
White paper

The Content Intelligence Revolution – Part 1: Content Migration & Rationalization

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ABSTRACT

The CCM industry is at the dawn of a Content Intelligence revolution. Driven by advancements in Artificial Intelligence (AI), Machine Learning (ML), and Natural Language Processing (NLP), traditional barriers that prevent enterprises from cost-efficiently modernizing their communications and unlock dramatic business benefits are rapidly collapsing. In this two-part white paper series, Aspire founder and CCM industry expert Kaspar Roos outlines his vision of how content intelligence will shape the industry in years to come.

KEY FINDINGS

- AI technology is rapidly evolving to help enterprises cost-effectively migrate legacy content in various native document formats and templates into rationalized, modern formats.
- Content rationalization, the process of extracting content from existing templates and documents, consolidating content, classifying and converting them into a smaller number of content objects that live in modern templates based on smart variances, helps enterprises to manage templates, content and communications much more efficiently than before.
- Content rationalization makes template rationalization much more effective. Template rationalization is reducing the number of templates by leveraging optimized content, business rules and smart variances.

- The content rationalization process also provides a great opportunity for content optimization – improving or enhancing the quality of content in terms of readability, brand consistency and tone-of-voice. This topic is addressed in more depth in part 2 of this whitepaper series.

KEY RECOMMENDATIONS

- Content and template rationalization should be a goal of every CCM professional – fewer templates are easier to manage, can be more easily adapted for omni-channel or better customer experience (CX), and generally make it easier for the business to own and manage communications themselves.
- While today's technology cannot replace human intelligence when it comes to content and template rationalization, technology is rapidly evolving, and enterprises should keep a close eye on developments in this area. Computer-assisted template migration can already reduce duplicate and similar content by up to 70% and reduce cycle times by up to 90% in comparison to manual processes.
- Content migration cost and complexities are easily overlooked when businesses are modernizing or upgrading systems and can be drastically reduced when using smart rationalization technology.

1. INTRODUCTION

Customer Communications Management (CCM), the practice of creating, managing, and delivering personalized customer communications¹ at scale, is an industry in transition. Whereas CCM used to focus on providing high-volume output through multiple stand-alone channels, CCM is becoming an integral part of a company's customer experiences and digital transformation strategies. Especially in regulated industries in which product and price are relatively fixed, it is customer communication experience today that determines to a large extent the overall customer experience (CX).

Many enterprises have recognized that they need to transform how they communicate with their customers; especially as digital transformation continues to impact and change consumer expectations. However, to build true omni-channel communications that allow customers to engage easily with the brand continuously across channels and touchpoints, every interaction needs to be centrally managed and orchestrated. Centralized content control and template management is an essential part of this encounter; it is very hard to control the customer's overall omni-channel experience without having efficient content and template management structures in place. This approach is particularly beneficial in heavily regulated industries such as financial services, insurance, and healthcare that have to deal with the operational complexities and substantial costs of managing and updating disclosures. Template efficiency and shared omni-channel content greatly reduces the time to market of communications and materials by streamlining and simplifying updates, as well as reducing the regulatory risk of errors and penalties by centralizing the point of control for the content itself. Also, optimized, centralized content delivers higher quality content that drives better customer experience as it provides more consistent branding, wording, and tone-of-voice.

"58% named migration of content from older systems as a challenge"

Source: Forrester, 2014

One of the many barriers in moving to a centralized CCM approach is the large amount of existing communication templates and legacy content (often in legacy formats) that is out there, the cost involved in rationalizing those to more manageable levels and moving them to systems that support omni-channel communications. New technologies such as AI and ML are evolving to a point

¹ This includes transactional and promotional customer communications such as bills, statements, loan offers, correspondence, policies, quotations, statement of benefits, direct mail, welcome kits, and more.



where they can and will assist the enterprise in cost-effectively reducing templates and enabling more efficient and intelligent ways of managing templates and content. The objective of this paper is to provide an overview of key challenges related to document, template and content management, how new technology allows businesses to reduce inventories and optimize content, and what role Messagepoint Rationalizer, powered by its AI engine MARCIE, plays in this area. Messagepoint is a leading provider in CCM-related content management and rationalization technology and has commissioned the development of this white paper.

