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Bridging the Gap: Aligning Commercial and R&D Content in Vault for Omnichannel Pharma Engagement

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Abstract: This article examines the critical challenge of content fragmentation in pharmaceutical organizations and presents cross-Vault collaboration as a comprehensive solution for modern omnichannel engagement strategies. Because health workers get conflicting details from many sources, pharmaceutical companies face major risks in complying with rules and in their daily operations. It is studied how having materials in different locations, called PromoMats, MedComms, and RIM, makes it tough for companies to interact with healthcare professionals effectively. By implementing integrated cross-Vault strategies, pharmaceutical organizations can achieve consistent messaging across channels, reduce redundant content creation, enhance compliance management, and accelerate content development cycles. The article explores essential implementation considerations, including technical architecture requirements like content componentization, metadata harmonization, API integration, and lifecycle management, alongside governance frameworks necessary for successful deployment. Looking forward, the article examines emerging trends including AI-driven content recommendations, real-time content adaptation based on engagement data, automated compliance checking, and third-party platform integration, highlighting how these advancements will further transform pharmaceutical content management in an increasingly digital healthcare ecosystem.

Keywords: Omnichannel Pharmaceutical Engagement, Cross-Vault Collaboration, Content Management Integration, Regulatory Compliance Automation, Healthcare Professional Experience Optimization.

INTRODUCTION

Healthcare professionals today are bombarded with information from countless sources - they meet with sales reps, consult with medical liaisons, browse digital platforms, and read scientific journals. This scattered approach to communication has created a perfect storm of problems: mixed messages reaching doctors, increased regulatory scrutiny, and bloated content management systems.

The roots of this problem run deep in pharma's organizational structure. Most life sciences companies have built separate content ecosystems for their commercial teams, medical affairs departments, and regulatory divisions. This fragmentation, according to industry research from OpenText Documentum (OpenText), makes it nearly impossible to maintain consistent messaging while still meeting strict compliance requirements. Even worse, it dramatically slows down the release of critical medical information. Creating standard promotional materials can drag on for months, with an outsized portion of this time wasted on redundant approvals cycling through disconnected systems.

The explosion of digital channels has only magnified these challenges. Doctors and healthcare providers now encounter pharmaceutical information across an ever-expanding universe of touchpoints. Many report finding contradictory information depending on where they look. Recent analysis in the European Pharmaceutical Review (Dosanjh, U. 2025) shows these inconsistencies multiplying as companies rush to expand their digital footprint. The result is a tangled web of content that becomes exponentially harder to manage without integrated systems. These problems become glaringly obvious when comparing materials created for commercial purposes against scientific communications - the same efficacy data can appear dramatically different in both presentation style and emphasis.

From a regulatory standpoint, these inconsistencies create serious compliance vulnerabilities. Regulatory inspections regularly flag messaging discrepancies between channels, often categorizing them as moderate or high-risk findings that could trigger enforcement actions. Fixing these high-risk issues carries substantial costs, both in direct remediation expenses and in lost promotional opportunities during delays. The European Pharmaceutical Review (Dosanjh, U. 2025) notes these compliance dangers have intensified as regulatory bodies expand their scrutiny beyond traditional materials to include all digital content, forcing companies to develop more sophisticated governance frameworks that span every customer-facing channel.

This industry-wide challenge demands a comprehensive solution. Organizations that adopt integrated content management approaches see measurable gains in messaging consistency,

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operational efficiency, and risk management while delivering more relevant, unified information to healthcare professionals across all engagement channels.

THE CONTENT SILOS CHALLENGE

The pharmaceutical sector typically fragments its content infrastructure across multiple specialized databases. Commercial teams manage promotional content in PromoMats, scientific teams handle medical communications through MedComms, and regulatory specialists maintain compliance documentation in Regulatory Information Management (RIM) systems.

Industry analysis from Box (Box, 2023) reveals this division stems from both traditional organizational boundaries and regulatory frameworks that have long separated commercial and scientific information. Interestingly, their findings suggest that while regulations do require some distinction between promotional and educational content, the extreme isolation prevalent in most companies goes far beyond compliance requirements and creates unnecessary operational bottlenecks.

