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About

About the author

Jodie Hopperton led the CMS Vendor Selection Tool project for INMA. She oversaw the project process from publisher interviews to vendor research and analysis and final report and CMS vendor selection tool. Jodie is the lead for INMA's Product Initiative and has more than 20 years experience in news media. Her career has featured corporate roles, technology start-ups, moderating events, authoring, and speaking at news industry events. She has served as interactive manager for Trinity Mirror, director of syndication and licensing for The New York Times, and as a consultant to media and tech start-ups focused on video distribution, VR, audio tech, and more. Prior to her work with INMA, Jodie's work with press associations included the Global Editors Network (GEN) and WAN-Ifra.

About the International News Media Association

The International News Media Association (INMA) is a global community of market-leading news media companies reinventing how they engage audiences and grow revenue in a multi-platform environment. The INMA community consists of more than 21,000 members at 1,000+ news media companies in 90+ countries, representing tens of thousands of news brands. INMA is the news media industry's foremost ideas-sharing network with members connected via conferences, reports, Webinars, virtual meetings, awards competitions, and an unparalleled archive of best practices.

Executive summary

At the heart of every digital publishing operation is the content management system, also known as the CMS. As crucial as it is to operations, it feels more like a necessary evil. After all, when was the last time you heard a publisher rave about how much they love their CMS?

Changing how a news media company chooses a CMS will also change the relationship users have with it. While news publishers have historically viewed purchasing a CMS as a technology decision, it is actually a business decision supported by technology. The distinction is subtle but important. News publishers that broaden their teams to help decide what the CMS should provide will ultimately find themselves in a better position to leverage the technology.

Identifying the stakeholders — and what they need — is the logical starting point. Understanding the workflow of each user and what needs to happen within the CMS for them to do their job more efficiently will provide clarity on what type of CMS is needed.

Once you understand how different departments use the CMS, you can create critical user journeys to ensure the technology will do what major stakeholders need it to do. Using a simple structure, media organisations can walk through the processes for each department and each user, ensuring every step is considered and carefully thought out. This includes everything from editorial and advertising to product, marketing, and customer service.

"How News Media Companies Should Choose a CMS" is a step-by-step guide to identifying stakeholders, what they need from your CMS, and what steps they must

take to ensure that every action and usage is considered. Using case studies from Mediahuis in Belgium, Kölner Stadt-Anzeiger Digitale Medien in Germany, and Stuff in New Zealand, this report walks through the challenges, considerations, and processes of implementing a new CMS.

This report also provides critical user journeys that have been mapped out by the Google News Initiative to help media organisations clarify what needs to be considered and included — looking at how to choose the CMS that's right for your media company and provide a six-part process for selecting both the technology and the provider that is best for your organisation.

As creation and distribution have become more sophisticated, so has the technology needed. For a small publisher starting out with no dedicated tech support, simplicity may be a benefit. For a larger organisation, it's likely that a CMS has been adapted over the years, making for a complex system of technologies and vendors. No matter the situation, the thought process behind selecting a new technology(ies) and vendor(s) remains the same.

This report lays the foundation for publishers to better use the CMS Vendor Selection Tool developed by INMA and GNI and thus choose the technology that sets them up for success. ■

CHAPTER 1

Introduction

At INMA we often talk about transformation. The content management system (CMS) is the technology that allows us to deliver on that transformation. Or not.

It's not surprising that we're hearing more about CMS today than we did five years ago — or even two years ago. In the past, a CMS could be much simpler because there were fewer formats for it to support. Where once news publishing was only concerned with text and photos, today's publisher must add video, audio, interactive graphics, and more to the mix. Publishers also have more channels to distribute to with the rise of Web and mobile, and that distribution has become more complex with multiple browsers, mobile devices, apps, social media, and audio channels to consider.

While the right CMS has always been important, it has become more complicated over time. Everyone who publishes content depends upon a system to manage it. Growth depends upon an ability to execute strategies properly, and tech is the engine that powers growth for news media companies. But good tech requires the right CMS to allow it to do what each publisher requires.

This report grew from a project between INMA and Google News Initiative to produce the CMS Vendor Selection Tool, which is designed to help publishers find the CMS that is right for them. When all publishers have a CMS that works for them, the industry has a healthy ecosystem. This tool was publicly released October 4, 2023.

The project for creating the CMS Vendor Selection Tool followed a three-step process:

1. **Identifying publisher needs:** Publishers can have very different needs, depending on the size of their organisation. After identifying a core set of functionality, publishers completed a survey and one-on-one interviews to verify and hone this list, which then served as the basis for much of the vendor analysis.

2. **Vendor analysis:** A small selection of vendors were asked to participate. The analysis included a 70-part vendor-filled detailed questionnaire, a 90-minute demo, customer reference checks, and a final fact check. This research was carried out by an independent third party. The vendors invited to participate serve a wide range of media organisations and were largely chosen from the initial publisher survey.

3. **Publisher/vendor fit:** Based on publisher needs and verified vendor responses, we created a matrix to give publishers a shortlist of vendors based on their size and geography. They can also get a more detailed view from a three-page review of information based on the detailed research carried out for each vendor.

During this process, it became clear that no single vendor outshines others. There is a best fit depending on your needs. Are you looking to maximise subscriptions? Or maybe membership? Do you have a single site or multiple sites? How do newsletters play into your strategy?

There are many questions you need to answer before you even start thinking about looking for a vendor. And that's what this report is designed to do: help with the process before you get to the selection.

The CMS is the lifeblood of digital publishing. It’s central to everything we do, yet it’s rare to meet a publisher who loves their CMS. There are several reasons for this, and near the top of that list is that when you look for a CMS, you aren’t buying for today. Instead, you are buying for your business in three to five years. As a news publisher, it is exceptionally difficult to predict what those needs will look like.

One comment that stood out during the research for this report explained the problem: We look for content management systems, yet what we really need is a journalism management system.

As Tony Byrne, CEO of Real Story Group told INMA, publishers often make a common mistake as they approach this purchase: "People often think this is a technology decision," he said. "It's not. It's a business decision that is supported by technology."

A CMS is complex — and not just from a technology perspective. It involves many stakeholders because while editorial teams are the primary users of a CMS, marketing and advertising teams often use them, product teams will have strong views about how the content and customer experience are presented, and, of course, the technical teams are the ones installing it, supporting teams, ensuring that it stays up and running, and that it works with any necessary integrations.

Inevitably, there will be integrations because a single CMS does not do everything — at least not for most publishers. (Some will say they do, but there is a reason people reference the "tech stack" rather than a single piece of technology.)

Ultimately the CMS is the beating heart of an operation. It is the technology that can make an organisation effective and efficient — or not. Business needs should be at the forefront of this decision and thus the decision should have c-suite involvement, not just sign-off.

The aim of this report is to help publishers strategise and understand what they need to know when choosing a CMS. This is not a technical document. It's a practical business guide. ■

CHAPTER 2

The basics of CMS

Since this report is about choosing a CMS, the best starting place is to look at the basics. That means making sure everyone is clear on what exactly constitutes a CMS — and what, exactly, it is.