2. CURRENT STATE: HIGH TEMPLATE INVENTORIES

Large enterprises operating in the regulated B2C industries such as financial services, insurance, utilities, and telecoms may have thousands of document templates, sometimes even tens of thousands. Managing templates across states or countries, in different languages, across business units, and organizational functions can be a real inhibitor when the enterprise has a desire to upgrade to more modern systems or redevelop its content for better customer experience or omni-channel communications.

2.1 DRIVERS OF HIGH TEMPLATE INVENTORIES

To understand how to tackle the problem of the current approach to communications, content and template management today, let's take a moment to understand why businesses have so many templates.

2.1.1 LEGACY SYSTEMS

A key factor of large template inventories is legacy, or – in other words – systems from the past that are either too costly or not important enough to upgrade. Aspire estimates that customer communications originating from legacy systems still represent about 20%-25% of total industry output. The challenge with older systems is that they are often monolithic: formatting, business rules, and data manipulation are all performed through scripting or programming, making it very difficult to understand content and template structures. Template migration is a primary cost factor of CCM migrations – whereas the average migration cost of Enterprise IT systems is 54% of the

“Without the support of AI or tools to enable automated migration, costs associated to content migration are 54% of purchase price for general IT systems”
Source: Adapted from Harvey Johnson, 2017



purchase price²; for CCM migrations this cost could be much higher. Human labor is the primary cost factor for large-scale CCM migrations, and multi-year migration projects are not uncommon because of labor cost constraints.

2.1.2 UNHELPFUL ORGANIZATIONAL STRUCTURES

Another key reason for high template inventories is that most businesses traditionally managed CCM in a decentralized way. Up to a few years ago, it was very common practice to have the Line-of-Business (LOB) be responsible for customer communications, as they usually have the most intimate knowledge of their customers. The LOB would invest in CCM technology, be responsible for outsourcing, or generally drive the CCM strategy. Acquisitions or re-organizations would cause additional complexities. It is not uncommon for enterprises to use multiple CCM vendors, and a variety of services providers. The result is complicated template structures and workflows, and often leading to a disjointed customer experience.

2.1.3 INEFFICIENT TEMPLATE MANAGEMENT PRACTICES

Following inefficient template management practices is another reason why businesses have ended up with too many templates. Partly this is the result of businesses being under pressure to create quick-win fixes, but also generally most businesses let templates grow organically instead of enforcing a structured template development process. Often business users find it easier to just clone an existing template, or create a new one from scratch rather than build an intelligent template, or adjust the content in an existing one.

2.1.4 LACK OF CONTENT MANAGEMENT STRUCTURES

The lack of content management structures and systems prevent businesses from being able to deliver omni-channel experiences to its customers. Without a strong content management system, businesses tend have more than one template inventories depending on the type of communications (print or digital), which would lead to more confusions and inefficiencies when users want to retrieve their documents.

² Johnson, Harvey. The Hidden Costs of Migration, 2017.



A Thomson Reuters research study showed that financial institutions in the EU need to implement 44,000 regulatory changes per year; that's one every 12 minutes.

3. THE KEY BENEFITS OF RATIONALIZING CONTENT AND TEMPLATES

With more and more companies focusing on digital transformation and customer centricity, it is becoming more important to manage communications (content and templates) centrally, understand touchpoints and interactions through journey mapping, and set up a shared service, i.e. through a CCM or CX center of excellence for centralized control. By definition, a shared service takes a more structured and coordinated approach to template and content management, and often follows best practices such as content and template rationalization or business user enablement to drive efficiency savings. In addition, businesses are starting to recognize that the benefits far outweigh the additional overhead and coordination cost associated with creating a shared service. By focusing on building a centralized content management structure, companies can use content and template rationalization to unlock several business benefits around customer experience, business agility, and reduction of cost and risks.

3.1. CUSTOMER CENTRICITY, LOYALTY, AND CUSTOMER EXPERIENCE

A primary benefit for centralizing content is that it enables the business to be much more intentional and coordinated in how it communicates and interacts with customers. In an age where customer experience is so important for customer loyalty, centralized overview is essential to overcome organizational siloes. This allows companies to review the end-to-end customer journey, reduce friction, make interactions easier, and generally deliver personalized experiences that place the customer front and center.