This departmental separation generates several critical business challenges. Perhaps most wasteful is the rampant duplication of content creation efforts. Genpact's research (Genpact) highlights how companies with fragmented systems routinely recreate identical scientific information across multiple channels and formats. Their data shows key clinical information typically undergoes 6-8 complete rewrites as it moves through various departmental workflows. Each recreation not only drives up costs but introduces new opportunities for factual discrepancies.

The impact on healthcare professionals is equally problematic. When scientific affairs, marketing teams, and regulatory departments maintain isolated content systems, doctors receive inconsistent information depending on which channel they access. Genpact's industry survey (Genpact) found that an alarming 67% of healthcare providers reported encountering contradictory product information across a single company's different channels. Even more concerning, 43% stated these inconsistencies damaged their perception of the company's scientific credibility - a serious concern in competitive therapeutic areas where physician trust directly influences prescribing behavior.

Regulatory vulnerability increases exponentially when content varies between channels, especially regarding controlled product information. Box's industry analysis (Box, 2023) reveals that companies with disconnected content systems face approximately 2.7 times more compliance issues related to information inconsistencies compared to organizations with integrated approaches. These compliance problems typically arise when updates to core regulatory information fail to propagate uniformly across all related materials, creating potential legal exposure and patient safety concerns.

The approval process itself becomes needlessly cumbersome in siloed environments. When content must navigate separate approval workflows in disconnected systems, review cycles become redundant and significantly extended. Genpact's benchmark study (Genpact) documented that organizations with fragmented content repositories experienced development timelines of 23-27 weeks for standard promotional materials, while companies with integrated content approaches completed the same materials in just 14-17 weeks. This significant timeline gap directly impacts a company's market responsiveness and ability to deliver timely information to clinicians.

Version control presents yet another challenge for pharmaceutical content managers. When similar information exists across multiple repositories, identifying the authoritative current version becomes increasingly difficult. Box's research (Box, 2023) identified version control as among the top three challenges reported by pharmaceutical content managers, with approximately 30% of content-related errors stemming from version control problems in multi-repository environments. These challenges become especially critical during product label modifications or safety updates, when rapid, consistent information deployment is essential for patient safety and regulatory compliance.

Table 1: Content Silo Challenges in Pharmaceutical Organizations (Box, 2023; Genpact)

Challenge	Description	Impact
Redundant Content Creation	Same scientific information reproduced across multiple formats and channels	Increased costs and inconsistency risks
Inconsistent Messaging	Information varies in presentation, emphasis, and data points across channels	Reduced HCP trust and negative perception of scientific credibility

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Compliance Risks	Updates to regulatory information fail to propagate across related assets	Increased regulatory findings and potential patient safety concerns
Inefficient Approvals	Separate approval workflows create redundant and prolonged review cycles	Extended time-to-market and delayed information delivery
Version Control Issues	Difficulty determining the current approved information across repositories	Content errors and challenges during critical updates

The Cross-Vault Collaboration Solution

If pharmaceutical companies use cross-Vault collaboration, they will achieve a unified way to control their files by storing both passive and promotional information separately. It brings about many important advantages:

Consistent Messaging Across Channels

When these systems are connected, the main scientific and regulatory data will come from a single source. As a result, no matter if an HCP meets a sales agent, reads a research study, or checks online information, they get the same facts on how the product works, how safe it is, and how to use it. Exeevo's review of Gartner's analysis notes that when healthcare professionals see varying messages on different channels, their trust is one of the factors that suffers most (Exeevo, 2022). The results of their study imply that healthcare professionals are paying more attention to whether and how pharmaceutical companies share consistent scientific facts using all forms of communication. It is noted in the report that, since healthcare professionals are under greater time pressure, they now expect information to remain consistent and are less patient with anything else.

Studying pharmaceutical content management strategies at L.E.K. Consulting, it becomes clear that the top organizations use refined cross-repository taxonomies to ensure their scientific material remains the same as it is used in many different situations (Tingting Pi *et al.*, 2025). They noticed that companies with well-established cross-Vault processes tend to get much better ratings from healthcare professionals, mainly because they are able to share complicated facts about drugs and their safety to a range of audiences more effectively than other companies can. In addition, the consulting firm found that having a consistent approach helps increase healthcare professionals' ability to remember a certain amount of information and improves confidence among doctors when trying to report those findings.