Essentially, a CMS is the software that manages the creation, modification, storage, and publishing of content. It manages the entire workflow of content from creation until it's published on any given platform. Different people use it for different things, much of which will be discussed in this report.

A CMS can range from an all-in-one system that does, or appears to do, everything that is needed, to a highly modularised system with specialist components based on your specific needs. But a CMS can essentially be broken into three main components:

- Content storage.
- Editorial workflow/publishing tools.
- Front-end capabilities (Web site, mobile, alerts, newsletters).

Additional components may be added, depending on the user's needs. These include:

- Advertising and marketing workflow tools.
- Subscription management.
- Payment system.
- Analytics.

A "headless CMS" refers to a system where the content repository (the body) is separated from the front end (head). This is becoming more popular with publishers such as News Corp Australia and Schibsted, which have an increasing number of distribution channels (or heads), all with different requirements. This allows them to pull from the same resource of content. Content can be integrated into any system, software, or Web site through an API.

A. Identifying the internal stakeholders and what they need

As with many tools, the technical team will implement the system but is usually not the primary user.

As companies start thinking about the stakeholder groups, at least four points should be part of the consideration process:

- How do they currently use the CMS? How do they collaborate and participate in approval workflows?
- What do they love and hate about the current workflows and tools?
- How can they be more efficient?
- How can they create better reader/customer experiences?

To better answer these questions, consider sitting with multiple users to see how their workflows differ. Shadowing people will provide a real sense of where the bumps in the road are. Pay attention to those, and map them out.

It's impossible to choose a new CMS without involving the newsroom. They are usually the biggest user, so it's critical to understand their workflows. What works well? What doesn't? What is happening inside the CMS right now? And what could possibly reside in the CMS in an ideal world?

What does it take to create a story from ideation to publication? When does the CMS currently interact with this? At what point could it? For example, most journalists will file a story in the CMS, but what if they could ideate a story within the CMS by seeing what else has been written or drafted already and who else is working on similar stories?

It would be helpful to choose one or two people in the newsroom as key points of contact. Depending on the organisation's size, it may be helpful to shadow a few individuals to see how processes differ.

When taking a deeper dive into newsroom processes and workflows, some of the questions to ask will include:

- **How does someone work on a story within a CMS?** Do they create it within the CMS or file copy that they have created elsewhere? How do they save and edit copy once it is filed? Can elements of a story be efficiently saved for future use? Can the system evolve with the copy or the visual?

- **How does an editor edit copy and give feedback within the CMS?** What is the process for editing copy? Who needs access and which people will work on a single story or set of stories? How do they interact?

- **What is the process of adding different media to a story?** How do people bring in visuals? Can they be created within the system? Can the CMS allow searching or suggesting suitable visuals?

- **Is the same system used for full-time employees and freelancers?** Is onboarding needed?

- **How do you lay out the page on each distribution platform?** Is the system responsive or does it need manual configuration?

- **How complex can the page setup be?** Are there different page layouts or frameworks that are easy to use?

After gathering the answers to these questions from the newsroom, the process should be repeated with other users, including marketing, advertising, product, and any members of the technology team involved with the CMS. At each stage, try to understand what is done within the CMS and what currently happens outside the CMS.

> ***Tip:*** *Include a discussion with your customer service teams as part of your planning process. What do customers love and hate about your product? Can a CMS help with any of these? (Keep in mind that some of this may filter through your product team.)*

B. Case study: Mediahuis

Rolling out a new CMS in a media company is more than just a tech challenge, according to Ezra Eeman, former change director at Mediahuis in Belgium.

"It's about changing everything from the way journalists write, the work processes, and especially about changing the way everyone understands how consumer habits have changed," he said at **INMA's Media Innovation Week** in Copenhagen in September 2022. "When our customers change, we also have had to rethink how we operate, organise, and especially share tools and knowledge between departments."

Mediahuis has grown to four times its original size in just eight years. What used to be a Belgian media company now scales 32 brands, reaching 10 million daily users in five countries. Such growth has given the company the scale to improve its technological platforms across all brands.

A company-wide CMS upgrade is key to the transformation journey at Mediahuis.

The aim is to change, upgrade, and simplify CMS platforms across the entire company.

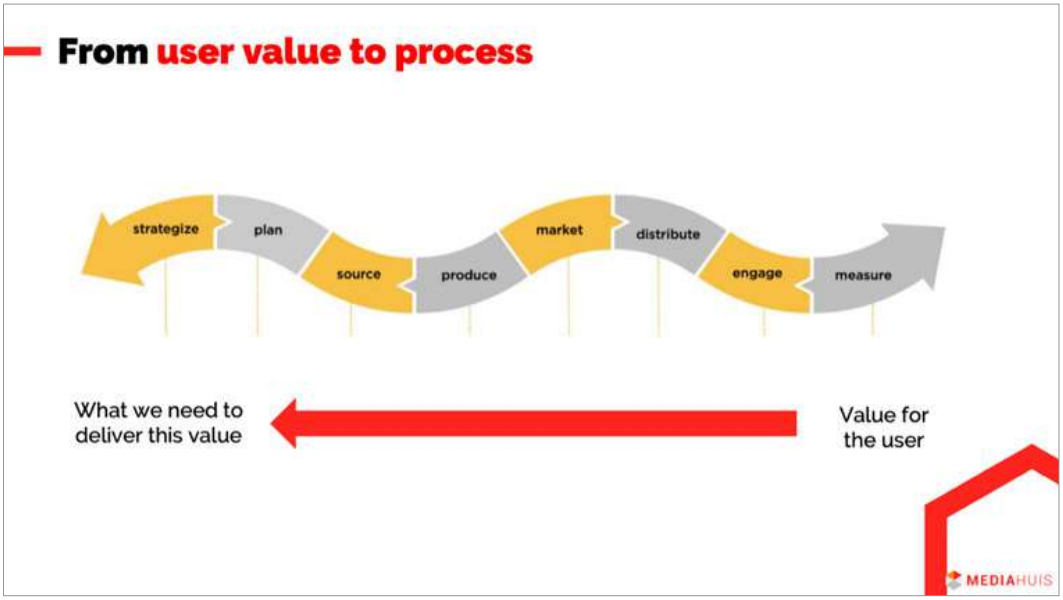
"It may be that we focus on technology, but the job really is much more about changing workflow," Eeman explained. "It's about writing for the mobile reader first — and then later find out how we export that content in an efficient workflow for the newspaper."

In most cases, articles are written in the CMS and then exported to a newspaper system afterwards — something that was unthinkable in many media houses just a few years ago. For the same reasons, the organisational changes are rather comprehensive.

"Whatever change you have in mind, you must remember that people only look at it from their own level," Eeman said. "But we're not just rolling out a CMS. We need a much more holistic approach."

The most important lesson is the change in user needs and user behaviour, Eeman emphasised: "More than half of all readers use their mobile as their primary device to consume news, and naturally we need to have that in mind when we produce our content. We shouldn't think of a story as one big item but as a number of elements that can be kicked around."

