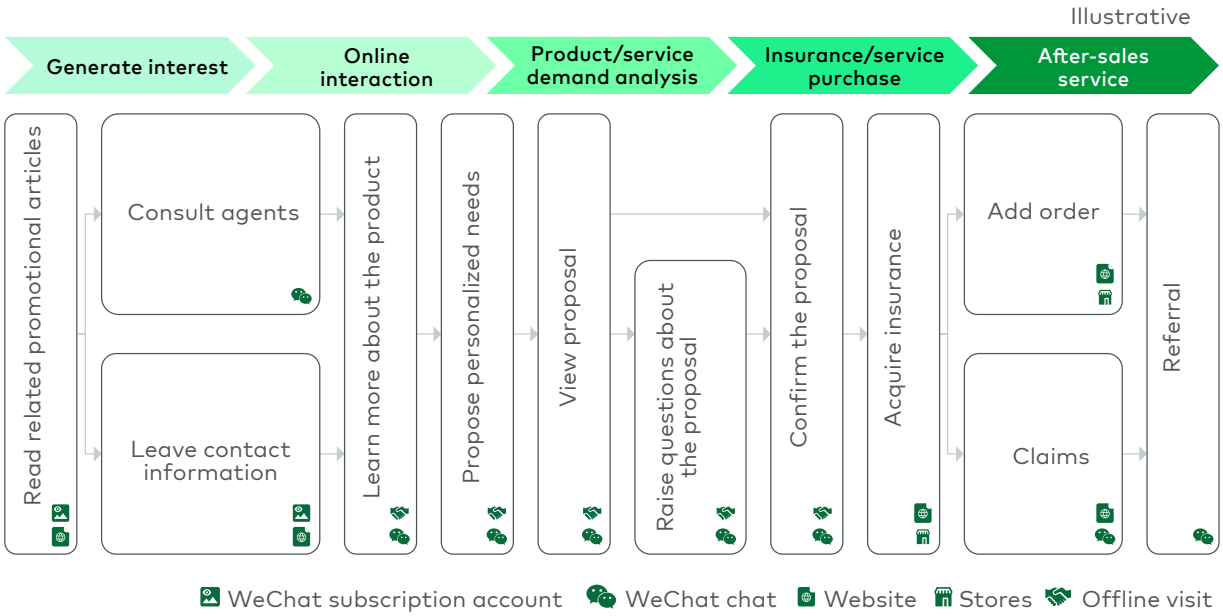
Designing a touchpoint mix based on customer insights and scenarios

After channels, the next step is to delve deeper into specific touchpoints within the customer journey (i.e., the engagement scenarios between doctors and brands).

Effective omnichannel marketing requires companies to define customer experience goals based on insights into the characteristics of different customer segments, such as their cognition, preferences and needs; analyze engagement scenarios at various touchpoints and map out how these scenarios transition and connect to one another; and design a touchpoint mix to create a seamless touchpoint journey that aligns with customer experience goals.

Other industries, such as insurance, have developed customer touchpoint journeys at a faster pace and with more maturity compared to the pharmaceutical industry. Insurance companies share several similarities with pharma in terms of touchpoints and engagement scenarios: Both rely on offline sales channels for one-on-one customer communication and follow-up; the concept conversion process is relatively lengthy, requiring multiple rounds of contact and communication tailored to their needs; and customers' purchase or prescription decisions are cautious and deliberate, often requiring significant support to address questions and concerns during the decision-making process. An insurance company's touchpoint journey, mapped out based on its business scenarios, illustrates that each touchpoint should start with the customer's needs as the foundation, with the goal of delivering a satisfying customer engagement experience that gradually moves the customer forward on the journey and ultimately culminates in a purchase or even a referral from the customer (see Figure 23).

Figure 23
Customer touchpoint journey in the insurance industry



Source: L.E.K. research and analysis

However, the pharmaceutical industry differs in some key aspects. For instance, in the insurance industry, customer engagements are primarily aimed at facilitating a one-time purchase, making this the core purpose of customer contact. In contrast, the pharmaceutical industry focuses on maintaining stable customer awareness and fostering long-term drug prescriptions, meaning a single purchase does not mark the end of the customer touchpoint journey. Instead, the pharmaceutical industry requires a strategy of ongoing, phased customer engagements. This involves designing a cohesive and synergistic touchpoint mix that adapts to the evolving needs of customers at each stage of their journey. By doing so, companies can ensure sustained engagement while continuously reinforcing and enhancing customer perceptions and behaviors over the long term.

Current status and key gaps for most companies

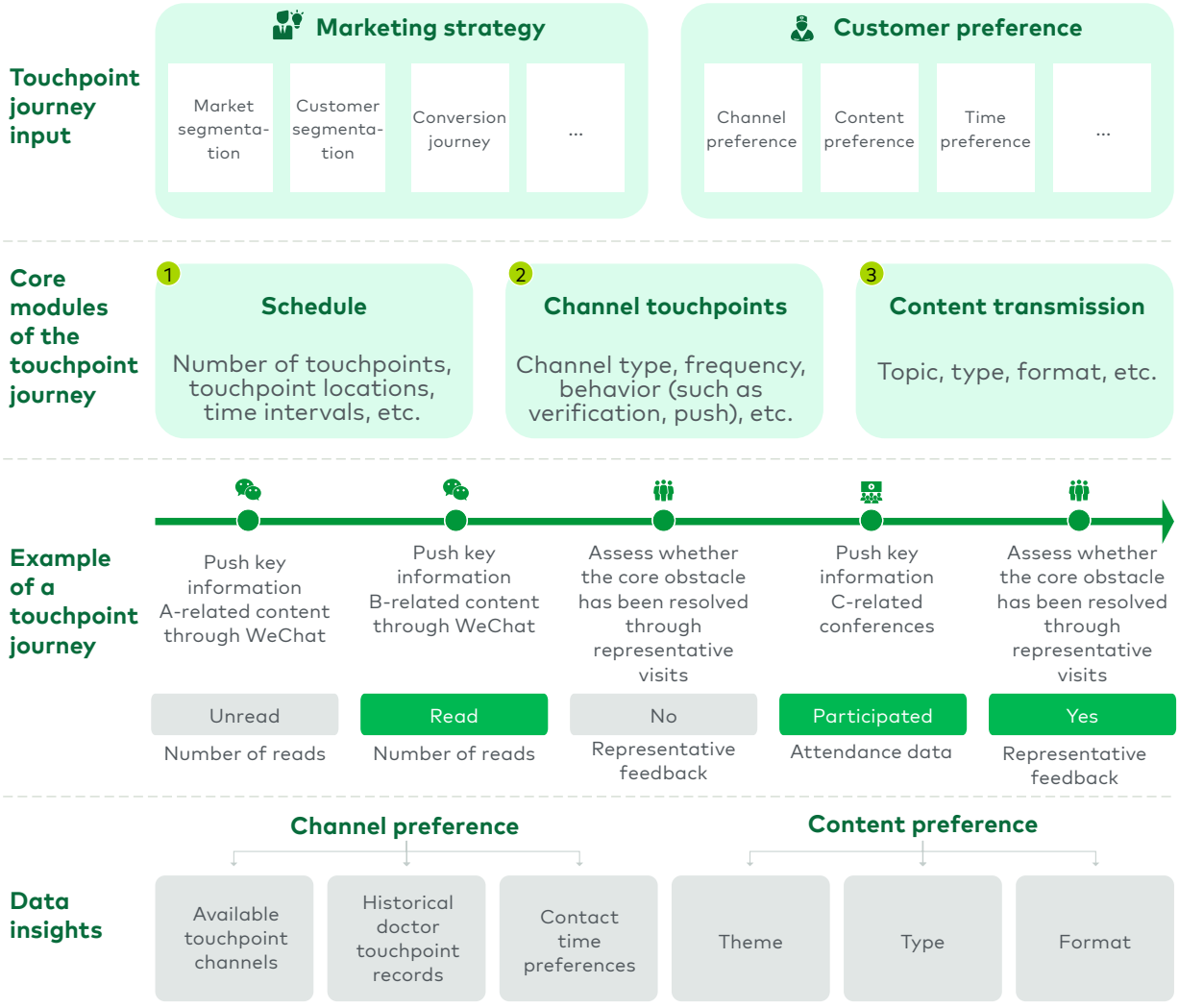
Currently, some pharmaceutical companies are experimenting with rule-based touchpoint recommendations generated through next best action (NBA) systems. These recommendations are tailored to doctors' segmentations, beliefs and behaviors and are aligned with overarching marketing strategies.

For example, one pharmaceutical company attempted to design a touchpoint journey grounded in marketing strategies and customer preferences, customized for different markets and customer segments (see Figure 24). This touchpoint journey incorporates three core components:

1. A specific schedule for customer engagement
2. Defined channel touchpoints
3. The content to be delivered at each engagement

Furthermore, the collection of data throughout the touchpoint journey, such as number of reads, representative feedback and meeting attendance, enables the tracking and visualization of both touchpoint execution and marketing strategy implementation, supporting the continuous optimization and iterative improvement of subsequent touchpoint journeys.

