Enhance Content Monetization and Customer Engagement with Semantic CMS

Abstract

For many years since the advent of consumer internet, media and publishing companies fought a lonely, and often losing, battle in monetizing their content effectively, and deepening direct relationships with customers. The disaggregation of the value chain saw distributors and other intermediaries in the ecosystem capture much of the 'value', primarily in terms of advertising spends. However, things have started looking up in the last few years. Consumers are more than willing to pay for unique, compelling content, and brands remain keen to reach out to this audience through marketing on relevant media platforms.

These trends present a real opportunity for the media industry–print, television, and online–to boost customer engagement through enhanced content enrichment, superior content recommendation, and rendering of contextual, personalized offerings. Recognizing this opportunity, several companies have accelerated efforts to glean nuggets of 'knowledge' from the massive volumes of structured and unstructured data residing in their enterprise content management systems (CMS).

Importance of content management

As ubiquitous mobile devices become a core part of consumers' daily lives, the demand for content in various forms continues to soar. Moreover, content delivery and consumption patterns are undergoing unprecedented changes. In the past, content represented static information being provisioned through a defined set of channels and devices. However, media is today being rendered through a host of smart devices and mediums, and needs to be swiftly adaptable to evolving user requirements.

Content management, therefore, has now become more interactive, amid the continuing rise in user generated content. It is also getting more integrative as different content elements can be subsumed into various other applications.

Limitations of conventional CMS

Traditional content management systems offer non-standard, need-based workflows and require metadata management and discovery. These are therefore inadequate for the modern-day media enterprise that seeks to reimagine its products and services for the digital era. Legacy CMS include workflow configuration features for overseeing end-to-end content creation, processing, and management, but lack the capability to understand the semantics hidden within stored information chunks.

Moreover, such setups are characterized by disjoint manual processes, when it comes to content enrichment. Given the explosion in the volume and diversity of content being produced, orchestrating this activity through non-automated workflows has emerged as a major pain point.

Hence, publishers, newspaper companies, and broadcasters need to think of how to create an integrated pipeline that empowers their employees and customers to extract necessary information, and infer and relate the same.

Accordingly, content management and processing systems have to be relooked at from three angles. First, the next-generation CMS should let users extract 'knowledge' from archived content, and build a knowledge graph of associated topics or

concepts. Second, such systems should harness Big Data technologies to enable granular analysis of content. Thirdly, it should facilitate management and storage of information according to its context and behavior, rather than treating content as static.

Business outcomes through semantic CMS

Semantic CMS can help content producers deliver truly smart content that is easily discoverable, interpretable by machines, and can be structured for contextual publishing. In conjunction, such systems–underpinned by artificial intelligence (AI), natural language processing (NLP), and machine learning technologies–can enable storage and processing of data, apart from fostering reasoning and knowledge mapping of the same.

This, in turn, will allow media companies to enhance content enrichment, make superior recommendations, and present contextual information for individual users. For instance, BBC has significantly enhanced the user experience by deploying1 semantic content for its sports and news websites. By improving content discovery through semantic querying, the U.K. broadcaster let visitors easily discover content, ensuring intuitive and enjoyable interactions for consumers.

Rapid advancements in AI, NLP, and machine learning mean media companies can now create and deliver targeted and tailored content for their customers, in a more time and cost effective manner. Semantic CMS will also allow content producers to innovate around their product portfolios, by fostering enhanced reusability of existing assets. Specifically, firms could use semantic enrichment tools for uncovering topically related content, and then repurpose it for new products.

All of these advantages, combined, will translate into two major business outcomes–increased customer engagement and enhanced content monetization. Companies will be able to drive more immersive consumption of content, effectively measure its performance, and render contextually relevant ads for the customer.

Implementation guidelines

While designing and building a semantic CMS, organizations will have to keep in mind several key factors including content volume and variation, complexity of statistical computing, and time to process data.

One implementation approach could be to integrate different semantic enrichment components within the content management workflow, but this might turn out to be extremely invasive.

A non-invasive way could be to set up a separate vertical component in parallel to CMS constituents. These CMS components will extract knowledge from unstructured content, infer and relate culled information, and update the knowledge base by storing the latest relevant data.

The knowledge repository will primarily involve three elements: information extraction, drawing of inferences and relationship building, and classification. For extracting data, companies will need to leverage one or a combination of techniques such as optical character recognition (OCR), NLP, image and media analysis, and speech to text processing.

The extracted information will then have to be augmented with various machine learning techniques, such as neural networks, to enhance domain-specific entity identification, infer information, establish relationships, and finally, classify content.

Adopting such a non-invasive mechanism will enable an interactive and contextual presentation of content through an appropriate presentation layer.

Points to ponder

As companies start to explore different ways of reimagining their CMS for the disruptive media landscape, they should ensure the revamped setup is compatible with their existing content publishing frameworks. A semantic CMS also needs to be scalable in terms of incorporating a wide range of evolving machine learning algorithms.

To begin with, firms should identify the domain-specific information to be extracted, related, and classified, on a case-to-case basis. For iterative learning, they should develop prototypes to identify appropriate algorithms for sourcing and analyzing information, as well as to select the learning model, reference knowledge base, and functionality suite.

Conclusion

The concept of semantic CMS is still evolving, and will mature with time as AI, machine learning, and other text engineering and mining technologies get refined further. In tandem, the use cases for such advanced machine-driven tools, in the context of content management, will also evolve.

What remains unequivocally clear, however, is that semantic enrichment of digital content can and will unlock tangible business value for media and publishing companies willing to experiment, adapt, and learn.

Survival of the fittest has always been the name of the game. And, this holds true for the media industry today, more than ever before. With disruption becoming the 'new normal', it is high time the industry harnesses the emerging array of exciting technologies to position content–its lifeblood–as a premium asset, rather than a mere commodity.

References

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