For example, "An infographic designed for broadsheet pages doesn't make sense at all when viewed on a small screen," he said. "It needs to be produced and presented in a completely different way. Also, when most of our subscribers consume news during the day on their mobile phone, it doesn't make sense to have a production set-up which was aimed at a deadline for the printing press."



Mediahuis focuses on user needs and user behaviour.

Preparing for the rollout took a long time and initially had little to do with technology, Eeman said: "There's a tendency with projects like this to try to recreate the workflow people already have. But we started with an important and fundamental question: What do we really want to achieve?"

Eeman stressed it is imperative to allow for feedback and changing things as they are being developed. Modern IT systems are usually developed using an "agile" development method, which allows for change along the way.

"We really work closely with people from all parts of the organisation and allow time for feedback and changes," Eeman said. "It's important to give enough people the keys for the new car (CMS) so they can test drive it ahead of time."

As change director, Eeman focuses heavily on the impact technology has on all the different processes.

"It's important to install a common narrative and understanding across all of the company," he said. "When people understand how customers connect with our products, they will understand we need to work in new ways and even write articles in a new format." ■

CHAPTER 3

Creating critical user journeys

Once you understand how different departments use the CMS, create critical user journeys to illustrate this and ensure the technology will do what the major stakeholders need it to do. Consider which workflows you want to keep, which can be streamlined, and where there are opportunities to be more efficient.

Critical user journeys help tell the story of who uses what and how they use it. These journeys can be used internally to make decisions for the core CMS team and within an RFP to vendors. They ensure you have an understanding of how these systems are (or could be) used.

A. How to select technology

In their book The Right Way to Select Technology, Tony Byrne and Jarrod Gingras give a straightforward seven-part structure for developing user stories:

- **Title:** Name the journey.
- **Task profile/persona:** Identify the person's role, including a named persona to make it more human, typically with limited access rights.
- **Description:** Write a shorthand sentence to expand on the title.
- **Background:** Provide the setup for the scenario, with useful context.
- **Objective:** Identify what you need to accomplish and why. This should include explicit business goals.

- **Narrative:** Explain what happens; develop a story about what the personas experience and do, including the decisions they make and the outcomes. Be detailed, and illustrate how they interact with each other and the system to reach specific goals.

- **Variant (optional):** Include some additional steps that might get addressed during the demo phase only as time allows.

The Google News Initiative has already mapped out a few critical user journeys for news media organisations. These are directly from the Google News Initiative based on the work they have done, mostly with independent and small publishers. Users in this context may be journalists, editors, marketers, or other news professionals and show a number of examples of the needs of a CMS system:

1. Content creation

a. **A user can easily embed social-media content** (Tweets, public Facebook posts, TikTok posts) into the content creation process in an oEmbed format.

   - A user easily configures content feeds from social media platforms.
   - The user identifies relevant handles and posts.
   - The user easily imports the relevant content into an article in the CMS.
   - The user publishes the article, which includes social media content.

b. **A user can integrate real-time, localised information sources** (e.g. local weather, local traffic) into their Web site.

   - A user easily configures content feeds from these supplemental sources of information.
   - The user reviews the feed of content.
   - The user quickly creates short, simple articles based on items in the feed.
   - The user easily edits and publishes relevant content.

2. Audience engagement

a. A user can moderate, approve, and remove comments from readers.

- A user can enable comments on some or all of their content if they so choose.
- A reader posts a comment on the news organisation's Web site on an article page.
- A user at the news organisation receives a notification about the comment if they so configured the CMS.
- The user reviews the comment and approves or removes the comment if they so configured the CMS.

b. A user can send e-mail, text, or app notifications when an article is published.

- A user completes the creation of an article.
- The user publishes the article not only to their Web site but also simultaneously sends a push notification to readers who have provided their e-mail addresses, phone numbers, or downloaded the organisation's app.
- After a notification is sent, a user tracks the "open rate" and traffic to the published article.

c. A user can send newsletters to registered readers.

- A reader subscribes via a news organisation's Web site to receive a newsletter.
- The reader's name and contact information is stored in a CRM.
- A user sends a newsletter to registerees.

d. A user can customise the design and experience of an individual reader.

- A reader sets up a username and password.
- The reader's account information is stored in a CRM.
- A user from the news organisation can design the Web site based on this information (e.g., recommend articles based on past reading, run "house ads" based on how frequently a reader visits the Web site).

e. A user can export the content to software for designing a print publication.

- A user creates an article.
- The user can export that article into software (e.g., InDesign) used for laying out the design of a print publication.
- If the user edits the article, those updates should be automatically updated in the software used for print publication.
- A version of both the digital and print articles should be stored in the CMS if they contain differences.

3. Monetisation

a. A user can easily set up digital advertising in multiple formats across all devices.

- A user connects their CMS to ad management software.
- The user configures the ad software to display mobile and desktop ads for both video and display.
- The user can manage their ad inventory within the CMS.

b. A user can implement a paywall through the CMS or integrate an external paywall system.

- A user configures their CMS to accommodate a paywall.
- The user establishes the rules of the paywall:
- In the case of a metred paywall, the user sets the number of free articles provided to readers.
- In the case of a "hard" paywall, a user sets certain content behind the paywall for all readers.
- The user monitors key metrics for reader behaviour when hitting the paywall (e.g., conversion rate, bounce rate).

c. A user can easily set up a method to receive payments from readers, such as for a subscription or contribution model.

- A user sets up a section of their Web site for managing reader revenue and integrates the ability to process recurring payments.
- A reader registers to become a subscriber or contributor. During the checkout process, the reader provides payment information and their payment is processed.
- In the case of a subscription, the reader can unsubscribe within the terms of the subscription offering.

Are you moving to more visual journalism? Consider which charts and graphs you want to easily allow journalists to use in their stories. Here is an example from the FT:

Change over Time

Give emphasis to changing trends. These can be short (intra-day) movements or extended series traversing decades or centuries: Choosing the correct time period is important to provide suitable context for the reader.

Example FT uses
Share price movements, economic time series, sectoral changes in a market

Line

The standard way to show a changing time series. If data are irregular, consider markers to represent data points.

Column

Columns work well for showing change over time - but usually best with only one series of data at a time.

Column + line timeline

A good way of showing the relationship over time between an amount (columns) and a rate (line).

Slope

Good for showing changing data as long as the data can be simplified into 2 or 3 points without missing a key part of story.

Area chart

Use with care – these are good at showing changes to total, but seeing change in components can be very difficult.

Candlestick

Usually focused on day-to-day activity, these charts show opening/closing and high/low points of each day.

Fan chart (projections)

Use to show the uncertainty in future projections - usually this grows the further forward to projection.

Connected scatterplot

A good way of showing changing data for two variables whenever there is a relatively clear pattern of progression.

Calendar heatmap

A great way of showing temporal patterns (daily, weekly, monthly) – at the expense of showing precision in quantity.

Priestley timeline

Great when date and duration are key elements of the story in the data.

Circle timeline

Good for showing discrete values of varying size across multiple categories (eg earthquakes by continent).

Vertical timeline

Presents time on the Y axis. Good for displaying detailed time series that work especially well when scrolling on mobile.