Figure 24
Touchpoint journey (illustrative)



Source: L.E.K. research and analysis

However, the current touchpoint journey is mainly designed based on the experience of senior representatives and fails to be driven by doctor data insights. There are two reasons for this:

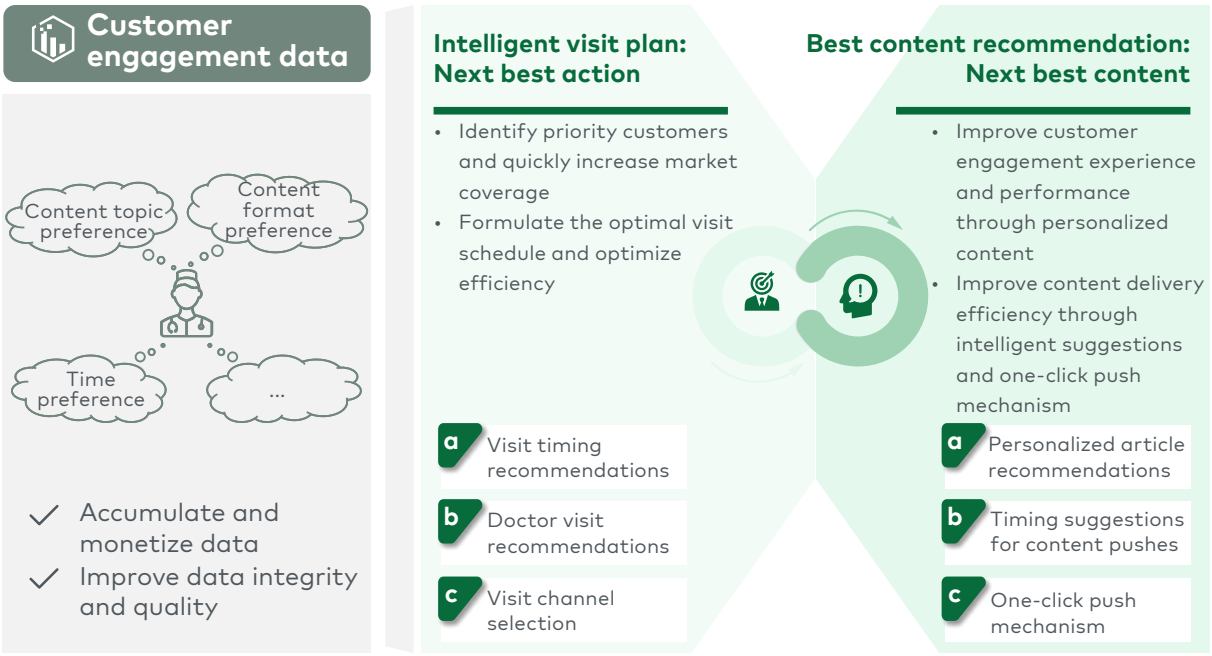
- There is a lack of evaluation standards and models for the effectiveness of content at each touchpoint, making it impossible to make decisions on the combination of touchpoints based on the content marketing effectiveness results of each touchpoint.
- Even if such a model is available, the accuracy of the learning results of the large language model (LLM) is limited due to the insufficient accumulation of high-quality data.

In the current scenario, where journey design still heavily relies on frontline experience, it is crucial to recognize that the input from representatives reflects only their past engagement experiences. As such, the journey design process should incorporate contributions from both the marketing and medical departments. The marketing department can offer insights from a marketing strategy perspective, such as the desired frequency and channels for delivering information, while the medical department can provide guidance on effectively communicating academic and medical content.

Beyond collaboratively designing touchpoint journeys, companies should also conduct regular training sessions related to academic engagements. These sessions could cover topics such as how to engage with doctors and how to assess doctors' perspectives. Some leading companies have developed artificial intelligence (AI) tools that factor in different doctor personas and personality types, enabling representatives to engage in role-playing practices for various scenarios. This approach enhances representatives' ability to make informed decisions when designing customer interaction touchpoint journeys.

At the same time, while still relying on experience-based input, companies are increasingly leveraging digital tools to enable data-driven approaches. For example, embedded data analytics can be used to assess doctors' touchpoint preferences, such as their favored types of touchpoints and content. One pharmaceutical company, by analyzing doctors' past engagement records (e.g., time of reading), was able to identify preferred content types and optimal engagement times. These insights were then used to provide representatives with engagement suggestions tailored to individual doctors' preferences (Figure 25).

Figure 25
Engagement recommendations based on doctor touchpoint preferences



Source: L.E.K. research and analysis

Analyzing customer data feedback across touchpoints to optimize the next touchpoint experience

What data should be collected? How should data be collected? How is data used to optimize engagement suggestions? These are critical questions that every company must address during the omnichannel transformation process.

A key to the success of omnichannel marketing lies in understanding doctors' preferences and perspectives through their feedback and using this feedback to continuously enhance the customer experience. Thus, a complete closed-loop analysis is essential for improving customer engagements. An effective closed-loop analysis leverages real-time feedback from customers in earlier touchpoint journeys to refine subsequent touchpoints and their associated content engagement strategies. Moreover, the data collected should span multiple touchpoints. While online touchpoints often provide easier access to feedback data, it is equally important to gather data from offline touchpoints to ensure a comprehensive view and maintain the high quality of data to enhance its analytical value.

Current status and key gaps for most pharma companies

To achieve closed-loop analysis, many companies have implemented automated methods for collecting online customer engagement data through embedded tracking points. This data is then analyzed using content suggestion engines

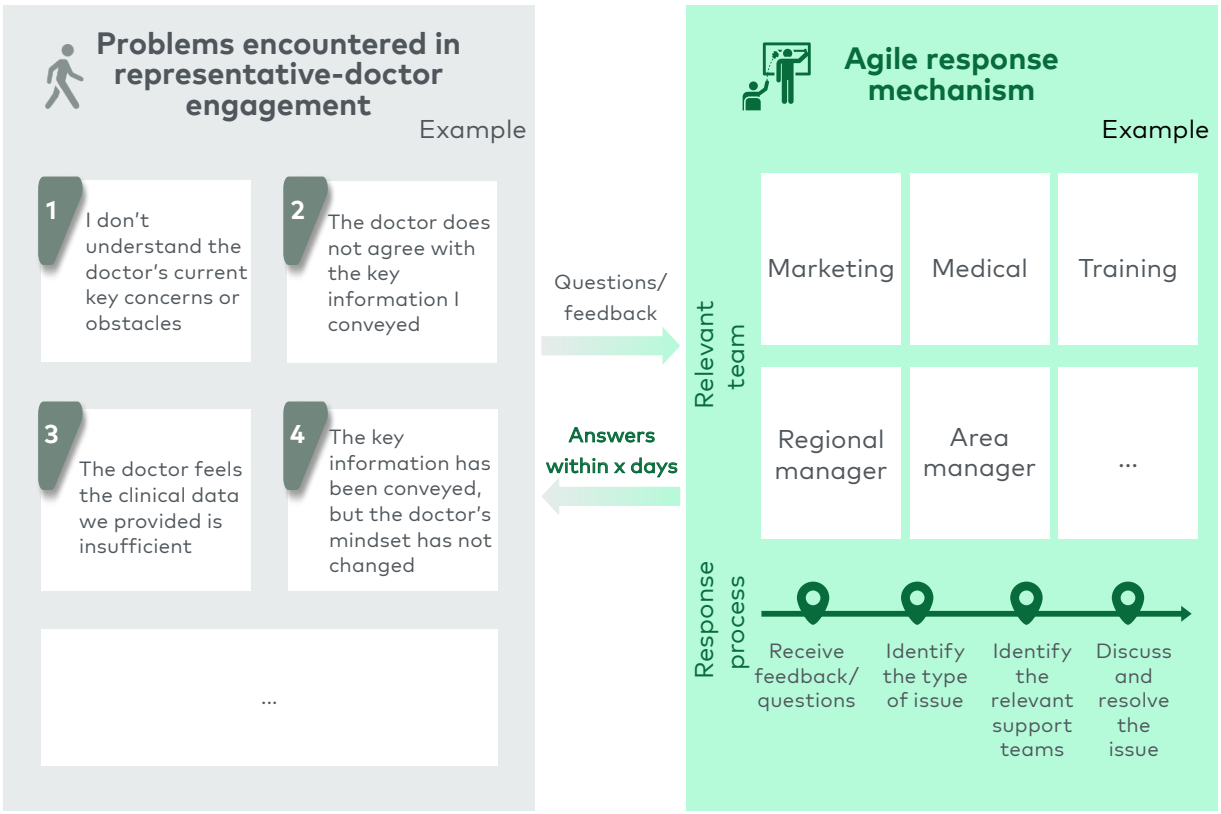
tailored to customer preferences, enabling continuous optimization of subsequent content engagements. For offline channels, where data collection is more challenging (e.g., representative visits), some pharmaceutical companies have introduced representative feedback functions into the NBA recommendation systems. These features allow representatives to provide feedback in dedicated system modules. This includes their evaluations of the visit suggestions themselves as well as customer feedback on the key information and content presented during engagements.

However, collecting feedback from representatives poses two challenges. First, the data is based on representatives' subjective judgments, which limits its precision. Second, the additional workload associated with providing engagement feedback reduces representatives' willingness to participate in the process.

For the first issue, in addition to representatives providing feedback on doctors' perspectives, some companies incorporate one or two brief questions at the end of articles published on online platforms, such as WeChat subscription accounts or mini programs. This approach collects feedback directly from doctors, enabling cross-validation with the data provided by representatives.