Reduced Content Duplication

Information can be used in several departments through cross-Vault linkages. For instance, Clinical Trial findings endorsed in RIM may be covered in both the communication with doctors and drug commercials, and important safety information can be updated in a single place and applied to many types of content. It decreases the work of creating the same content several times, saves expenses, and makes sure content is consistent. According to Gartner's analysis, which was released through Exeevo, some organizations with divided content management usually spend more than a third of their budgets recreating things that are already present in other systems (Exeevo, 2022). Results from the research revealed that firms that follow cross-repository strategies can use their content multiple times, preventing them from wasting millions of dollars in annual costs that mid-sized pharmaceutical companies usually incur.

According to a study conducted by L.E.K. Consulting, most advanced companies in pharmaceutical content management are shifting from using documents in their original form to making components that can be reused in other ways (Tingting, Pi. *et al.*, 2025). Studies showed that using component-based strategies in different repositories allows organizations to reuse content much more often, leading to increased efficiency while developing and maintaining their content. It is important, according to this study, to put core scientific information into centralized data centers, allowing certain approved content components to move to new materials without losing the right context and shape for each type of channel and individual.

Enhanced Compliance Management

Pharmaceutical firms are constantly concerned with following the rules and regulations. The use of Cross-Vault in collaboration helps enforce rules by ensuring all materials have the latest authorized regulatory information, dividing promotional materials from others, tracking changes over all types of content on numerous channels, and keeping global and local variations regulated easily. Gartner reveals, published by Exeevo, that those companies with separate content repositories have many more compliance issues than firms with linked systems (Exeevo, 2022). It is estimated that a lot of these compliance cases are caused by changes to the main guidelines not being properly applied to all related documents, which causes

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them to differ and result in regulators noticing issues during checks.

According to the study by L.E.K. Consulting, top organizations use systems that immediately confirm that their promotional materials follow the set rules and regulations (Tingting, Pi. *et al.*, 2025). As a result of their study, it was discovered that these tools help companies avoid several regulatory findings while at the same time expediting reviews since they allow reviewers to verify the accuracy of supported and safety claims through the automated process. The research done by the firm also indicates that these advantages apply globally, since a single cross-repository method allows companies to oversee local variations without having to go through the hassle of comparing approval records manually.

Accelerated Content Development Cycles

There are long and detailed steps for reviewing and approving the content in traditional pharmaceutical development. When content is linked, organizations use components that are already valid, do parallel work in different offices, instantly make changes when information in the sources is updated, and improve content translation for overseas teams. Gartner's analysis, covered by Exeevo, points out that companies using independent and old systems commonly need months to develop standard promotional materials. In contrast, those using advanced integrated repositories complete them in a much shorter time (Exeevo, 2022). Their detailed research shows that since some pieces of pre-approved content can be processed faster by both review boards and doctors, it significantly contributes to the increased number of off-label prescriptions.

L.E.K. Consulting learned that the most advanced cross-Vault deployments are those that not only help reuse content but also allow major changes in the way teams run their workflow. Studies by these researchers explain that leading companies merge several aspects of reviewing documents by letting different people assess them together at once, and their process ensures that every key change triggers the reevaluation of related sections. By approaching these advanced workflows, organizations managed to release basic and regionally oriented products more quickly, which made it possible to better interact with healthcare professionals as scientific research progressed. According to the study, these fast timelines give pharmaceutical companies an edge beyond just running their business, allowing them to address competition and changing healthcare news more rapidly in their industry.