Seismogram

Another alternative to the circle timeline for showing series where there are big variations in the data.

Streamgraph

A type of area chart; use when seeing changes in proportions over time is more important than individual values

Magnitude

Show size comparisons. These can be relative (just being able to see larger/bigger) or absolute (need to see fine differences). Usually these show a 'counted' number (for example, barrels, dollars or people) rather than a calculated rate or per cent.

Example FT uses
Commodity production, market capitalisation, volumes in general

Column

The standard way to compare the size of things. Must always start at 0 on the axis.

Bar

See above. Good when the data are not time series and labels have long category names.

Paired column

As per standard column but allows for multiple series. Can become tricky to read with more than 2 series.

Paired bar

See above.

Marimekko

A good way of showing the size and proportion of data at the same time – as long as the data are not too complicated.

Proportional symbol

Use when there are big variations between values and/or seeing fine differences between data is not so important.

Isotype (pictogram)

Excellent solution in some instances – use only with whole numbers (do not slice off an arm to represent a decimal).

Lollipop

Lollipop charts draw more attention to the data value than standard bar/column – does not have to start at zero (but preferable).

Radar

A space-efficient way of showing value of multiple variables – but make sure they are organised in a way that makes sense to reader.

Parallel coordinates

An alternative to radar charts – again, the arrangement of the variables is important. Usually benefits from highlighting values.

Bullet

Good for showing a measurement against the context of a target or performance range.

Grouped symbol

An alternative to bar/column charts when being able to count data or highlight individual elements is useful.

Part-to-whole

Show how a single entity can be broken down into its component elements. If the reader's interest is solely in the size of the components, consider a magnitude-type chart instead.

Example FT uses
Fiscal budgets, company structures, national election results

Stacked column/bar

A simple way of showing part-to-whole relationships but can be difficult to read with more than a few components.

Marimekko

A good way of showing the size and proportion of data at the same time – as long as the data are not too complicated.

Pie

A common way of showing part-to-whole data – but be aware that it's difficult to accurately compare the size of the segments.

Donut

Similar to a pie chart – but the centre can be a good way of making space to include more information about the data (eg total).

Treemap

Use for hierarchical part-to-whole relationships; can be difficult to read when there are many small segments.

Voronoi

A way of turning points into areas – any point within each area is closer to the central point than any other centroid.

Arc

A hemicycle, often used for visualising parliamentary composition by number of seats.

Gridplot

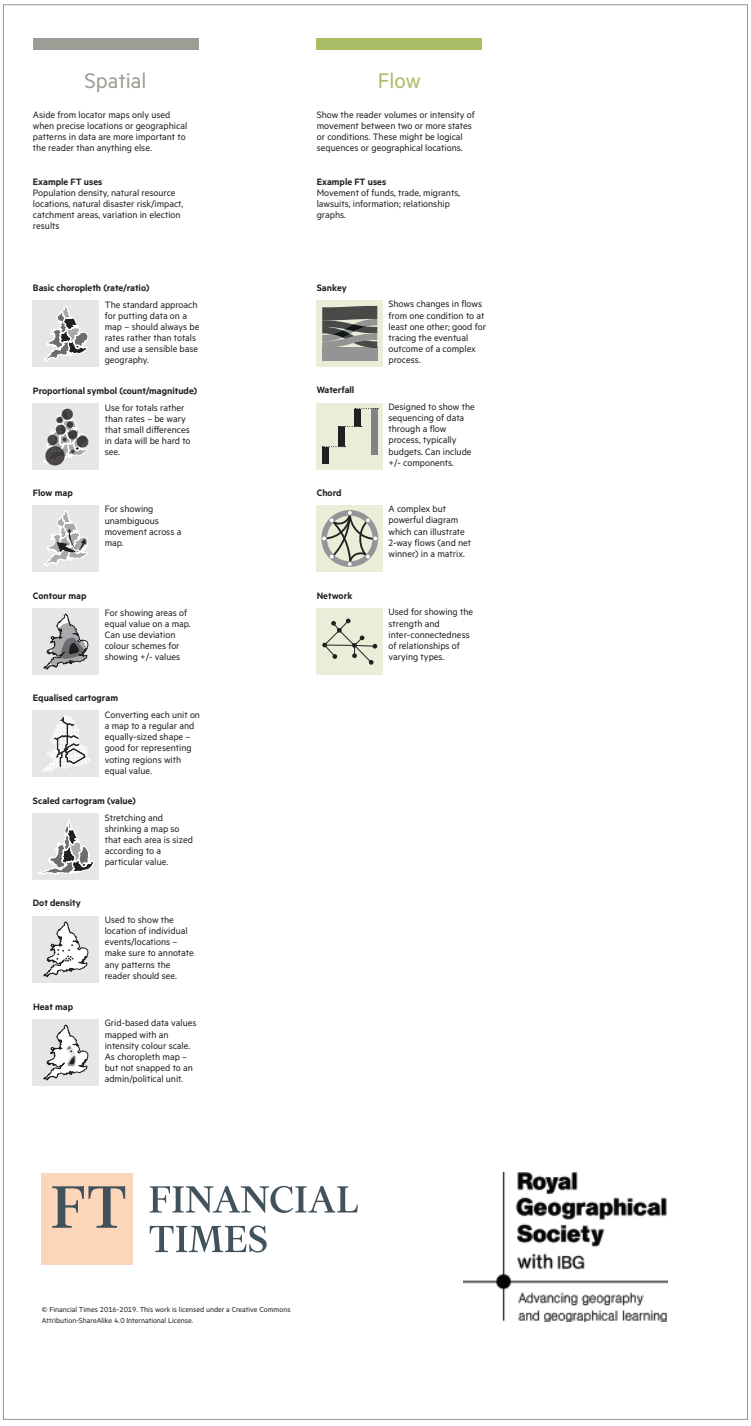
Good for showing % information, they work best when used on whole numbers and work well in small multiple layout form.

Venn

Generally only used for schematic representation.

Waterfall

Can be useful for showing part-to-whole relationships where some of the components are negative.



The FT created this guide to clarify the different types of visuals journalists can use in stories.

B. Identifying your business objectives

You've decided to change your CMS and understand who your internal stakeholders are. But what are your business objectives? Much like creating critical user journeys, you need to identify critical business parameters. Below are some areas to think about and questions to ask.

1. Distribution

- How many publications are you building for? Will you be making investments in other countries? Languages? Channels?
- Are you building for print now and in the future?
- Which distribution channels? (Web sites? Mobile? Newsletters? Smartphone alerts? Podcasts? Video?)

2. Audience

Where do you want your business to be in a few years? In South Africa, the Daily Maverick went from 1 million to 12 million readers in three years. It's nigh on impossible to predict that growth, but you can start setting parameters around "what if" questions:

- How many users do you have now? On which platforms? Can you handle growth? Do you need a critical mass to keep any one channel alive?
- Are you targeting new demographics?
- Gen Z is the first digitally native generation, and it acts differently than past audiences.