To address the second issue, the key lies in increasing representatives' recognition of the value and importance of feedback data to enhance their willingness to participate. Companies can establish dedicated teams focused on resolving common customer engagement issues and responding promptly and effectively to feedback or questions raised by representatives (Figure 26). For instance, in a specific engagement, a representative might report that the current supporting content (e.g., clinical data) is insufficient to convey key messages. The company's ability to swiftly iterate on this feedback and provide updated, agile support services will significantly influence the representative's motivation to provide further feedback in the future.

Figure 26
Agile response mechanisms to support representatives



Source: L.E.K. research and analysis

In "Part 3: Data- and Insight-Driven Strategy" and "Part 4: Agile Process Management," we will discuss in detail the collection and analysis of data (for example, how to use A/B testing to identify customer insights) and agile content management (for example, how to optimize content management processes and how to build agile organizations and mechanisms).

Digital and AI applications

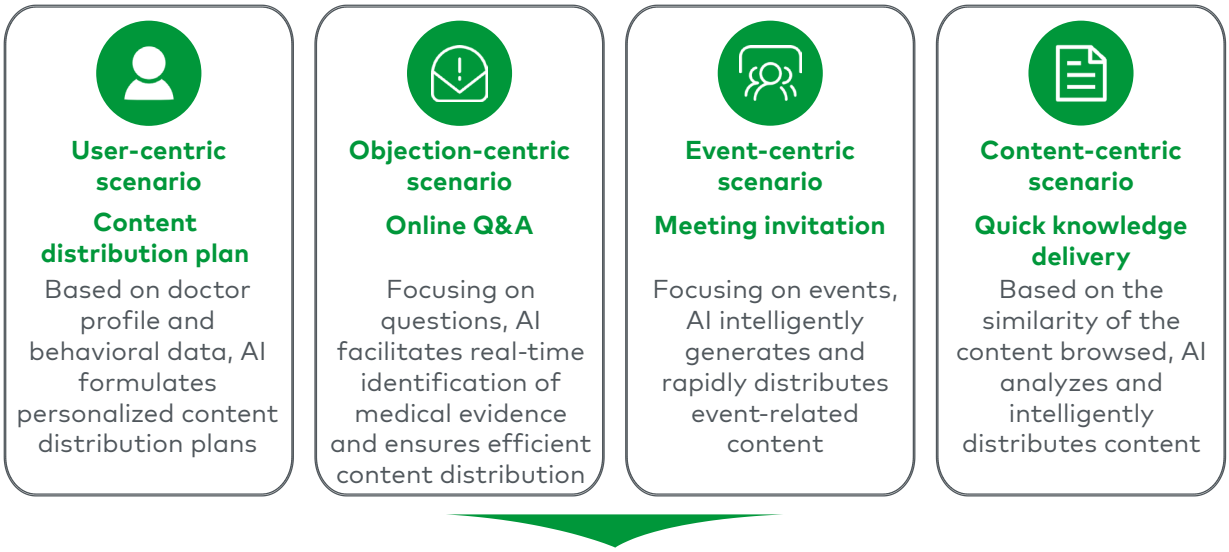
In the highly competitive pharmaceutical industry, the precise distribution of medical content is pivotal in enhancing the market competitiveness and brand influence of pharmaceutical companies. An effective content distribution strategy must be deeply integrated with specific application scenarios and capable of delivering rapid feedback to those scenarios. This approach ensures broader coverage and higher efficiency of content distribution.

To adapt distribution strategies flexibly in dynamic market environments, pharmaceutical companies are actively exploring the use of various AI models to address the diverse requirements of content distribution. The ability to accurately categorize different scenarios and leverage AI technology for real-time strategic adjustments has emerged as a critical challenge for these companies.

With the rapid advancement of LLMs, many companies are moving beyond relying solely on single vertical domain models to address specific scenarios. A pharmaceutical company, for instance, has built upon its existing suite of vertical domain models to leverage LLM for real-time, scenario-based content distribution strategies. These strategies are tailored to various scenarios such as doctor profiling, answering questions and event invitations. When users perform relevant engagement on any channel, the system swiftly executes content distribution based on predefined strategies.

Beyond content distribution itself, companies have expanded their capabilities to include the creation of customized communication strategies for different scenarios. These strategies encompass tailored engagement scripts, responses and invitations, among other applications. This transition from traditional content distribution to an integrated model combining AI-driven distribution with precise targeting has significantly enhanced the efficiency and quality of content distribution (Figure 27).

Figure 27
AI-based multi-scenario content distribution



With a scenario-centered approach, AI enables rapid analysis and generation capabilities, achieving real-time and customized content distribution.

Source: L.E.K. research and analysis; Null Hypothesis

As AI and digital technologies continue to evolve, AI-driven content distribution engines are set to play an increasingly central role in companies' omnichannel marketing strategies. In the future, the integration of AI-generated content (AIGC)-driven intelligent content creation, rapid AI-powered content review and instant AI-enabled intelligent content distribution will empower pharmaceutical companies to achieve true omnichannel content marketing. This will enable the delivery of more accurate, timely and high-quality content services to patients, doctors and other partners.

PART 3: DATA AND INSIGHT DRIVEN STRATEGY

Data and insight-driven marketing: Establishing a mechanism for decision-making

Data analysis in the pharmaceutical industry is more challenging than in other industries due to its complexity and strict regulatory requirements. To effectively address this complexity, it is essential to build a robust data analysis system. Such a system can not only improve operational efficiency but also provide accurate decision support and compliance assurance. It enables companies to respond quickly to market dynamics. Advances in technology allow companies to integrate multichannel data for in-depth customer behavior and preference analysis.

Establishing a data insight analysis system under the omnichannel marketing model

Clearly define business analysis goals before designing the system

Business analysis objectives are the foundation of a data insight analysis system. In an omnichannel marketing context, companies should define these goals based on the customer's stage of interaction and the effectiveness of different channels. The design of the data analysis system should focus on the different stages of the customer journey, such as initial contact, ongoing interaction, mindset change and business outcomes. Each of these stages is associated with specific business challenges that need to be identified and addressed through well-defined data analysis objectives (see Figure 28).

Here are the suggested steps for defining the objectives for analyzing the data:

1. **Identify the entire customer engagement process.** From initial contact to behavior change, customers experience multiple interactions. At each interaction, organizations need to capture key data points. For example, customer engagement can be segmented into initial reach, expanding reach, coverage expansion, changing mindset and behavior, and business effectiveness. By identifying customer behaviors and needs at each stage and capturing these interactions, companies can identify the critical factors that influence customer decisions and behavior change.
2. **Define core business problems.** Each stage of the customer journey is aligned with specific business goals and challenges. For example, at the concept conversion and behavior change stage, a company may need to analyze whether doctors have increased their awareness of a product or changed their treatment plans. Clearly defining such business problems ensures that data analysis objectives remain aligned with the organization's overall business needs.

3. **Set data analysis goals.** Based on the business problems, companies should then establish clear data analysis goals for each stage. For example, in the initial contact stage, the data analysis goal may be assessing the effectiveness of different channels and comparing response rates across customer segments. While in the concept conversion stage, the focus of analysis might shift to tracking the pathways of customer behavior change and evaluating the effectiveness of marketing strategies.

Figure 28
Example of business analysis goal definition

Source: L.E.K. analysis

Establish a comprehensive closed-loop data tracking system

Building on clearly defined business analysis goals, companies need to establish a comprehensive closed-loop data tracking system. This system ensures that every step — from data collection to strategy adjustment — feeds back into the process, forming a continuous cycle of optimization to enhance marketing effectiveness.

Data collection and integration: The first step in closed-loop tracking is to integrate data from multiple channels. Sources can include doctor visits, online meetings, social media platforms and more. By adopting a unified data platform, organizations can avoid "data silos" and ensure that all data is consolidated, cleaned and prepared for subsequent analysis and application.

Evaluation and feedback: To assess the effectiveness of different channels and strategies, companies should regularly monitor the data they collect. Through analysis, companies can identify which channels are driving changes in customer perceptions and which strategies are underperforming. For example, tracking doctors' behavior at different stages can help analyze whether a particular academic event was successful in raising doctors' interest in a new drug or influencing their prescribing habits.

Continuous optimization: The ability to quickly adjust strategies based on feedback and make marketing activities more precise is at the core of a closed-loop system. By analyzing changes in doctor behavior and feedback data, organizations can refine content strategies, adjust push frequency and optimize channels in real time. This helps keep customers engaged and improves the quality of interactions. Such continuous optimization not only increases the effectiveness of marketing campaigns but also ensures that companies are in tune with evolving customer needs.