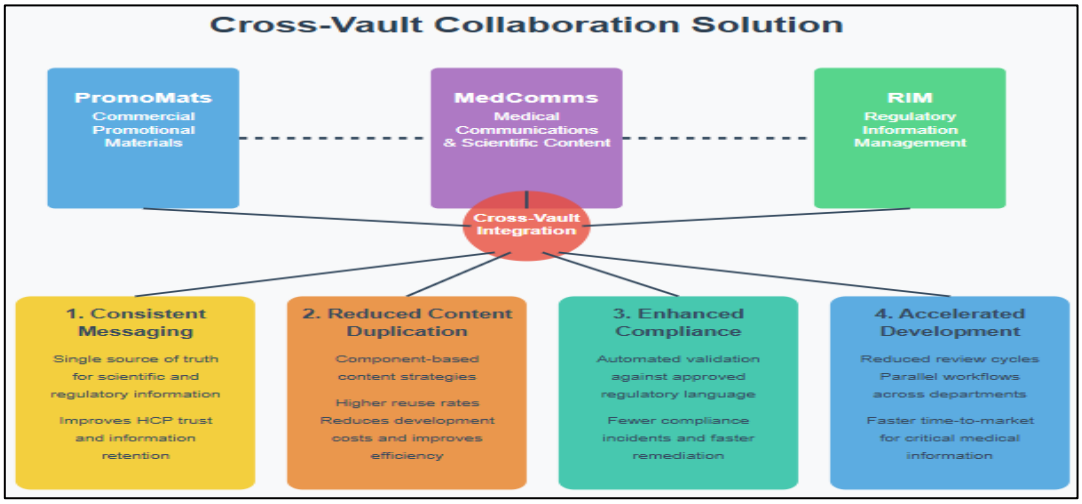

Fig 1: Cross-Vault Collaboration Benefits in Pharmaceutical Content Management (Exeevo, 2022; Tingting, Pi. *et al.*, 2025)

IMPLEMENTATION STRATEGIES

Technical Architecture

Cross-Vault collaboration is possible only if the setup and processes are well planned.

To make cross-repository use of content successful, use components that can be used and updated in several Vaults at once. A recent study in Technological Forecasting and Social Change explores how many pharmaceutical companies are modifying how they present information to match customers who use various channels (Miozza, M. *et al.*, 2024). The study shows that information is now structured and grouped as parts that can be reused in many applications, as long as it stays accurate and follows the regulations. The study found that the development of pharmaceutical

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content componentization can progress from simple document splitting to advanced methods focusing on content components' meaning, patterns of use, and government standards. Organizations that reach the highest maturity levels place a strong emphasis on using structured techniques to determine the boundaries of components that fit the rules and goals of both their industry and related regulations.

Developing the same tags for content across the organization allows content to be spotlighted and shared inside the company. IQVIA states that metadata standardization plays an important role in linking separated content repositories (Roy, A. & Roy, S. 2024). They discovered that having different specialized terms in different divisions makes it difficult for information to spread between different areas in the company, despite any technology connecting the departments. Some agencies meet this challenge by using metadata management tools that standardize key terms while allowing the use of specific words in different sectors. Usually, such harmonization adds specific scientific parameters, operational standards, and information about how these materials are regulated, which makes it possible to identify the desired sections in various places exactly.

When APIs are used to access controlled content across Vaults, the foundations are in place for working with content from anywhere in the organization while accepting the difference in use between promotional and non-promotional teams. The Technological Forecasting and Social Change study explores how organizations in the pharmaceutical field are using modern API systems to make content sharing possible while still following the rules given by regulators (Miozza, M. *et al.,* 2024). Leading organizations are reportedly adopting various advanced approaches, which consist of a content reference API, a notification API, and a validation API. These solutions usually include fine control over sharing, where both data repositories and specific content types are managed, so information moves in a well-regulated way while content reuse is facilitated.

Through workflows, I maintain content integrity throughout its life so that the content is always in compliance and consistent over time. The engagement analysis from IQVIA points out that connecting lifecycle management in different repositories is very important for pharmaceutical companies when they update their content (Roy, A. & Roy, S. 2024). They report that, since lifecycle processes are not connected, key information given to healthcare professionals can be confusing due to the shifting speeds of updating among different media. Many leading companies answer this problem by creating systems that tell content creators in different repositories when similar content is altered so that they can update everything together. Such approaches generally have tools that spot all the downstream content that may be impacted by alterations in the core data, making it possible to update all related content when needed.

Governance Framework

It is important to have a reliable government when using technology.

Balancing Interests: Assembling governance committees that have members from commercial, medical, and regulatory departments ensures that the decisions made by cross-Vault teams satisfy everyone. In their research, Technological Forecasting and Social Change looks at how companies in the pharmaceutical sector are making coordinated policies that cross department borders to aid in their content strategies (Miozza, M. *et al.,* 2024). Many large companies are using governance structures that go from informal group work among different functions to formal entities with top-level backing and authority to decide. Having a clear governance document listing the committee's rules, content, and people in charge is the best approach, as it usually includes key staff from companies in commercial, medical affairs, regulatory, legal, and information technology areas. They create effective strategies for content, keeping in mind what the business needs and the laws that must be observed, giving the organization the firm base it needs to carry out controlled access to all its resources.