We will need to address this audience differently; that may mean more audio and video. Does the video need to be vertical TikTok style? Will you do more utility-style formats and interactive graphics? Does reporting need to be different? How will different journalists assigned to the same story work together? Will that happen

in your CMS? Can it? And will there be new platforms that these formats will be distributed to?

These are a few questions you should ask about the future of your business and take into consideration when planning for a new CMS.

3. Revenue streams

Do you have, or intend to have, any of the following revenue streams? Think about how these fit into a CMS and what you need from each:

- **Advertising:** Do advertising workflows need to fit into the CMS? If so, how?
- **Subscriptions:** This needs to work across different platforms and be seamless for the customer. It's a complex need in itself.
- **Memberships:** If you are planning to offer this growing form of revenue being used by many media companies, you need to think about how it fits into your products and workflows.
- **Donations:** Some publishers have found that asking people to donate is a valuable income source, either as a one-off or recurring donation.
- **Sponsorships:** How do sponsorships work in terms of space and services offered? Can they fit into the regular advertising workflows, or are there specific needs?
- **Commerce:** Some media companies are experimenting with this area. Is there something you can use for trials or an easy plug-in? Or would this have to be built separately?

4. Technical support

You may want everything, but realistically you don't have the team to support it. Consider the developer intensity needed for your vision. Can much of this fit in with your current resources? What will it take to build and connect to third-party systems? Do you need an off-the-shelf system? Or do you need a level of customisation?

Consider the size of your business and where you want to spend the time and resources you have available.

5. Other considerations

A few other things to consider:

- **Security:** How is the CMS keeping you, your content, and your audience safe from cyber-attacks?
- **Speed:** Some publishers accept it takes time between hitting "publish" and being published on the site. Speed makes a significant difference to traffic and engagement. What is the right speed for you?
- **Analytics:** Which tools do you need and want to measure your business?
- **New technologies:** What technologies are on the horizon? Think about areas such as AI that may have a fundamental impact on your business and how it operates.

C. Case study: Kölner Stadt-Anzeiger Digitale Medien

When it was time for Germany's Kölner Stadt-Anzeiger (KStA) Digitale Medien to reinvent its Web site, it didn't make incremental changes; it basically started over and reinvented its traditional local site. During an INMA Webinar in June 2023, members heard from Christine Schönfelder, chief product officer and head of the Digital Competence Center, and Timo Schillinger, senior product manager, about how they orchestrated and implemented what they call their "Big Bang relaunch."

Such a drastic approach was essential, they explained, because the tech stack and CMS were nearing end of life: "We had nearly no maintenance ability anymore," Schönfelder said. "We were running out of updates and licences, so there was really no way to go forward with this tech stack."

The limitations prevented KStA from developing new types of content, improving distribution, implementing AI, integrating personalisation, and much more. After "endless discussions," the company decided the best approach was also the most challenging and riskiest.

KStA decided to take a faster, riskier route by doing all its relaunch projects simultaneously.

KStA put eight projects into one big relaunch, even though each project was a sizeable challenge in itself. And they decided to do it in less than eight months. Schönfelder explained they took such an extreme approach because they needed to grow quickly and increase digital subscriptions as print declined.

Rather than spread out that spending and development over a few years, KStA decided to go all in: "We put that all together and said, OK, this is what it is going to cost, and after one year we [will be] done and we are finished and we are ready for the race in the future."

To introduce a new tech stack and ramp up the development team, Schönfelder said they began working internally to increase knowledge on the team. Soon, however, they found disagreement amongst members of the development teams and the approach they should take. The team also said it could achieve the goals of the Big Bang launch — but not if it had to introduce a new tech stack as well.

So they chose to divide and conquer.

"We decided to build two Web sites at the same time with just a short latency and launch the first one on the hard deadline of one year on the old tech stack," Schönfelder said. "And while building that, we separated a second team that built exactly the same Web site on the new tech stack with only six weeks between those two launches."

The first redesigned site, its minimum viable product (MVP) launched in November 2022 on the old tech stack and the second was rolled out at the end of January.

While the two-site solution brought plenty of headaches, it also held some unexpected benefits, according to Schönfelder: If they had done a completely new site and tech stack at the same time, it would have eliminated a safety net that allowed them to roll back and rely on the old tech stack when needed.

Creating two Web sites at the same time had plenty of challenges, but it also had benefits.

"We had this headache of 'What if the whole thing is going to explode and we can't roll back because we completely cut off all the roots that we had before?'," Schönfelder said. "Therefore also this decision of taking a two-step scenario — first front-end CMS on the old tech stack and then afterwards the new tech stack on a six-week-old front-end CMS … gave us the opportunity also to do this rollback."

The third step was to "get in an iteration mode so we can start rebuilding and start improving the things we envisioned," Schillinger said. He pointed out it would have been impossible to create a product that was everything it needed to be, so they focused on launching it and then improving it. Improvements include an AI recommender on the homepage and hyperlocal personalisation.

Their efforts have paid off, with subscription conversion rates subscriptions nearly doubling. The company's 200 editors have been onboarded to the new CMS and are happier than before.

Users are happier, too, enjoying faster page speed and frictionless usage on the homepage. A redesigned starting page offers more reading incentives with a wider range of articles, different kinds of teasers, and easy access to subscriptions and log in.

Importantly, KStA was able to create its own advertising vertical and take ownership of its programmatic and display advertising for the Web site. It created its own ad server and started working with outside customers, becoming a marketer for other publishers.

"We built a really high-quality and high-end advertising portfolio because of this relaunch," Schönfelder said. ■

CHAPTER 4

Your new CMS requirements

Congratulations! If you've made it this far, you should have a good handle on the major criteria of your new CMS:

- Workflows
- Roles and responsibilities
- Technologies
- Business objectives

Just remember that in addition to meeting the needs for all your current processes, you should keep thinking about what you want from your CMS in the future. Some of this may be guesswork, but you need to consider where your business will be.

A. Creating requirements

Based on all the information you have gathered about your business, it's time to create requirements. Create a laundry list of features you would like to see and categorise them into must-have, nice to have, and may want to have in the future. During this phase, you may also consider what integrations you currently use and want to keep, and which ones you want to replace.