In general, centralizing content leads to better control. Lack of control is a big problem – not only for customer experience, but also from a branding, customer service, or regulatory compliance perspective.



3.2. SHORTER CYCLE TIMES

Businesses need to be agile to respond to changes in the regulatory and business landscape.

- Business user enablement is a big trend that empowers business users to make content changes themselves. Having a centralized content management system in place enabling users to make content changes themselves will bring cycle times down from months to minutes and have a very positive effect on customer experience.
- The pace of regulatory change is increasing across industries³, but especially in financial services. Making regulatory changes by legal experts in a centralized system without having to involve IT drives a tremendous amount of time (and cost) savings to the process.
- Digital transformation is forcing companies to redefine how they serve and interact with their customers. New digital products are being developed in much shorter timescales and forces customer communications professionals to follow suit.
- Taking a long time to make document changes, such as logos, signatures, telephone numbers, or other items may negatively impact customer experience, brand value, or lead to customer confusion which may drive higher customer service costs.

As a result, we see leading enterprises and service providers moving their communications template development processes over to agile methodologies. Using agile over waterfall leads to a 3x improvement in success rates for general IT development projects⁴. Agile development requires not only modern technology, but also a wider acceptance of more iterative ways of working. The biggest barriers are organizationally and requires CCM leaders to enforce this new way of working, often supported by a CCM center of excellence or a CX shared service.

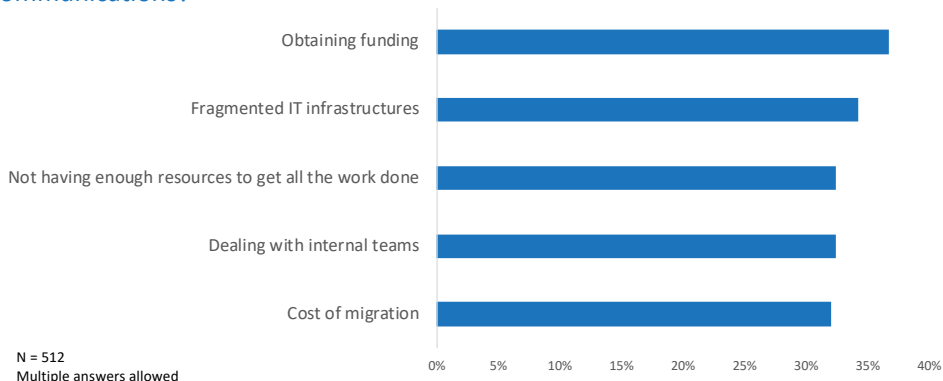
³ <https://financial.thomsonreuters.com/en/markets-industries/risk-management-tools.html>

⁴ The Standish Group, 2012



Figure 1: Barriers to evolving CCM platforms

What are the five major challenges that you encounter in evolving your customer communications?



Source: Aspire, The State of CCM-to-CXM Transformation, 2019

3.3. LOWER COSTS AND RISKS

Obtaining cost and risk reductions are key drivers for content and template rationalization and centralization. Having better content structures enables business users to re-use consolidated templates in a more efficient manner. In addition, risk reduction is an important consideration for CCM professionals. Re-using pre-approved content reduces regulatory risks, reputational damage or negative brand impact, or even loyalty risks resulting from poor customer communication experiences.

From a cost perspective, there are three main ways that rationalization and centralization saves cost:

1. **Operational cost.** By creating better communications that improve the customer experience, the business will save costs through call center volume reduction or lower customer service requirements.
2. **IT development and testing cost.** An efficient template management structure helps IT organizations to make document changes quickly. Also, future migrations can be completed quicker, at lower cost. Finally, fewer templates often mean fewer permutations and, therefore, fewer tests that need to be completed.



3. **Coordination cost.** For IT executives, enabling a centralized content management system that put business users in charge of making content changes themselves, coordination costs, and requirements gathering can be avoided.