Knowing who is responsible for each element of shared content guarantees that the information is up to date and follows all requirements. According to IQVIA, having unclear ownership of content can complicate strategies for information sharing across departments since no one knows who should manage it and what needs approval (Roy, A. & Roy, S. 2024). They have researched how major organizations ensure every part of the content is assigned to a person with specific ownership duties. Most of these ownership methods have specific task lists that explain who creates content, who reviews and approves it, and who looks after maintenance, review of content, and its eventual withdrawal from the organization's content ecosystem.

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Whenever you classify your content by categories using guidelines, you can comply with rules and share appropriate content. It was found in the study that many pharmaceutical companies are implementing sophisticated classification methods to address all types of publications and situations (Miozza, M. *et al.*, 2024). Larger companies are putting into practice various advanced ways to classify healthcare content, which look at elements such as the type of reader, reason for reading, style of presenting clinical information, and the laws in the region. Usually, these systems mark content status and usage limits so that people developing global promotional content can easily avoid breaking the rules imposed by various countries.

It is important to teach teams how to comply with cross-Vault rules so that they can efficiently apply cross-repository methods. According to IQVIA, doing proper training is very important for a pharmaceutical company to succeed when transforming its content into an integrated approach (Roy, A. & Roy, S. 2024). Their research points out that great training programs deal with both the processes of using the system and the strategies, rules, and obligations behind all operations. Well-managed firms have training methods geared to content creators, those who check for errors, and the ones who decide on approval, using customized tutorials designed for medical affairs, regulatory affairs, and commercial teams. Usually, such training mixes traditional study with exercises involving actual cases and projects that allow users to learn how to apply integrated approaches to the work they do.

Table 2: Technical and Governance Components for Successful Cross-Vault Implementation (Miozza, M. *et al.*, 2024; Roy, A. & Roy, S. 2024)

Strategy Category	Component	Key Elements	Benefits
Technical Architecture	Content Component Strategy	Modular elements, semantic modeling, and formal methodologies	Reusability across contexts, maintained scientific accuracy
	Metadata Harmonization	Standardized terminology, comprehensive frameworks	Enhanced content discovery, precise identification
	API Integration	Reference APIs, notification APIs, validation APIs	Controlled sharing, maintained boundaries
	Lifecycle Management	Notification frameworks, impact analysis	Content integrity, coordinated updates
Governance Framework	Cross-Functional Oversight	Governance committees, defined authority	Balanced stakeholder needs, aligned objectives
	Clear Content Ownership	Stewardship models, responsibility matrices	Accountability, comprehensive lifecycle management
	Content Classification System	Multi-dimensional taxonomies, visual indicators	Regulatory compliance, appropriate sharing
	Training Programs	Role-based approaches, specialized modules	Effective adoption, practical application

FUTURE OUTLOOK

The advancement of pharmaceutical engagement means that cross-Vault collaboration will also get more advanced. Recent trends that have appeared are:

AI-powered recommendations for Vaults show a big step forward in helping pharmaceutical companies find the correct information needed for different scenarios. The Journal of Pharmaceutical Sciences featured a study that explains how artificial intelligence is changing the process of locating and working with content in traditionally divided pharmaceutical databases (Fu, C., & Chen, Q. 2025). It is indicated in the research documents that AI is used to match documents with the engagement context by analyzing what people do, how much they interact, what's in the documents, and what else is being used. Such AI systems do more than match metadata by carrying out in-depth analysis of the relationships between different components of information found in commercial, medical, and regulatory areas. The study explains that leading organizations can find related content more widely across departments because their systems can understand various ways of saying the same thing. In some areas where the science changes rapidly, using AI in the early implementation stage helps find important content connections that people might miss while selecting content manually.

Based on a global perspective, Deloitte looks at how using data from healthcare professionals

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affects pharmaceutical companies' communication strategies by making updates in real time (Deloitte). The analysis points out how well-developed cross-content analysis tools are able to watch healthcare workers' behavior and customize content delivery to better meet their preferences. Thanks to connecting various content repositories, these systems use approved modules to make each person's content more relevant while still respecting all regulations.

Research from Deloitte reveals that the best companies are building circles of engagement with data from digital devices, automatically creating consistent messages on all channels every time healthcare professionals interact with their brand.