This list may include all, some, or any of the following:

Capability	Explanation
Content lifecycle	Services for managing content lifecycle
Create and classify content	Create and add metadata to new content
Structure content	Structure content in the way you want (headline, lede, summary, background, context, conclusion)
Edit content	Modify existing content
Approve and publish content	Sign off on (as necessary) and make the content live
Repurpose content	Publish content to multiple places and/or sites
Archive content	Remove content from publication, but maintain in the CMS in archive format
Manage basic digital/voice/ media asset	Central asset library to store, manage, and reference non-text files
Republish on social media	Ability to auto-publish article links to various social channels
Audience surveys	Widgets for optional interactivity with audience
Connector library	Collection of packaged connectors to other digital platforms (e.g., to support integration with specific e-commerce or e-mail platforms)
CDN	Content delivery network (CDN), with capabilities to foil "Denial of Service" attacks
User registration	Service for registering users for special access, potentially including a registration wall
Subscription management	System to manage subscribers, their subscriptions, and the paywall rules and limits
Personalisation	Targeting content based on personal preferences or profile
Ad management	Serving, delivering, and reporting on ads
Classifieds	Classified ad entry, management, and payment
Mobile app management	Sending content and messages to a mobile app
Web site search	Search engine for finding content on Web site by keyword
Content and assignment planning	Digital "assignment desk" and calendar-style planning capabilities for future stories
Video management	Manage and deliver video content
Audio management/podcasting	Manage and deliver audio content
Data visualisation	Capabilities for visualising different sorts of datasets
Comment section	Commenting and discussion services
Newsletter production and management	Assembling curated or automated content blocks for delivery via e-mail
Push notifications	Alerts for breaking news or significant stories
A/B testing (news content)	Testing article, headline, and other content on site or app
SEO	Search engine optimization (SEO) capabilities
Multi-publication management	Ability to manage multiple publications in the same CMS, with the ability to variably share content and services
Complex layout and subsite/ subsection cloning	Ability to "productise" a subsite, nanosite, or complex layout structure for later reuse
AR-/VR- enhanced services	Supporting augmented or virtual reality environments
Outbound marketing	Services for managing outgoing messages and campaigns (typically email, SMS, direct mail)
Print content management and layout	Systems for managing print layouts and related editorial management like copyfitting
E-commerce	Capabilities to display and sell products, take payments, and fulfill orders
Social media listening/ engagement	Capabilities to manage diverse social channels, listen for terms or trends, and respond to individual mentions
Digital analytics	Collecting usage data, creating metrics, and summarising analytics, including visualisation
Customer data management	Managing core customer profiles across multiple touchpoints and data sources in a single repository
AI authoring	Employing Artificial Intelligence (AI) algorithms to generate editorial content

Aside from the features, think about what you need from the vendor itself such as language support: User experience (UX) and customer service, as well as the ability to exit if you need to go through this process again.

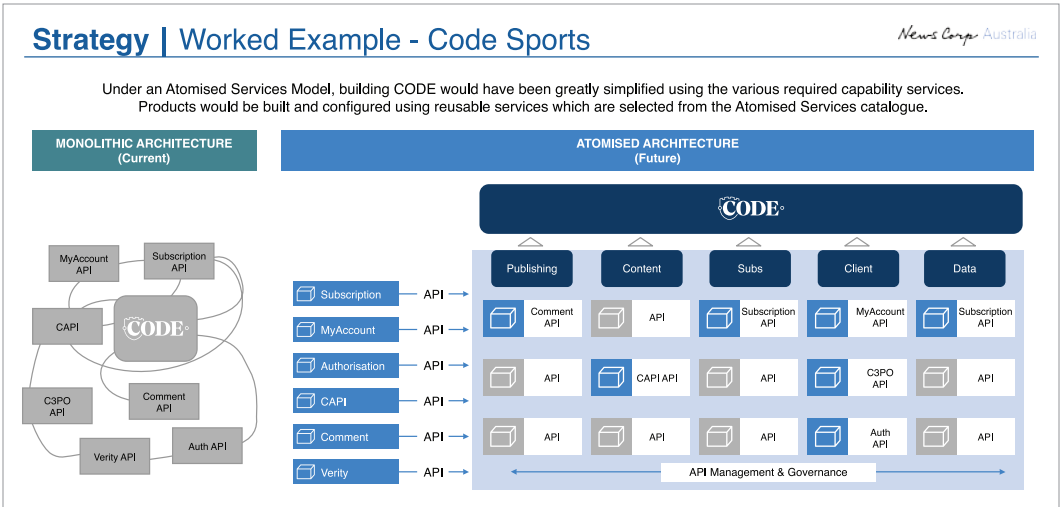
> ***To note:*** *Before you announce changes, consider local labour laws and agreements with unions. A new CMS may bring about a lot of workflow change, likely automation. This will change jobs, which may need negotiations.*

B. All-in-one vs. modular approach

For some, an all-in-one system will make more sense as it's easier to manage. This is often the answer for smaller publications. Constraints on the system can be seen as a benefit, as it makes the entire set-up easy from journalism to publication. The more options you want, the more complex it becomes and the more technical support you need.

Yet for larger companies, it may make more sense to split out the tech stack to a more modular approach.

The CMS can be broken into several main elements, using APIs as interfaces between them. For instance, content storage, editorial workflow, and front end may be decoupled into separate systems. News Corp Australia has adopted this strategy and shows the difference in approaches.



News Corp Australia has divided its CMS into main elements, using APIs as interfaces between them.

This approach involves building a suite of tools and processes that can be mixed and matched. They also may be switched in and out with other solutions, including third parties. It's much easier to A/B test solutions without committing to a whole new suite of tools, which is a huge upside for organisations, as they can be more flexible with their integrations.

This modular system allows individual brands within a single media organisation to have more control over the design, UX, features, and product functions. Note that everyone has to operate within the given framework to avoid becoming a free-for-all and making the tech stack so enormous that it's hard to manage.

A modular or atomised system can transform how a news organisation works, allowing more nimbleness. This should only happen if the CMS requirements are so large that a single solution can't provide what's needed, and there are sufficient technical skills and resources to both build and manage it.

While this may sound attractive, it is no easy feat. It takes years, not months, to get this correct. It can only be transformed when there is a full understanding of workflows around the business, selecting the right vendors and systems, and essentially building from the ground up. One leader interviewed for this report had seen a team broken from this process because it tried moving too fast.

C. Case study: Stuff

When Andrew McPherson started his role as chief technology officer of New Zealand's **Stuff** in 2021, he faced a dilemma: The instability of the existing CMS created an urgent need to implement something new. Yet he knew that it wasn't simply about replacing one product with another. They needed to fully understand their CMS requirements, the landscape of existing products, and how to evaluate those products with the assumption that no product will be perfect.

But once the CMS was stabilised, the process of moving to a new CMS grew even bigger "because it wasn't just the CMS, it was kind of everything that needed to be replaced." He determined it would take about two years to transition, a process that would include replacing "all of our tech stack, both internal and customer-facing technology, all editorial tech, printing, everything throughout the business — top to bottom, front to back."