4. THE PROMISE OF SOFTWARE AUTOMATION: AI AND MACHINE LEARNING

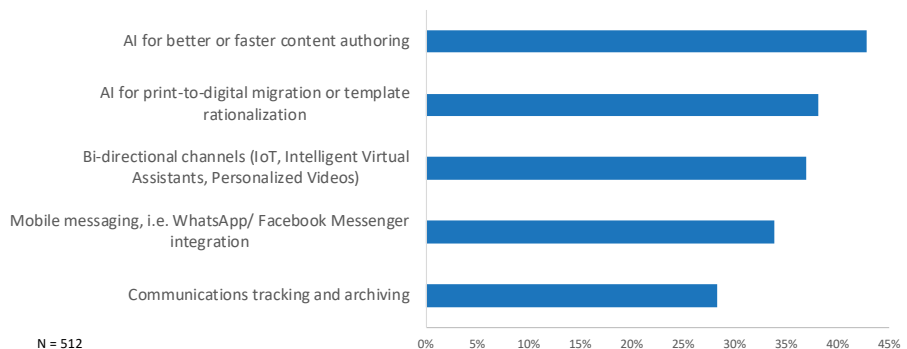
“Companies are investing in AI technology to create better and faster content, assist in print-to-digital migration, and deploy new channels based on smart technologies.”

Source: Aspire, The State of CCM-to-CXM transformation, 2019

According to Aspire’s research in 2019, AI is two of the top 5 priorities in which companies expect to invest in. The see AI being able to help them deliver better and fast content as well as assistance in print-to-digital migration.⁵

Figure 2: Software Investment Priorities

What are your TOP FIVE CCM software investment priorities for 2019-2020?



Source: Aspire, The State of CCM-to-CXM Transformation, 2019

4.1 ARTIFICIAL INTELLIGENCE

AI is the theory and development of computer systems able to perform tasks normally requiring human intelligence, such as visual perception, speech recognition, decision-making, and translation between languages. AI has become a buzz word because the increase in computer power and availability of larger data sets through cloud computing have made AI algorithms much more effective than previously. Ultimately, the promise of AI is to solve (certain) problems more efficiently and accurately than normal human beings can do. At a more philosophical level, the question is if computers can actually become

⁵ Aspire Benchmark 2019



The concept of machine learning entails that machines are not only taught what they need to know, but also learn or improve tasks themselves.

intelligent, because they lack the emotional experience that is linked to human intelligence. Since content and template rationalization cannot be performed independently by computers today, let alone that computers can do this better than humans, it is therefore, more appropriate to use the term machine learning when referring to self-learning software in the context of content consolidation and CCM template reduction. However, intelligent, self-learning software is able to significantly reduce time, cost, and errors, and is a key development to be aware of for any large enterprise or services provider dealing with CCM migration projects.

4.2 MACHINE LEARNING

Machine learning is considered a subset of AI⁶, although the two are often used interchangeably. The concept of machine learning dictates that machines are only taught what they need to know, but also learn or improve tasks themselves. For example, machine learning can execute actions such as reading and understanding text, listening to a spoken conversation, and analyzing and categorizing the text or conversations by adding meaning and context. Computer systems are also becoming better in determining emotions, and are able to detect happiness, sadness, and anger, but also more cognitive complex states such as fatigue, attention, interest, confusion, and distraction⁷.

4.3 SOFTWARE AUTOMATION IN TEMPLATE AND CONTENT MANAGEMENT

For content rationalizing, the following areas are important: pattern recognition, context and syntax understanding, intelligent channel preferences, and self-learning approval workflows.

4.3.1 PATTERN RECOGNITION

Pattern recognition is a concept where the technology analyzes data to find repetitive texts, images, or objects. Especially for large template inventories, or those based on programmed legacy output, or templates from different CCM

⁶ Marr, Bernard. What Is The Difference Between Artificial Intelligence and Machine Learning?, Forbes, 2016.

⁷ <https://www.technologyreview.com/s/609071/we-need-computers-with-empathy/>



platforms that cannot easily be compared, having independent pattern recognition software is extremely valuable.

4.3.2 CONTEXT, SEMANTIC AND SYNTAX UNDERSTANDING

Words often have multiple meanings, and the right meaning is derived from analyzing the context in which the word is used. For content and template rationalization software, using machine learning to understand context helps with further processing such as automatic translation. In a similar sense, knowing the structure of the sentence (its syntax) helps a computer to provide business users with the option to create rules based on normal language. Behind these developments are concepts such as taxonomies (machine ordered presentations) and ontologies (representation of a domain), which drive the computer's self-learning abilities. By ingesting more data input and by synthesizing and analyzing that against what is already known, computers can classify the inputs and use that to further build up knowledge.