Case study: A pharma company achieved precise tracking of doctors' behaviors and perceptions by implementing a closed-loop data tracking system. The process involved (see Figure 29):

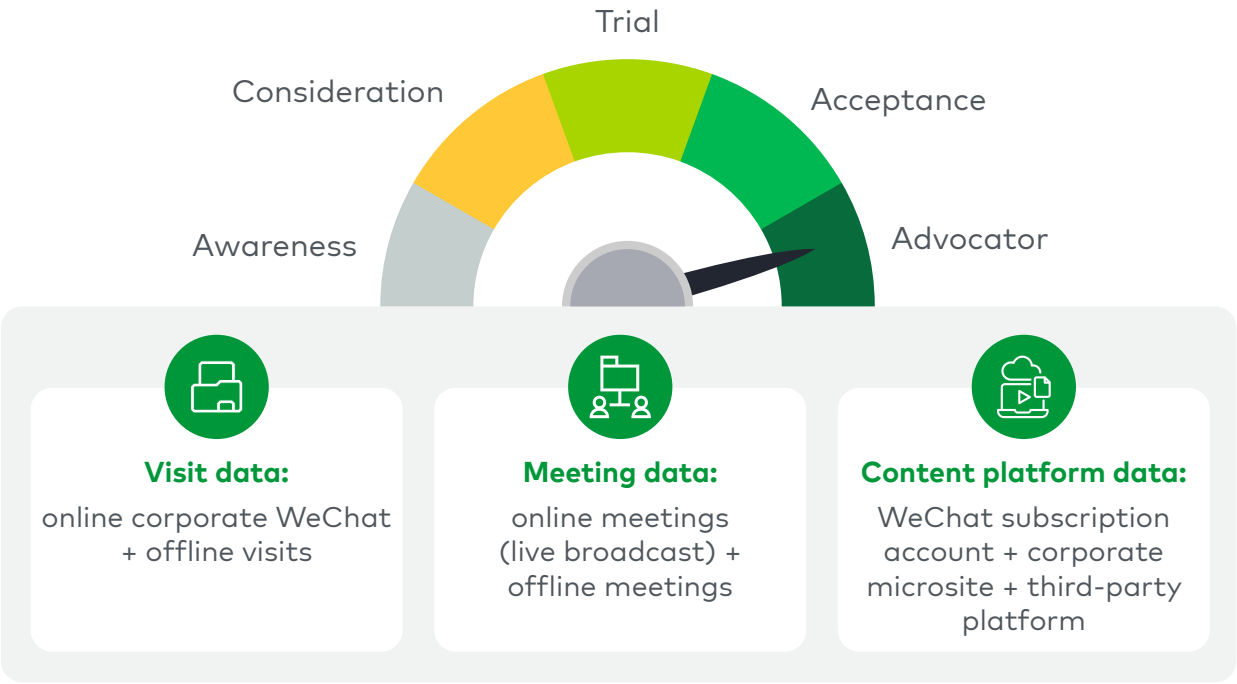
1. **Behavioral data categorizing.** The company started by defining data logic to classify doctors' behaviors, such as "opening rate" and "time spent on content." These metrics were combined to assess doctors' interest in specific content.
2. **Quantitative analysis.** Using categorized data, the company performed a quantitative analysis to assess different doctors' interest and engagement with content.
3. **Qualitative analysis.** Based on the quantitative results, thresholds were established for qualitative analysis. The company used these thresholds to determine, for example, whether doctors had reached a specific stage of cognitive transformation.

Figure 29
Doctor interaction data analysis

Source: L.E.K. analysis

Building on its closed-loop data tracking system, the company conducted analysis by matching the results of all business logic analyses to a structured "perception ladder." This allowed the company to identify doctors' perception stages at different times. By mapping behavioral changes to specific perception stages, the company could identify key drivers of these changes (Figure 30).

Figure 30
Perception ladder



Source: L.E.K. analysis

Organizations can use a combination of human analytics and artificial intelligence (AI) automation tools to further optimize their content push strategies. For example, machine-learning recommendation engines can automatically adjust push content based on a physician's stage of perception, optimizing the customer journey in real time.

Current status and key gaps for most pharma companies

Although closed-loop data tracking systems can offer significant benefits in theory, many pharma companies face practical implementation challenges that prevent these systems from realizing their full potential. The key challenges can be summarized as follows.

1. **Data silos:** A major challenge is the fragmentation and incompleteness of data across channels, making it difficult to build a comprehensive view of customers. Doctors' behavioral data often comes from disparate sources, such as online academic conferences, social media and face-to-face visits. The lack of

integration between these sources makes it difficult to accurately track changes in doctors' attitudes and behavior. In addition, fragmented data prevents companies from taking a holistic view to develop precise marketing strategies.

Recommendation: Technologies such as data lake warehouses can be used for the integration of structured and unstructured data and can ensure both data integrity and real-time availability. In particular, for data from disparate sources, organizations can use unified identifiers (such as data primary keys or customer IDs) to unify data sources under the premise of compliance through anonymous identification, ensuring that data from each channel can be accurately attributed to the same customer.

2. **Technical limitations:** Although many organizations already have the ability to collect data from multiple channels, automation of data processing, analysis and feedback is still lacking. Most A/B testing, content push and customer journey optimization still rely on manual operations, impacting the efficiency and responsiveness of data insights. A lack of automation tools also limits organizations' test scale, complexity and accuracy.

   Recommendation: Companies need to invest more in AI and automation technologies, with a focus on adopting tools such as automated A/B testing and customer segmentation analysis to improve test scalability and timeliness of feedback. Implementation can include the use of omnichannel management and data science platforms that consolidate data from all channels into a unified analytics engine. These platforms enable real-time reporting and automated optimization of customer journeys.

3. **Inconsistent understanding across departments:** Different departments — such as marketing, sales and medical — often interpret and use data in different ways, leading to inconsistencies across the organization. For example, the marketing department prioritizes brand impact and market coverage, the sales team focuses on understanding and meeting physician needs and driving conversion behavior, and the medical department primarily analyzes academic feedback from physicians. These differing mindsets and metrics make it difficult to align the strategies of different departments, which affects the actual application of data insights.

   Recommendation: Organizations should promote data standardization across departments by developing uniform metrics and standards to ensure that all departments are working within a consistent data framework. To ensure that data insights are applied consistently across marketing, sales and medical teams, companies can also establish a data governance committee or host regular data collaboration meetings to facilitate communication.

4. **Difficulty in identifying doctor perceptions:** Sales teams often rely on static information and personal experience to assess doctors' needs and track changes in their perceptions during visits. This approach can result in delayed or inaccurate communication tactics. Doctors' perceptions can change rapidly

due to evolving market and academic trends, but companies often lack tools to provide real-time perception insights. The efficiency and effectiveness of sales visits are directly impacted by this gap. (Refer to Part 1: Customer Centricity for more analysis of the status of doctors' perceptions.)

Recommendation: Companies should provide sales teams with real-time data insight tools that analyze doctors' interaction history and recent feedback, allowing them to better understand doctors' perceptions and needs prior to visits. This ensures personalized and accurate sales strategies and improves conversion rates. Data insight tools can be deployed and integrated with CRM systems. Sales teams should be fully trained to ensure they have the necessary skills.

5. **Security and compliance challenges:** Compliance is critical in the pharmaceutical industry, especially when handling sensitive physician and patient information. Companies must strictly adhere to regulations such as the Cybersecurity Act, the Data Security Act and the Personal Information Protection Act in China, which add significant complexity to the collection, processing and storage of data. These compliance requirements often limit access to complete sets of data, which reduces the depth of insight that can be gained from data and limits the flexibility needed to make strategic adjustments.

   Recommendation: While implementing intelligent compliance analytics and data tracking systems, organizations should focus on strengthening their compliance management systems to ensure data security and legality. To enable the compliant use of sensitive data while facilitating the collection and analysis of nonsensitive data, companies can employ compliance measures such as data classification, data usage rights management, automated data access auditing tools and anonymization techniques. Through the use of such strategies, companies can gain a more complete view of customer behavior without violating regulations, and can achieve effective closed-loop tracking and management.

Rapid iteration of content marketing plans with real-time insight feedback

A/B test for comparative analysis of feedback data

A/B testing plays a key role in omnichannel marketing in the pharmaceutical industry. By comparing different versions of content, tactics or channels, companies can assess the effectiveness of each approach on target audiences — such as doctors, patients or medical institutions — and make more informed marketing decisions. The key benefit of A/B testing is its data-driven nature, which (whether implemented manually or through automation) helps optimize omnichannel strategies and content delivery.

Ideally, A/B testing should be automated through an omnichannel management platform. Such platforms can automatically assign target audiences, track feedback data and perform statistical analysis to provide marketing teams with more efficient and accurate insights. Automation not only minimizes the risk of bias inherent in manual processes but can also significantly speed up the execution of tests, allowing companies to refine their strategies more quickly.

Industry status

Today, most pharmaceutical companies still face significant technical and resource limitations that make it difficult to automate omnichannel management.

First, many pharmaceutical companies have yet to establish a unified management platform to support omnichannel campaigns. Most marketing teams still rely on manual methods for A/B testing. Planners typically use their experience to handle grouping, testing and feedback analysis. The lack of automation results in low efficiency and limited data accuracy. In addition, the scale and complexity of testing are often limited.

Second, problems with the accessibility and completeness of data also significantly hinder the automation of A/B testing. The presence of multichannel data sources can lead to inconsistent data quality. Fragmented data is difficult to integrate, making it difficult to create a single customer profile for comprehensive analysis. Inconsistent data formats across systems and channels, combined with data privacy and technical constraints, lead to incomplete datasets. This undermines the accuracy of testing. In addition, delayed data updates prevent tests from reflecting real-time changes in customer behavior. If feedback on physician perceptions and changes in behavior cannot be obtained in a timely manner, companies will have difficulty adapting their strategies flexibly, with the risk of missed market opportunities.