Another big step in managing healthcare content is automatic compliance review across all repositories. How natural language processing and machine learning can automatically validate publications according to regulations and assist in compliance review was studied in the Journal of Pharmaceutical Sciences (Fu, C., & Chen, Q. 2025). Documented use of AI in the case studies includes constant examinations of content in various repositories to find compliance issues, such as false claims, inconsistencies with official labels, and people not being correctly targeted as the intended audience. Such systems become important in self- Vaults, allowing users to quickly check related data in other repositories and find possible compliance risks that could be overlooked when checking things separately. The research explains that these systems go further than easy keyword searches, now analyzing whether beliefs are true or legal with all key information, reaching more parts of the organization's helpful documents.

Deloitte highlights that collaboration across Vaults is now possible because of its integration with third-party channels and platforms (Deloitte). They look at how organizations are designing common data systems so that endorsed content can be sent without difficulty to healthcare professionals' websites, electronic medical records, or help at the point of care. Normally, these connections are made possible using the same content component structure as internal systems, so the right pieces of information can quickly be assembled for external websites, and they match strict rules for science and regulations. According to Deloitte's findings, APIs that originally assisted in sharing content within an organization are now helping connect to third-party partners, which results in keeping messages consistent and appropriate across all touchpoints.

Overall, these research sources state that in the future, pharmaceutical content management will focus more on uniting different elements of content into intelligent and integrated networks. According to the Journal of Pharmaceutical Sciences, healthcare organizations are expected to choose "content as a service" approaches, so that various sets of healthcare information can be quickly put together depending on what healthcare professionals prefer. Likewise, Deloitte expects that using intelligent content platforms that mix advanced content modeling and artificial intelligence will help the industry meet the personalization needs for audiences while maintaining its strict compliance (Deloitte). According to these sources, to achieve their future vision, it will still be necessary to build new technologies and improve the way the organizations are run, paying special attention to strengthening both management structures and teams that are able to collaborate across the Vaults.

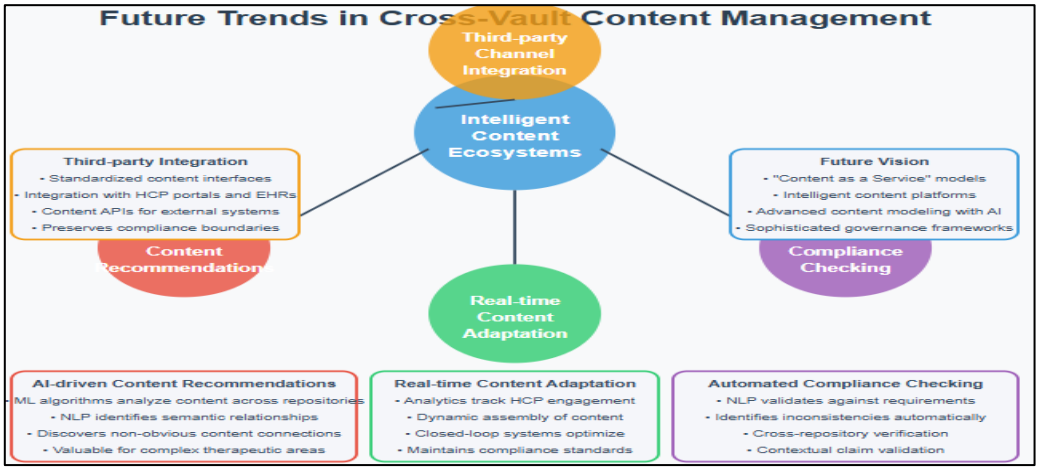

Fig 2: Future Outlook in Cross-Vault Collaboration for Pharmaceutical Content Management (Fu, C., & Chen, Q. 2025; Deloitte)

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CONCLUSION

Since today's consumers use many channels, pharmaceutical companies cannot keep their content separated. Working in close collaboration with MedComms and RIM systems, businesses can bring more aligned messages to professionals in healthcare, avoid duplicating work, ensure strict compliance, and release information in the market more quickly. Although this method calls for well-planned architecture and rules, it greatly improves efficiency, meets regulations, and benefits staff working in healthcare. Improvements in artificial intelligence and advanced analytics will cause pharmaceutical firms to rely on systems that support flexible, personal interaction while guaranteeing adherence to policies. When Vaults join forces, it is not just about technology, but also about processes that help ensure that the information supplied to patients and doctors remains accurate, which can help medical decisions and strengthen the resources in the organization.

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