4.3.3. INTELLIGENT CHANNEL PREFERENCES

By analyzing the channels customers use in relation to the content and context of the communications, computers can build profiles, learn, and make dynamic channel preference suggestions based on its prediction for a particular message. This is done through big data analytics, predictive analysis, and next-best action suggestions. This is already being deployed in customer service environments, where computers help call center agents with suggested responses, or are increasingly communicating directly with the customer through automated chat or using personal virtual assistant (PVA) technology such as Amazon Alexa, Apple Siri, Google Home, and Microsoft Cortana. The next step is to engage other channels, such as web or personalized videos.

4.3.4. SELF-LEARNING APPROVAL WORKFLOWS

Machine learning offers the promise of creating dynamic and self-learning approval workflows. For example, if a particular content change needs approval by another business user, machine learning can help the system determine who the best person is for the review, depending on the content and context of the change.



5. MESSAGEPOINT RATIONALIZER

5.1 BACKGROUND

Messagepoint is a leading provider of CCM technology with a particular strength in business user content management and artificial intelligence for rationalizing, migrating and authoring customer communications. Allowing business users to control content, define messaging, manage versions, and use natural language for setting up business rules helps make complex enterprise content easier to manage and scale. A key aspect of this is the concept of variation management: the ability to significantly reduce the number of messages by using smart variation. In recent years, Messagepoint is specializing in applying AI and ML to support business users in creating content faster, better, and more cost-effectively.

Messagepoint is unique in that it is able to integrate deeply with the composition engines from OpenText Exstream or Quadient Inspire, as well as digital output channels like Salesforce Marketing Cloud, and Adobe Experience Manager. From a conceptual point of view, it enables Messagepoint to provide a content management wrapper around existing CCM investments made with Inspire or Exstream, thereby helping the enterprise customer to protect historic investments made in composition while enabling them to benefit from advanced content management.

Messagepoint was founded in 1998 in Toronto, Canada and received investments from Volition Capital and NewSpring to fuel growth. It has offices in the U.S. and the U.K. and aims to further expand in Europe and other regions in 2019 and beyond.

5.2 MESSAGEPOINT'S ADVANCED RATIONALIZATION AND CONTENT INTELLIGENCE ENGINE (MARCIE)

MARCIE is Messagepoint's AI and ML engine that ingests and manages critical content across a company's customer communications chain. It allows businesses to tackle large amounts of content spread across different documents and templates in a repository. It also ensures that content is consistent with company and regulatory policies, identifies context and