Furthermore, some leading pharma companies have successfully built omnichannel management platforms with integrated content, tags, customer data (including customer profiles, segmentation and perception stages), strategies, channel delivery and touchpoint journeys. Using these platforms, companies have implemented two types of A/B testing:

1. **Regional distribution strategy testing:** Based on the different customer segments and the different stages of perception, different delivery strategies and customer journeys are designed for the different regions. A/B testing is then used to evaluate the strategy effectiveness, helping to identify the optimal delivery approach that best drives changes in physician perceptions and prescribing behavior. This, in turn, helps optimize the overall content strategy.
2. **Personalized content preference testing:** When a company is uncertain about specific customer preferences or perception stages, A/B testing is employed to explore various content types and channel combinations to identify user preferences. Through these tests, companies gradually uncover customers' preferences for content types and channels, enabling them to deliver more precise content tailored to customers' needs, thereby enhancing user engagement and conversion rates.

A/B testing plays a crucial role in omnichannel marketing, particularly in optimizing strategic feedback and improving customer experiences. It not only helps companies identify the best combinations of content and channels but also facilitates more flexible and precise strategy iterations. Meanwhile, the implementation of unified omnichannel platforms further enhances the automation and flexibility of testing, reducing manual intervention. This enables pharmaceutical companies to develop more efficient, data-driven marketing strategies, laying a solid foundation for future market competitiveness.

Iterate content marketing plans based on real-time insights to rapidly optimize customer experience

In the omnichannel marketing model, pharma companies must not only maintain a presence across multiple channels but also quickly capture customer behavior and feedback through real-time insights to optimize their content marketing strategy. This real-time insight can be used to dynamically adjust each touchpoint in the customer journey to ensure that the content being pushed meets customer needs. For example, companies can iterate content delivery plans by capturing doctors' feedback on academic articles, product information and engagement methods.

The key to real-time insight lies in strong data management and analysis capabilities. To capture massive amounts of customer data from multiple channels for real-time processing and feedback, pharma companies must rely on efficient

data collection and analysis platforms. The iterative optimization process usually includes the following key steps:

1. **Real-time data monitoring:** Through data analytics tools (such as big data platforms, AI algorithms, etc.), companies can monitor customer engagement data in real time. Key data includes content click rates, time spent, interaction frequency, feedback and more.
2. **Insight analysis and trend identification:** After data collection, companies can use AI and data analysis tools to identify trends and patterns in customer behavior and discover changes in customer needs. For example, doctors in a certain area may have a higher conversion rate after reading a specific type of content, or a certain type of interaction may significantly increase doctor engagement.
3. **Strategy adjustment and iteration:** Based on these insights, companies can quickly adjust their content marketing plans. For example, after discovering the popularity of a certain form of content (such as academic discussions or case studies), companies can increase the frequency of pushing similar content or optimize the customer experience by adjusting push channels and timing.

Industry status

Some companies have initially achieved efficient collaboration and rapid feedback between different departments through data insights.

1. Marketing can track the concept conversion path and impact through real-time data insights, evaluate the performance of different marketing strategies at each stage, and quickly identify which channel and content mix is effective in driving doctors' perception progression.
2. Real-time analytics help medical departments better support academic visits and accurately track changes in opinions of key leaders. For example, the system can track the feedback of specific key experts after reading academic articles or participating in online meetings. Based on this, medical teams can adjust the content and frequency of academic engagement. This ensures that visits are more targeted and professional.
3. Real-time data insights enable the sales team to immediately understand clients' content preferences and needs. This timely feedback helps the sales department quickly identify customers' interests and contact them immediately with solutions. For example, the system can identify a doctor's increased interest in a particular product, and the sales rep can quickly follow up by visiting or communicating online.

However, from an industrywide perspective, pharma still has a large gap in real-time automated marketing. Industries such as consumer goods, financial services,

tourism, media and entertainment have achieved true, real-time data insights and automated feedback through mature AI technologies. These industries are able to quickly collect, process and use customer behavior data to adjust marketing strategies. For example, the financial services industry can monitor users' transaction data in real time and accurately push personalized financial advice, while the tourism industry can push dynamic pricing and related offers based on present market dynamics. In contrast, pharma companies' marketing strategies are still relatively static.

The main limitations facing the pharmaceutical industry are strict privacy regulations and the complexity of the customer decision chain. Doctors' behavioral data is subject to strict compliance restrictions, making its collection and analysis more difficult. At the same time, doctors' attitudes and prescribing decisions often need to be influenced through long-term academic engagement and multiple interactions. Therefore, the pharmaceutical industry still has a lot of room to improve in order to achieve comprehensive, real-time automated marketing and should focus on improving data integration capabilities and applying automation tools.

Digital technologies and related applications of artificial intelligence

Companies need more efficient data management and analysis capabilities to support multidimensional data insights. This includes business intelligence (BI) tools powered by generative AI (GenAI) to perform natural-language data queries and decision support, as well as a powerful data science platform to manage and process large volumes of data.

1. Deployment of data science platform in omnichannel data insight
Data science platforms (such as Databricks, AWS and Snowflake, to name a few) provide strong technical support for omnichannel marketing by providing a unified data storage and analytics architecture. In addition to integrating data from multiple channels, built-in machine learning and AI tools help companies analyze customer behavior in real time and predict market trends, supporting smarter marketing decisions.

- **Unified data storage and processing:** These platforms can integrate data from a variety of channels, such as doctor's visits, online meetings and social media interactions, to create a unified data lake warehouse architecture. With this type of architecture, organizations can manage structured and unstructured data in a single environment. They can also use distributed computing capabilities to perform large-scale data analysis.

- **Real-time analysis and prediction:** By using the machine learning tools of the data science platform, companies can analyze the conversion paths of their customers' perception in real time and predict future patterns of behavior. For example, by analyzing doctors' responses to academic content, the platform can continually predict doctors' prescribing trends and help companies adjust their marketing strategies.
- **Cross-departmental collaboration and data sharing:** Through these platforms, different departments within pharma companies can share a common data source and make consistent decisions based on the same analysis results. This unification of data breaks down data silos and increases the efficiency of collaboration.

2. Application of AI-BI in pharma companies

GenAI-powered BI tools are another key technology application. Through the conversion of natural language into SQL queries, these tools enable seamless interaction between businesspeople and data systems and simplify the data analysis process. This approach enables nontechnical departments, such as marketing and sales, to gain real-time insights from data directly through natural-language queries, with no need for help from technical staff.

- **Natural language query and automated report generation:** AI-BI tools can convert users' natural-language questions (such as "What were the content preferences of doctors in the fourth quarter of last year?") into complex SQL queries, automatically extracting and analyzing relevant data. This not only lowers the technical threshold for querying data but also speeds up data analysis.
- **Real-time data insights and decision support:** GenAI-driven BI tools can provide real-time insights to help organizations quickly adjust their strategies. For example, the marketing department can use AI-BI tools to monitor doctors' feedback in real time, identify areas of low concept-conversion efficiency, and immediately adjust content delivery strategies and visit frequency.
- **Automated content push and personalized marketing:** Through GenAI, BI systems can also generate personalized marketing strategies based on real-time data. For example, AI-BI tools can generate specific content recommendations based on doctors' preferences and historical data and automatically push them to the right communication channels, improving marketing accuracy and conversion rates.

The development and application of digitalization and AI provide a solid technical foundation for pharmaceutical omnichannel marketing. Combining these technological applications will drive the pharmaceutical industry's data-driven decision-making capabilities to a new, intelligent level.

PART 4: AGILE PROCESS MANAGEMENT

Create a flexible and responsive content management process

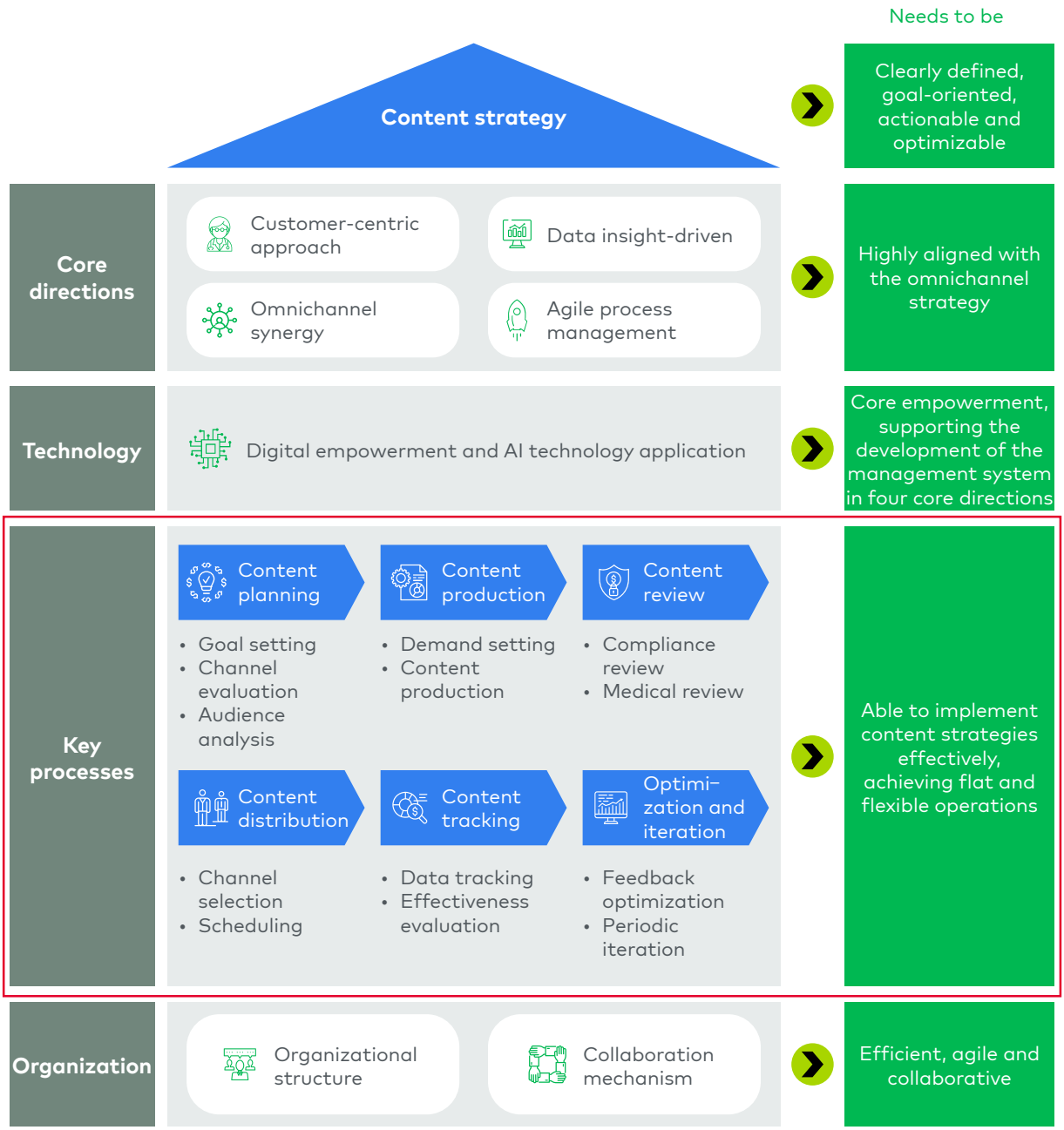
Use digital tools to empower content management and improve process efficiency