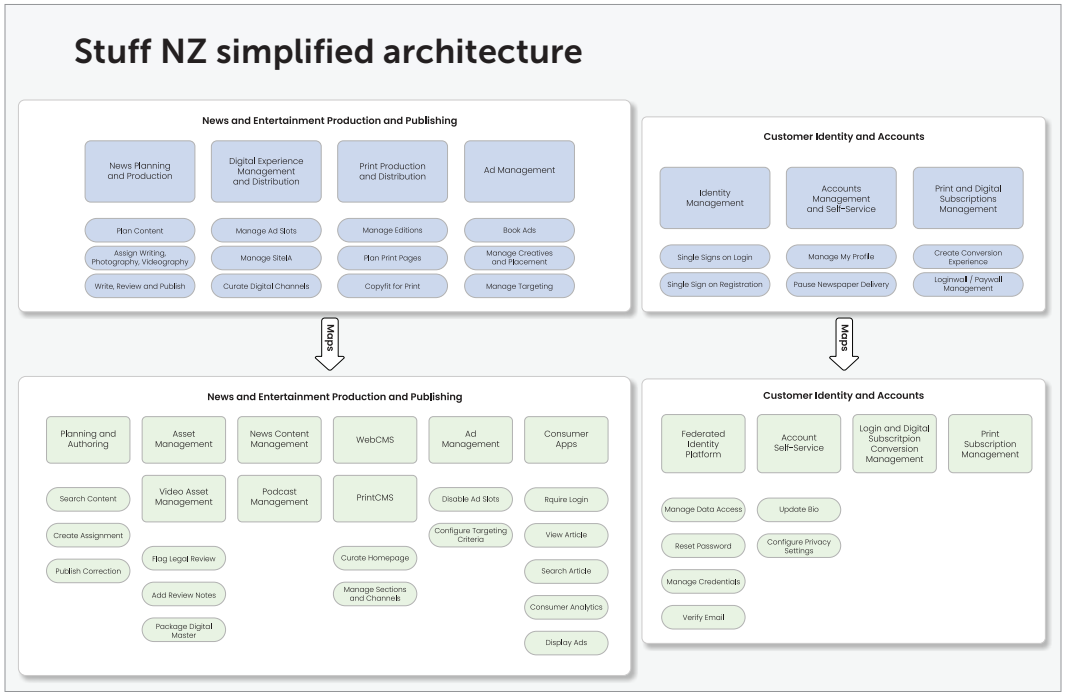
McPherson didn't want to get "locked into someone else's road map," so instead of just choosing a product he applied a technology architecture lens to the process. The goal was to establish an architecture that would allow products to be replaced over time rather than having to replace the whole thing. The team considered a range of options, from open source to SaaS solutions, from the standpoint of what would best help Stuff maintain the revenue from the print newspaper side of the business as well as grow the digital side.

They chose to have a headless CMS for the digital side of the business and Naviga for print. The headless CMS is made up of several components including Drupal for content storage, Naviga for newsroom workflow and laying out Web pages, iMatrics to add things like metadata and tagging, and Sophi.io for laying out pages that go to print. They used API layers to connect the systems, which gives them more control.

This, combined with the fact that Drupal is open source, helped reduce dependency to their previous system – which was a more rigid and expensive CMS. McPherson also said not being tied to a particular vendor's road map was crucial on the digital side.

McPherson estimated there are currently 10 to 12 APIs running on top of Drupal. That number could rise to 10-20 by the time the entire CMS replacement process is complete, which is likely around two years. He said one of the important things for Stuff in terms of writing those APIs was to make sure they're "not too heavily influenced by the vendor's view of the world." To retain control of your architecture and assets, "you need to define your content and users for yourself, then add a translation layer."

Stuff is doing "API versioning," he said, so if they create a new version of an API that adds functionality, "anything that's already talking to version one keeps working while new products start talking to version two." This enables testing functionality in one title, for instance, before rolling something out everywhere.



A look at the simplified architecture Stuff has adopted.

Along with all the technological considerations accompanying massive changes to the CMS and tech stack, there are also changes to the way people work. A well-integrated system creates efficiencies and streamlined workflows across both sales and editorial teams. Training has been critical to successful adoption.

Ultimately, McPherson said that as a media company, Stuff "just wants to focus on producing great content, but you end up spending so much time in the technology" that it can distract from building the business. With the move to a modular solution that takes advantage of a storage system like Drupal with a long history of stability, the idea is that future CMS changes won't require major tech stack changes as well — giving Stuff more time to focus on producing great content. ■

CHAPTER 5

How to choose the right provider(s)

By now, you should have your requirements mapped out, and that means it's time to choose a vendor.

Real Story Group, which publishes evaluations of technology vendors, created this illustration summing up the different ways organisations choose technology:

1 Love at first sight

2 My cousin Vinny

3 Who's the winning vendor this year?

4 We have some old dungarees lying around and just wear that to the party

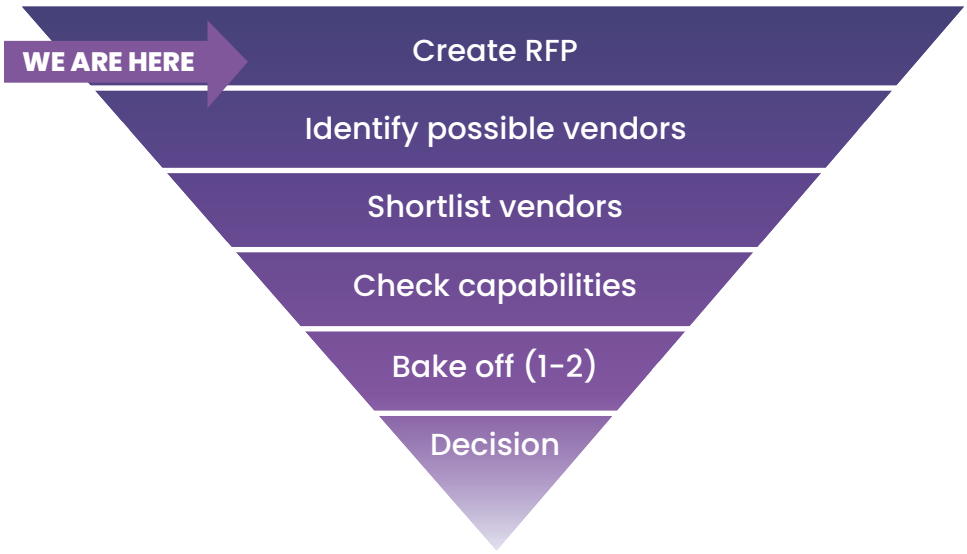
5 Someone else (IT...) should decide for us

6 Happiness is a stack of warm spreadsheets (with 300 "must-have" requirements!)

How does your organisation choose its technology vendors? Real Story Group identified these six common approaches.

Companies choose CMS providers for many reasons, and it's astonishing to see that these are not far from the truth. Sometimes a system is recommended, sometimes you know someone who works there, or perhaps one has earned glowing reviews in trade press. These are not reasons to choose a CMS. Instead, you will end up retrofitting the technology to your business, and that can hugely limit your business' potential.

Once you have listed your requirements and feel comfortable knowing what you need, follow these steps to find the right CMS provider for your needs.



A look at the process for choosing a CMS vendor.

Step 1: Create an RFP

A request for proposal (RFP) should include all the work you have already done to identify your needs. This means a provider is working to your needs, and you are not trying to retrofit what they have to your business. It makes a huge difference.