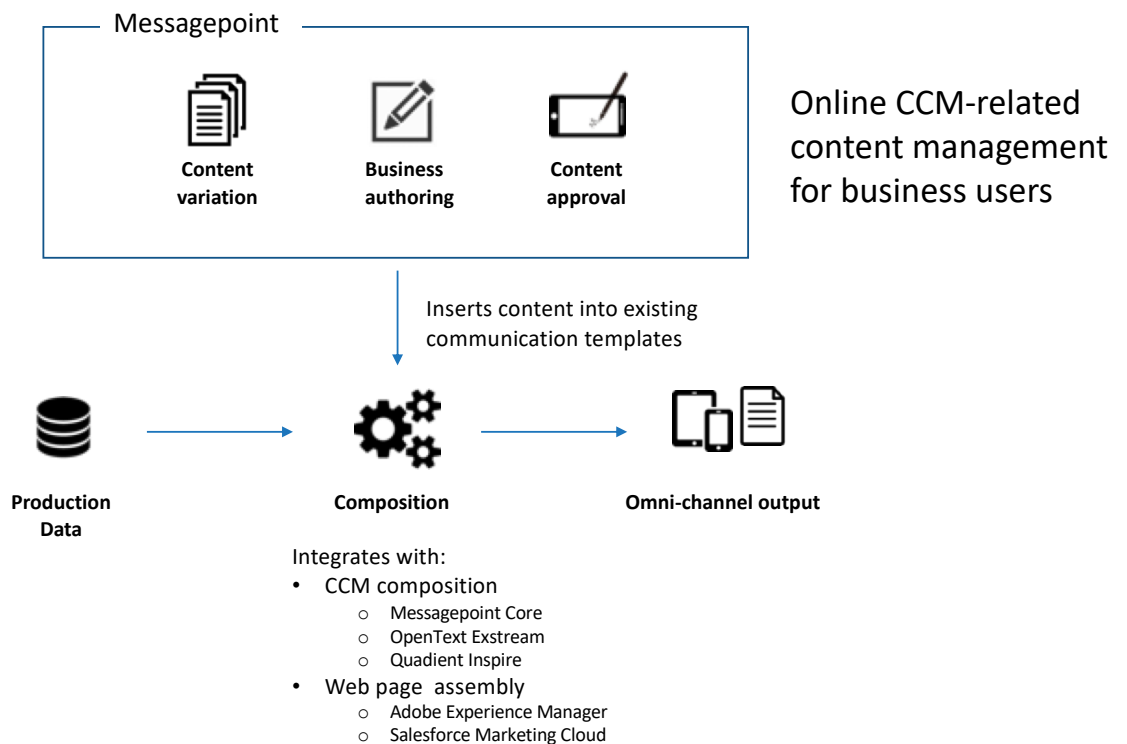


sentiment of a message, and consolidates duplicate content to reduce document inventory.

5.3 MESSAGEPOINT RATIONALIZER

The Messagepoint Rationalizer, powered by MARCIE, is a product offering that aims to help businesses migrate content from legacy systems and existing CCM solutions in addition to optimizing content. It consists of several key features: intelligent ingestion, content optimization, and content re-write.

Figure 2: Messagepoint overview



5.3.1 INTELLIGENT INGESTION

This feature enables users to extract content from various document formats such as PDF, MS Word Doc, legacy print streams, and even directly from other CCM systems. The extracted content is then converted into a specific format that is ingested by Rationalizer. Furthermore, content is tagged with metadata for easy identification.

5.3.2 CONTENT OPTIMIZATION

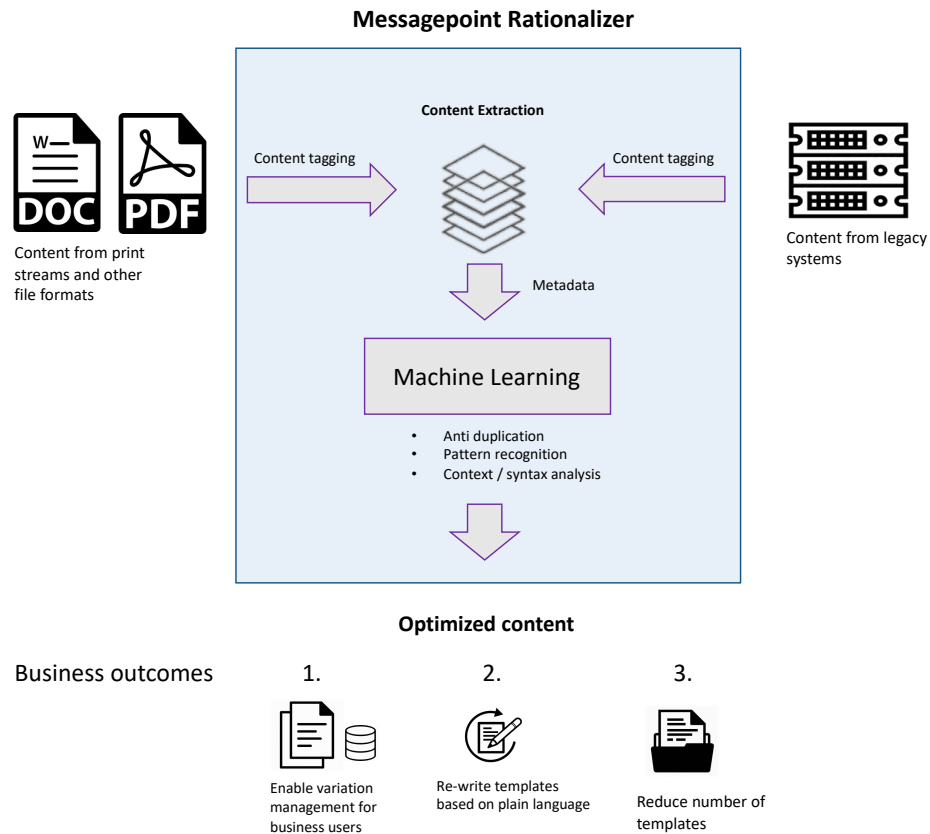
*The other
whitepaper in
this two-part
series provides
more details on
Content
Optimization*