The omnichannel marketing system requires more diverse customer interaction channels, more sophisticated customer segmentation and more precise customer interaction. This naturally places higher demands on content management.

Today, most pharma companies have established online customer engagement channels such as corporate public accounts, service accounts and mini programs. These channels typically need to maintain two or three content pushes per week, which places high demands on the company's content library and content production capabilities. Doctors are surrounded by content from multiple companies every day. Whether they read it or not, and how long they stay with it, depends on whether the content is compelling or relevant to their needs. To achieve "agility" and "efficiency," pharma companies need to re-investigate and optimize their content management processes.

The traditional content management process for pharmaceutical companies involves multiple steps (see Figure 31), led by different departments such as marketing, medical and compliance. It takes a long time for a piece of content to be planned and finally released. Using WeChat tweets as an example, it usually takes about 10 working days for pharmaceutical companies to produce and review them. For content such as video clips of experts' meetings, it takes even longer. Such content management capabilities cannot quickly respond to customers' current content interaction needs.

Figure 31
Processes of omni-channel content management



Source: L.E.K. research and analysis

The use of digital technologies and platforms can help pharma companies effectively improve the efficiency of content management processes such as:

- **Content library:** Through the creation of a content library, approved content can be managed in a more fine-grained manner, and the AIGC model can be used to generate new content based on the content theme using content from the library, thus reducing the time spent on pre-content production and approval

processes and quickly producing new content. This not only increases efficiency but also allows you to reuse existing content.

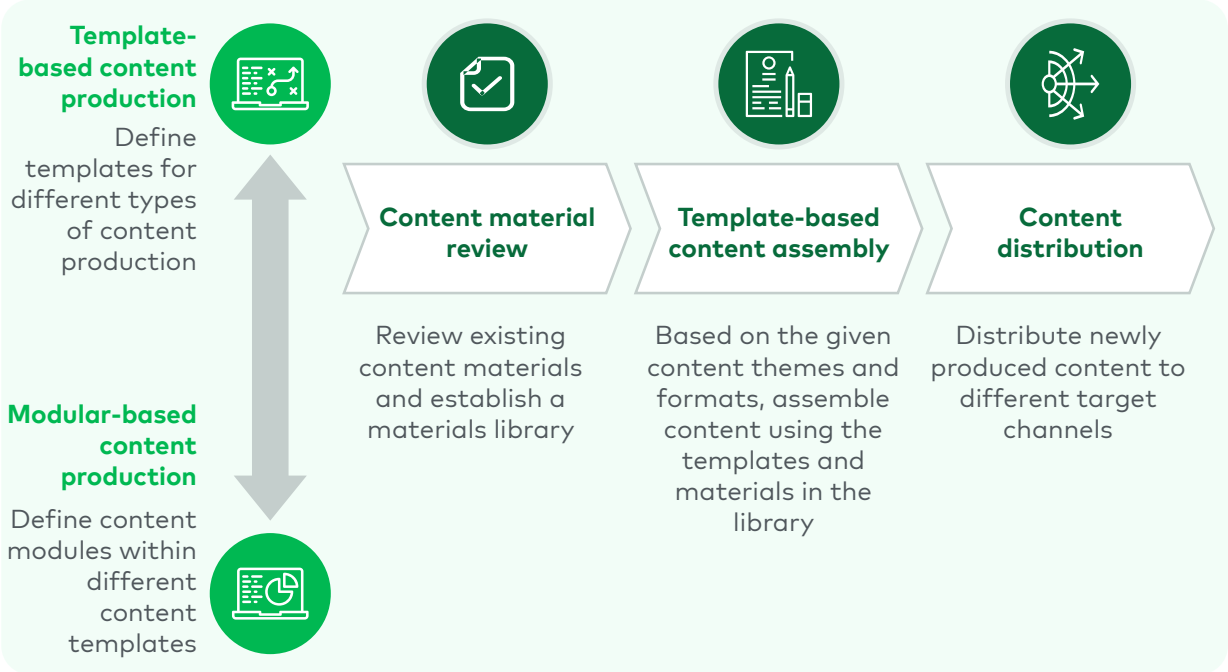
- **Automation tools:** Use automated workflows and AI review tools to shorten content approval cycles. This reduces delays caused by manual processes by setting up automated notifications, cross-departmental coordination and real-time tracking for rapid content release.
- **Digital platform:** The content management digital platform standardizes, automates and platformizes the content management process. At the same time, it realizes the automatic tracking and analysis of process operation data, helping enterprises evaluate and subsequently optimize the operational performance of the content management process.

Current status of most pharma companies

Pharma companies are using digital platforms and tools to improve all aspects of the content management process. For example, to support rapid reuse of existing content resources, many companies are building content libraries and using content tagging systems/knowledge graphs to perform detailed knowledge segmentation, structure management and relationship sorting of existing content. At the same time, many companies are trying to improve review efficiency by pre-reviewing content using AI-based automated review tools (see the detailed introduction in Section 3). In our view, the establishment of a digital content management platform is still at a relatively early stage for most pharmaceutical companies.

Many companies are also trying to optimize the content management process and template and modularize content production, i.e., to design a uniform content template for different types of content based on their characteristics. You just need to place the content materials of different modules in the appropriate places according to the template to quickly produce new content. This can also advance the content review process, uniformly review content materials (see Figure 32) and store reviewed content in the content resource library. The above-mentioned unified use of modular content structure (such as standardized content modules and templates) to achieve rapid assembly and personalized presentation of content is particularly suitable for reusing content between different channels, reducing duplicated work and quickly improving the efficiency of content production.

Figure 32
Optimization of content management processes



Source: L.E.K. research and analysis

Improve the collaboration efficiency of agile organizations

Establish collaboration processes and standards

A separate content management center of excellence (COE), or a virtual COE organization, can streamline content management systems. By centralizing management of the content system, efficiency gains can be made across the entire content management process. Bringing together relevant departments to jointly manage content allows companies to ensure content compliance, respond to market demands and optimize resource allocation.

A well-designed content management COE should possess the following characteristics:

- **Standardized processes and methodologies:** Develop standardized work templates and process specifications for the entire content management process; build a modular content material library to quickly recreate content.
- **Systematic performance tracking:** A performance evaluation and tracking system should be established for the organization and functions within the COE to ensure that COE development objectives are aligned with business objectives. The entire process of content storage, approval, distribution, use and re-creation needs to be tracked and analyzed end-to-end.
- **Clear responsibility:** The roles and competence requirement of the COE need to be clearly defined, and the expertise of the SMEs must be fully utilized.

There are five significant areas of benefit to be gained from building a successful content management COE for your company:

- Increases content accumulation
- Accelerates content production
- Improves customer communication frequency
- Improves content strategy
- Empowers management

Current status of most pharma companies

Some multinational companies have established content management COEs as part of their digital transformation of omnichannel marketing. They have successfully brought together departments to effectively create, review and update content, significantly shortening the feedback cycle and reducing the time to create a new piece of content from 10 days to less than five days, cutting content creation time by an average of 50%.

However, tracking content usage remains one of the biggest pain points. The inability to track means that companies are unable to track the end use of content (e.g., representative satisfaction), quickly gain insight into content usage and provide feedback to relevant teams to enable subsequent content creation. There are a few steps pharma companies can take to track content usage (see Figure 33).