The book The Right Way to Select Technology provides a sample layout to consider using:

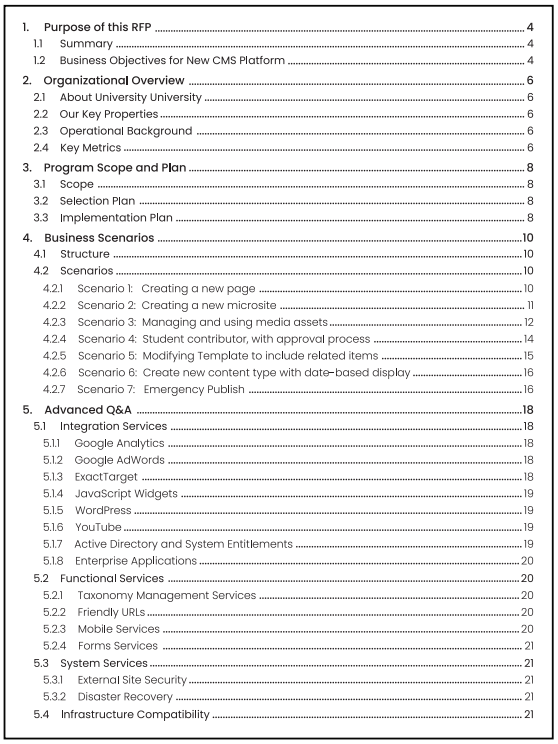


FIGURE 10.1
The first part of the RFP should talk about who you are and what you need.

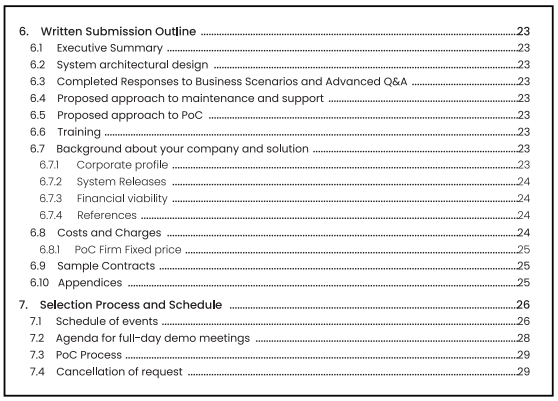


FIGURE 10.2
The second part of the RFP should dictate the proposal format, including information about the vendor and their pricing, as well as the overall schedule.

A sample layout of what an RFP should include. Source: The Right Way to Select Technology.

Step 2: Identify possible vendors

There are many vendors in the market, and it can be challenging to understand which ones could do what you need. Ask around. Look at what is used by companies similar to you. Do some research. At this phase, you can get a quick sense of whether it's worth looking at a vendor more closely.

INMA and Google have been working on a tool called the CMS Vendor Selection Tool to help with this process. Check out www.INMA.org/CMS to give you a head start. Please note that this is far from an exhaustive list, but it will help you get started.

Step 3: Shortlist vendors

Take a deeper look at your list of vendors. Do some top-level research to see if they meet your overarching needs. With the work you have done identifying your requirements, this should be relatively straightforward.

Again, using the INMA and Google CMS Vendor Selection Tool at www.INMA.org/CMS, download short documents for more information about certain vendors. It should help with this step.

Step 4: Demo the CMS

Contact the CMS providers on your shortlist and arrange demos. Be sure to organise these walkthroughs with two or three of the key stakeholders. Stakeholders must include the key users who will ask questions and dig into the important elements of their work. This must be a group decision and will make rollout much more straightforward if key people and departments can contribute and voice approval or concerns.

Step 5: Check capabilities

Check the gap between what vendors say the CMS can do and what it can actually do. Don't take a vendor's word for it. Make sure you see the functions in action.

You may talk about their road map of features, but don't forget a road map is not set in stone. A vendor has the right to change tack at any given moment. It's helpful to speak to other customers with a similar business/product as yours to sense-check a few things, including the road map and how closely the vendor sticks to it, support availability, and turnaround. Most vendors are happy to give you a couple of references with whom to speak.

Step 6: Bake off

Would you buy a car without driving it? Of course not. And that's often a cheaper, less complex piece of machinery. It may feel like a lot, but Tony Byrne at Real Story Group offers assurance that it's not. In fact, the company usually suggests a week-long sprint supported by the vendor with the first day or two of training against some of the custom use cases already used in the workflows/requirements/demos. It's a complex system that can change the path of your entire business. You need to know you're making the right choice.

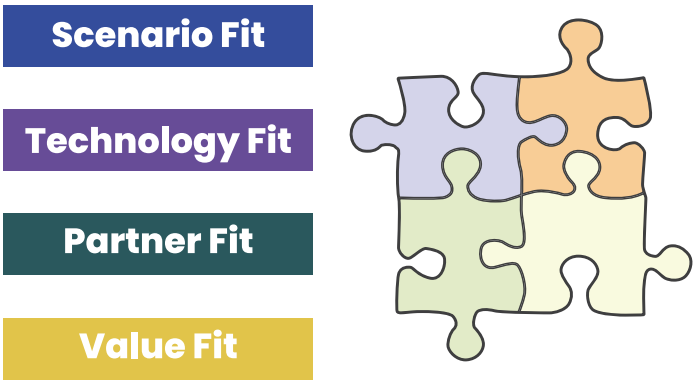


FIGURE 12.4
A selection team must weigh different trade-offs, and a savvy business lead will align the discussion with overall enterprise objectives.

Selection team members must consider the different ways a CMS fits with an organisation's objectives. Source: The Right Way to Select Technology

Byrne further told INMA that it's important to do this with two finalists: "You'll learn about the tool, but you'll learn even more about yourselves, especially if the new CMS is going to bring additional functionality you don't have right now. Are you really set to exploit it?"

Step 7: Decide (with stakeholders)

Unless you are a very small organisation, the decision itself cannot be made in isolation by one person. Ensuring that all the main stakeholders are active in the entire process is essential, and now they must come together, weigh the trade-offs, and make the final decision. ■

CHAPTER 6

Conclusion

Choosing a CMS is a business decision first and foremost. Many stakeholders are involved in the decision. Listening to them to understand their workflows and how they use the technology is an excellent start to finding a good fit. Remember that how they use it now may not be the most efficient way to work. This is a good time — and perhaps an excellent excuse — to reflect on efficiencies and consider where to invest time and resources.

The second key to choosing a CMS is to think about where your business will be in the future. This decision should last you several years. What could you factor in to allow for flexibility in business models further down the road? This is a good excuse for some scenario planning.

If there is one thing to take away, it's this: Do the work up front to ensure you choose a technology that will serve your business now and in the future. Otherwise, you run the risk of choosing something that uses a lot of human and technological capital trying to make up for shortcomings rather than channelling them into improving and growing your business. It's long and complex, but it's worth it.

Modular systems have a definite appeal for the modern news publisher. As business and consumer habits become more complex, having the ability to switch out elements and work with specialist technologies/providers will enable you to be more nimble. This comes at a cost of support hours and a need for internal technical know-how, so that trade-off must be thoughtfully considered and built into the road map if you think your business will grow to justify this.

This report suggests a simple process. You may have your own. Either way, you must work with your teams to test drive your solution before you commit. A wrong decision can cost you, at worst, the business and, at best, a lot of wasted time and energy. A good decision can help you exponentially grow your business.

And once you have chosen, implementation will be key. Build a plan with each of your stakeholder departments, and don't rush it through. This is a long-term technology — or set of technologies — that will serve you best if implemented well.

Having the right technologies, used effectively by the right people, sets up your company for maximum success. And for that, we wish you well. ■