Once extracted, content is further processed using machine learning capabilities that can update metadata tags and identify duplicate content for consolidation. In addition to exact duplicates, content that is syntactically and/or semantically similar can be identified for consolidation and standardization. In addition to finding and removing duplicates and similarities, content optimization includes flagging up inconsistencies across content and documents or identifying content that breaches style or brand guidelines, have not the right sentiment (may be too positively or negatively written), or may be analyzed on reading comprehension levels and use of jargons.

5.3.3 CONTENT RE-WRITE

After content is optimized and consolidated, the content can be easily re-written in plain language given that content objects have been reduced already. This allows recipients to better understand documents that initially were difficult to condense. The technology helps identify areas where difficult text needs replacing or can replace this text automatically based on its self-learning capabilities.

Figure 3: Messagepoint Rationalizer overview



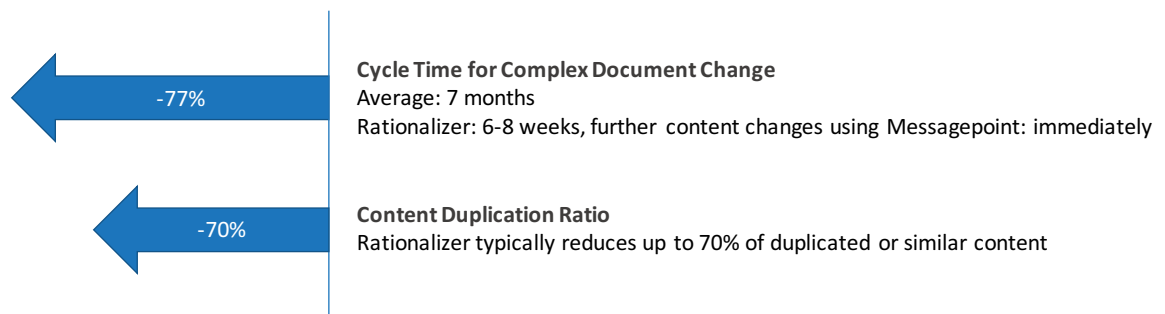
5.4. BENEFITS OF MESSAGEPOINT RATIONALIZER

With Rationalizer, companies can reduce the number of content objects and templates at a pace that cannot be compared to a manual process. It is also significantly cheaper – employing expensive human labor for months to consolidate templates can now be largely avoided by using machine intelligence that provide instant results. On top, more optimized content – which is hard if not impossible to create using manual labor – brings benefits in terms of better customer experience, faster cycle times, and more engaging communications.

According to Messagepoint, Rationalizer typically enables the enterprise to reduce 70% of duplicated or similar content, and compared to a manual process, up to 90% of time can be saved.

Furthermore, Messagepoint provides Assisted Authoring in its content management platform, which supports the authoring process by identifying duplicate and similar content that already exists, issues with brand compliance, sentiment and reading levels to ensure that there is alignment to company standards. This is possible due to MARCIE’s speed and efficiency in analysis, which allows the solution to optimize content on the fly, which will be discussed further in part two of this two-part whitepaper series.

Figure 4: Messagepoint Rationalizer benefits



Source: Aspire, Messagepoint estimates, 2018

ABOUT MESSAGEPOINT

Messagepoint is a leading provider of customer communications management software. Only Messagepoint harnesses AI-powered Content Intelligence to automate and simplify the process of migrating, optimizing, authoring and managing complex customer communications for non-technical (business) users. Our customers rely on our award-winning platform to consistently deliver exceptional, highly personalized customer communications across all platforms and channels. For more information, visit www.messagepoint.com.

ABOUT ASPIRE

Aspire Customer Communications Services (Aspire), is a London-based CCM/CX analyst and consultancy firm that help clients successfully navigate the complexities of the evolving customer communications management space.

www.aspireccs.com.