Figure 33
Content tracking-related initiatives

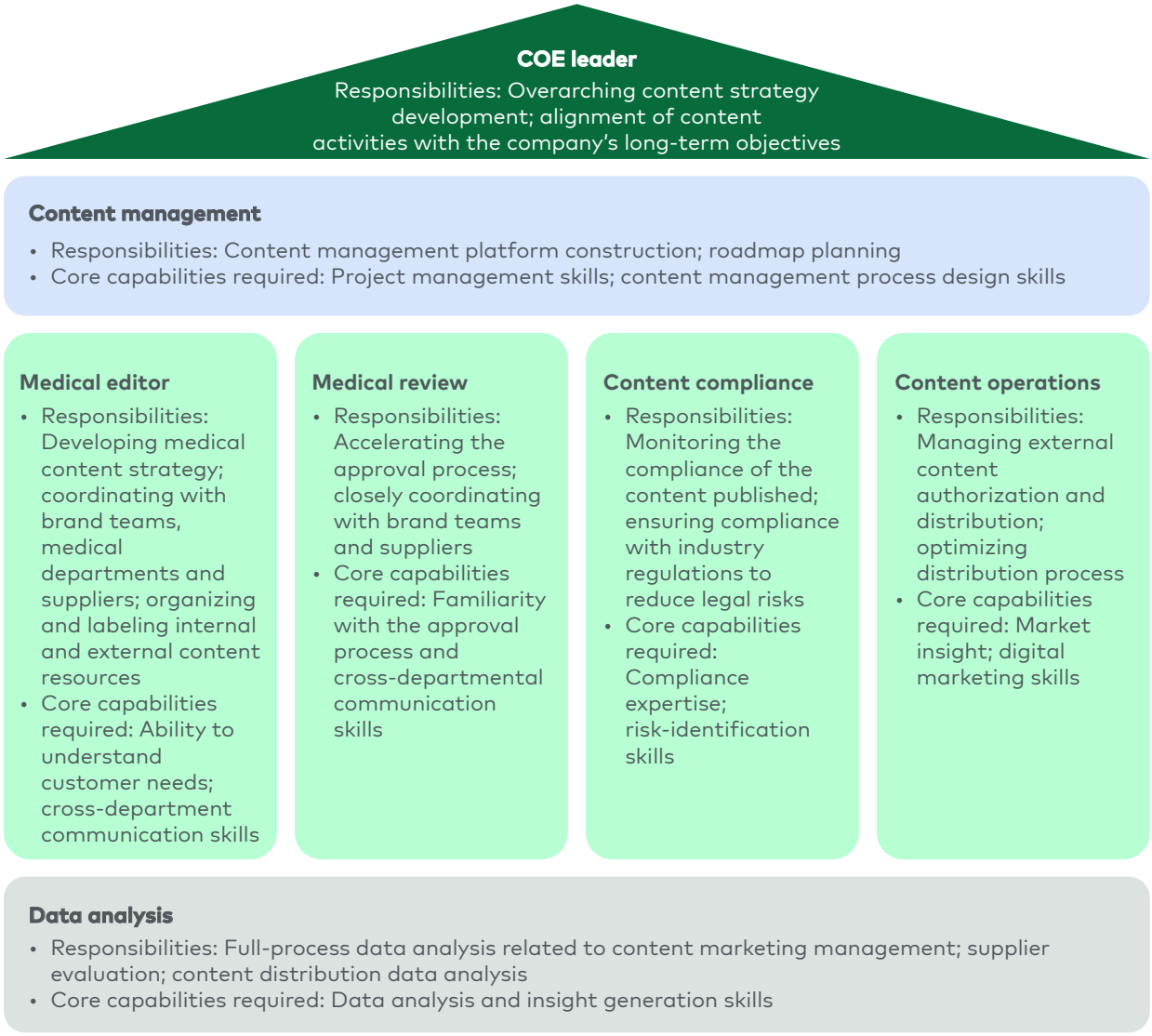
Source: L.E.K. research and analysis

Streamline functional collaboration across the organization

The establishment of a content management COE should comprehensively cover all departments involved in the entire process to ensure coordination and efficient operation. Clarifying the specific responsibilities and required skills of each role is key.

In general, the content management COE should include at least the following six roles (see Figure 34).

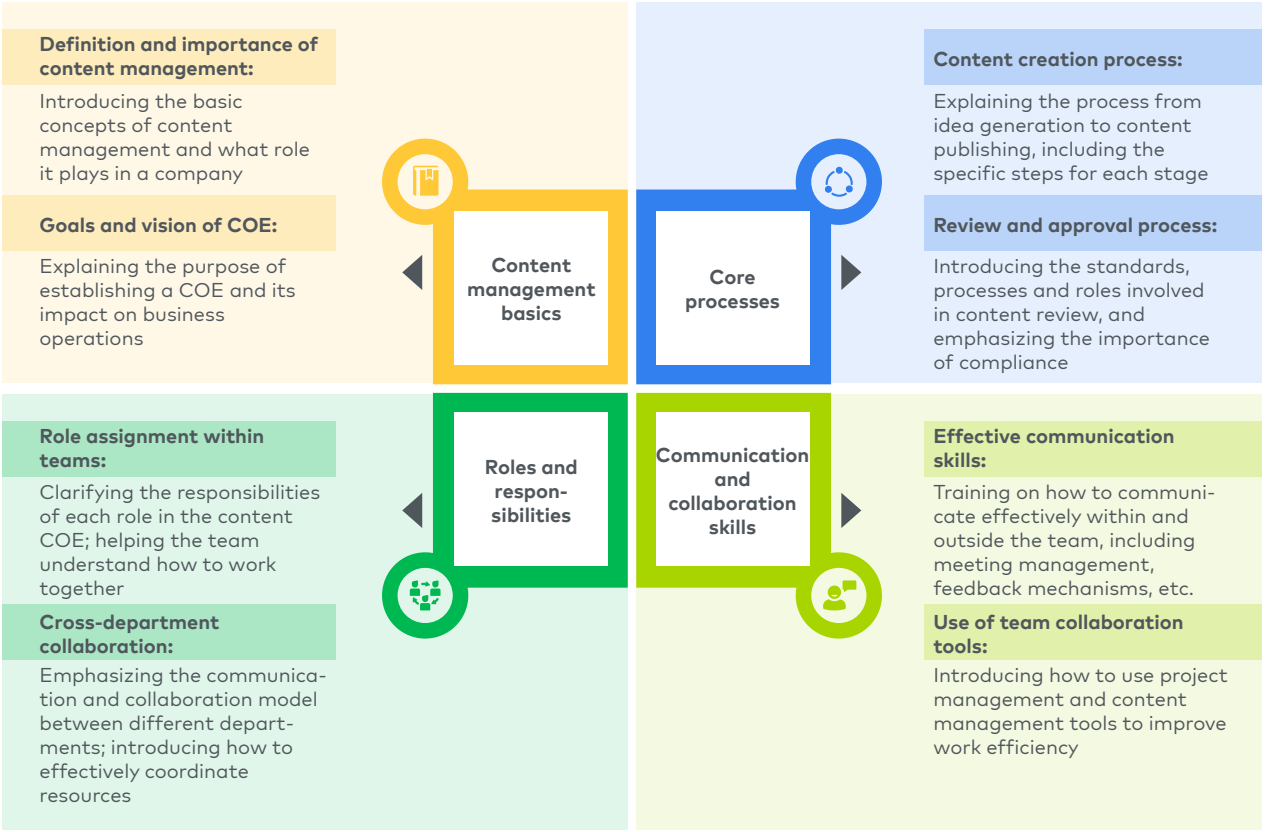
Figure 34
Responsibilities and capabilities required for content center of excellence



COE: Content Excellence Center
Source: L.E.K. research and analysis

After clarifying the roles, functions and skills required, the company should conduct systematic training for the relevant personnel. Unlike traditional training, this training should focus not only on the specific responsibilities of each role but also on the organization's functional goals to ensure that team members fully understand their value and importance in the enterprise content management system (see Figure 35).

Figure 35
Content COE Training



Source: L.E.K. research and analysis

Furthermore, companies should pay attention to evaluation:

1. Standardized evaluation and feedback mechanisms:

- **Performance evaluation:** Establish consistent metrics and indicators to measure the performance of each function. This helps to objectively assess the effectiveness of content management and identify areas for improvement.
- **Feedback system:** Collect feedback from different functions through a consistent evaluation system to drive continuous improvement and optimization.

2. Unified management of applications:

- **Centralized platform and tools:** Ensure that all departments use consistent tools and processes by centrally managing multiple content management applications (such as content management systems and data analysis tools).
- **Resource sharing:** Encourage resource sharing and information flow between roles/departments through unified management, improving work efficiency and reducing duplication of effort.

Current status and key gaps for most pharma companies

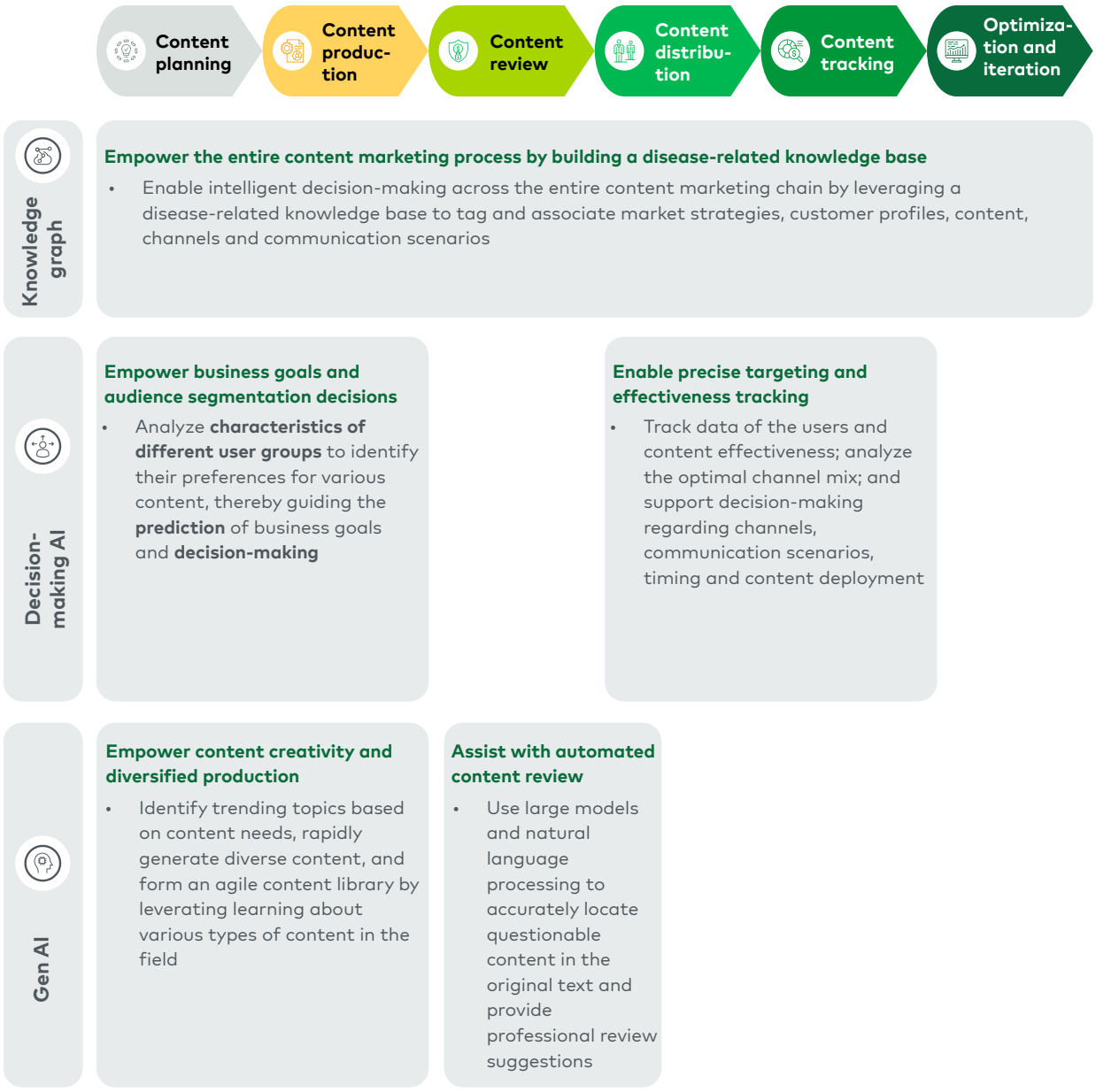
Currently, some pharmaceutical companies have established content management COEs, but each team is still unfamiliar with core content management processes, roles and collaboration models. This leads to duplicated processes and inefficient communication, which reduces the overall impact of content management.

Digital and AI applications

Knowledge graphs, decision-making AI and generative AI each play an important role in content management (see Figure 36), specifically including three aspects:

- **Development of basic content marketing skills:** Improve the accuracy of content marketing by organizing and managing professional knowledge through knowledge graphs
- **Intelligent assistance for decisions:** Use decision-making AI to provide decision-makers with data-driven recommendations and optimize the strategy-making process
- **Rapid production and review of the content:** Generative AI enables rapid content generation and diversification to meet the needs of different audiences, while meeting compliance requirements

Figure 36
Use AI to empower the entire content management process



Source: L.E.K. research and analysis

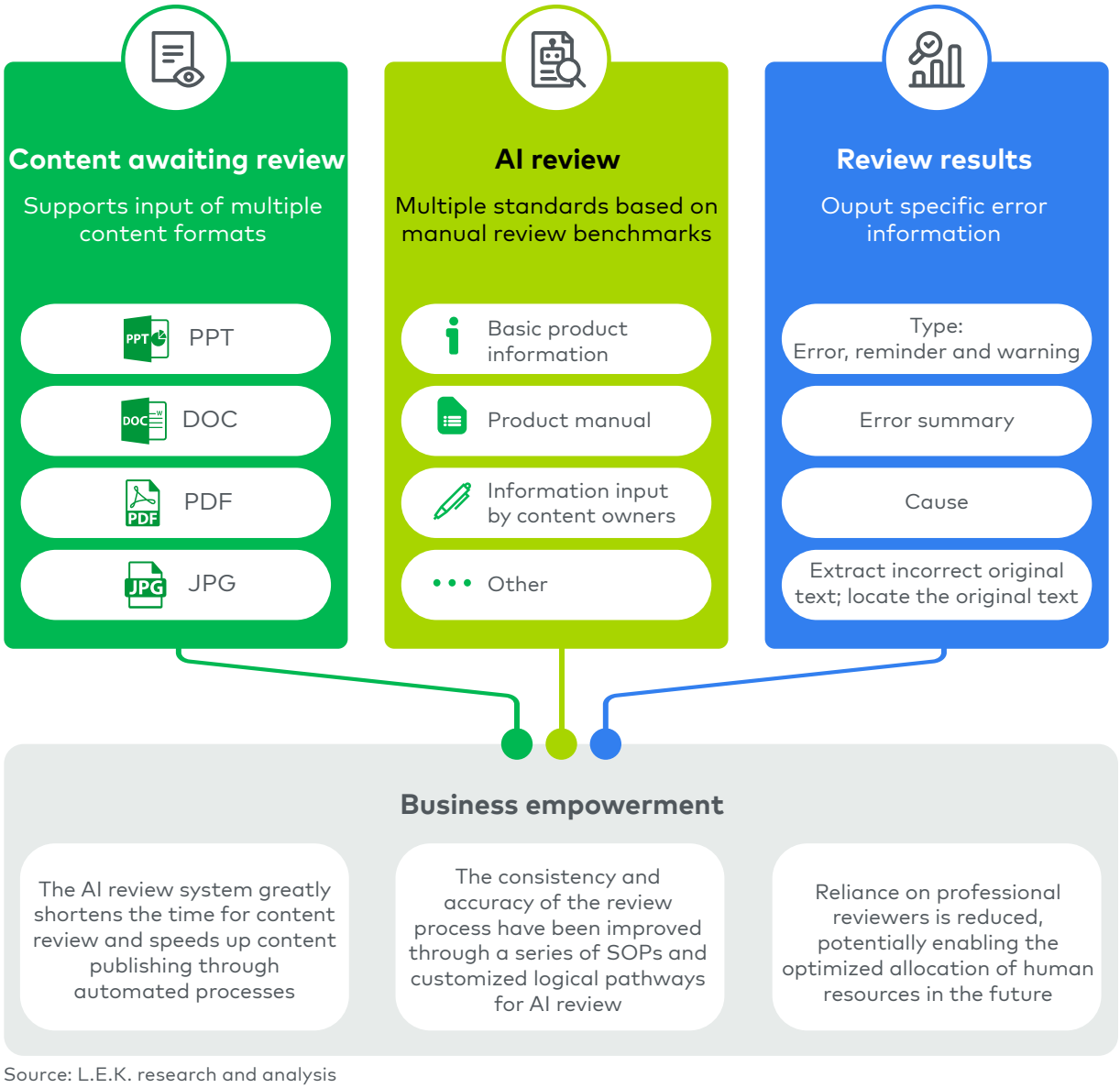
At the present time, the more mature AI applications in the industry are mainly at the stage of content production and content review:

1. **Content production:** Apply knowledge graphs to build a knowledge base in the disease field.
   Some companies have used knowledge graphs to sort, manage and apply key academic knowledge in specialized disease areas by identifying entities, attributes and relationships in the disease domain; building connections, features and connection methods between knowledge in the knowledge graph;

and designing corresponding knowledge models. Based on this knowledge model, organizations can extract, integrate and represent knowledge and build a relationship system of expert knowledge. With the help of this relationship system, companies can tag and deconstruct internal content materials and finally build a comprehensive academic content knowledge base.

2. **Content review:** AI to assist with content review
   A multinational pharmaceutical company has begun experimenting with AI-assisted review of medical content (see Figure 37). By comprehensively sorting out the standard operating procedures (SOPs) for medical content review and combining large-scale models and natural language processing technology, the company has developed an AI automatic grading review system. The system can accurately identify doubtful points in the original text and provide suggestions. This greatly improves the efficiency and quality of the review work.

Figure 37
AI-assisted medical content review



Source: L.E.K. research and analysis

We expect that as technology continues to advance, the potential for pharmaceutical companies to apply innovative technologies such as AI throughout the content management process will continue to expand. Through the deep integration of knowledge graphs, decision-making AI and generative AI with various links in the content management system, companies can achieve more efficient content production and management, respond more flexibly to market changes, quickly adjust marketing strategies and content directions, and achieve precise, personalized, scenario-based omnichannel customer marketing.

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About Null Hypothesis
Shanghai Null Hypothesis Information Technology Co., Ltd., founded in 2019, specializes in developing intelligent medical content products. By integrating data science with medical expertise, Null Hypothesis streamlines the processes of knowledge extraction and translation to enhance academic engagement. Its solutions focus on efficiently generating and applying medical content to optimize the entire knowledge transfer process in academic promotion. Committed to innovation-driven transformation, Null Hypothesis aims to revolutionize pharmaceutical marketing models and accelerate the commercialization of innovative drugs.