Playbook Objective

The objective of this document is to get your businesses operationally ready for the implementation and deployment of Adobe Experience Manager. This will help you and your organisation — as new AEM users — derive maximum value from your investments in Adobe technology.

Although we have seen many projects succeed, others have faltered due to a lack of internal investment in the businesses to ensure they are operationally ready to adopt this new technology. This playbook will help to avoid some of the common areas we have identified as missing in less successful deliveries.

The recommendations and best practices in this playbook are ideally intended to be applied to your business in parallel to your technology solution deployment, to ensure that by the time you go live with your solution your business is best positioned to realise value from your investment.

The playbooks in this series use a common digital governance structure focusing on the key areas of leadership, strategy, people, product and process to deliver a robust approach to readying your business whether you are deploying one Adobe solution or several.

This playbook should be read by:

- Chief Marketing Officer
- Head of Digital, Head of Strategy, Head of Marketing
- Head of Content, Head of UX, Content Production Lead, Content Strategist, Content Producers
- Solution Architect, Head of Implementation, Lead Developer
- Program Manager, Project Manager, Business Analyst
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1. Introduction

1.1 About Adobe Experience Manager

Adobe Experience Manager (AEM) provides a better digital customer experiences across all customer touch-points including websites, mobile sites, social networks, and customer transactions. AEM will help your businesses create a compelling presence across the customer’s entire journey. This will allow your organisation to improve brand loyalty, enhance customer engagement by offering relevant and personalised content and, as a result, drive demand and business growth.

Adobe Experience Manager combines a number of infrastructure-level and application-level functions into a single integrated package.

The offering addresses:

**Sites** Quickly create and deliver relevant websites and mobile apps, and update the content anytime, all without burdening your IT department.

**Assets** Easily manage images, videos, and other assets across every digital channel to deliver personalised customer experiences.

**Communities** Build thriving communities and engaging conversations across all of your social properties, so you can inspire new levels of learning and customer loyalty.

**Forms** Integrate enterprise-level forms into your websites and mobile experiences, and simplify the creation of forms and the completion of transactions.

**Apps** Create and deliver mobile apps with a solution that bridges the gap between marketers and IT, so marketers can easily update content, even after launch.
Whether you’re managing basic web content or content to be released into social networks, Adobe Experience Manager helps deliver creative assets and other content across all channels where a customer might engage.

1.2 About this Playbook

This document follows a structure that will help you understand the key focus areas to drive maximum value from your investment in Adobe Experience Manager. This structure is based on the Adobe Digital Governance Framework, which creates the appropriate business environment for digital to succeed. It includes:

- **Leadership** Executive buy-in and support for the Implementation and adoption;
- **Strategy** Clarity and alignment around key business goals for evaluating digital performance;
- **People** Resources, expertise, and the appropriate team structure to run AEM effectively;
- **Process** Procedures, project management, and workflows for deploying and using AEM effectively;
- **Product** Solution fit, common integrations and automations.

What’s different about digital? Everything.
2 Leadership

Leadership is critical — it provides the foundation for successful digital transformation.

C-Suite involvement is needed to drive a digital transformation program, budget and outcome. Your role as the project sponsor is to contribute with a strong understanding of how Adobe Analytics — and digital in general — will transform the business. Position yourself as the subject-matter expert and functional leader in a hands-on mode.

A common trait you will find in successful digital teams is that they are owned and managed by people who are prepared to make the necessary investments in talent, equipment and training. Leaders are skilled at extracting optimal performance from team members and developing strategies that take full advantage of their unique talents.
Leadership consists of four subcomponents: sponsorship, buy-in, communication and accountability.

2.1 Sponsorship

Having an effective executive sponsor will help the project achieve maximum success. To be truly effective, this internal executive sponsor should have enough seniority and influence within the business to have buy-in from other stakeholders across the organisation. Having a high level of self-interest in the project’s success and a passion for digital transformation — and truly believing in how AEM is going to transform the business — are also critical.

An effective executive sponsor should guarantee the implementation of AEM stays in line with the corporate strategy, protecting it from conflicting initiatives or internal politics and helping address any limiting factors, such as resource or budget constraints.

The Four Ps of Execute Sponsorship

<table>
<thead>
<tr>
<th>Prioritisation</th>
<th>Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>To be successful, AEM needs to be aligned with key business goals. The executive sponsor should provide crucial direction to the team, ensuring the implementation of AEM is always in line with the corporate strategy and top priorities.</td>
<td>The executive sponsor will play an important role in protecting you, the digital and the implementation from other conflicting initiatives or corporate politics.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Problem solving</th>
<th>Promotion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using their influence within the organisation, the executive sponsor should step in to remove any problems that may impede the success of the implementation, such as resource or budget constraints.</td>
<td>The executive sponsor will play a key role in championing the benefits of AEM, holding people accountable, and promoting digital wins within the organisation, especially among other executives.</td>
</tr>
</tbody>
</table>


2.2 Buy-In
Achieving management buy-in across your leadership team is also key. Having multiple change agents will help you drive adoption easier and faster. The responsibility for the implementation and deployment of AEM needs to be shared by the entire leadership team.

It is then the Executive Sponsor’s responsibility to win over the executive team by sharing examples that prove the value of Adobe Experience Manager and digital. Typically this focuses on delivering a better customer experience and subsequent benefits to the business.

When implementing digital projects such as AEM, leaders will be responsible for monitoring different departments and teams owning different parts of the digital marketing initiatives. It is critical to make sure that all groups share a common strategy to achieve common goals. Having an internal roadshow to win support from executives will help raise awareness towards aligning all teams and obtaining the necessary resources for an optimal implementation.

### 2.3 Communication

To get the organisation on board, it is always a good idea to share the vision and repeatedly reinforce the reason of why your company is investing in AEM technology, by articulating both the customer benefits and business benefits. Sharing documentation such as success case studies of digital implementations will help you validate why and how this investment will take the organisation to a new level. If you want the organisation to embrace digital transformation, it’s important to let employees know it’s a priority.

#### 2.3.1 Communication Management

A communication strategy can lay out the foundation and framework for communicating initiatives and objectives across business and technology teams. It can also help by:

- Providing guidance and framework for effective communications within and outside of the project;
• Ensuring that proper protocols are always followed when preparing and delivering communication;
• Providing precise and concise project communications at the right time;
• Involving all necessary stakeholders and maintaining regular contact to keep transparency in all transactions;
• Having clear communication channels with well-defined roles and responsibilities;
• Clarifying doubts, overcome challenges and avert risks that affect the project.
• Building trust and developing open relationships between the parties;
• Promoting openness and transparency.

2.3.2 Recommended Communications Process and Principles

You can build your communication strategy around the following key principles:

• **Communication is critical to effect change** Ongoing and timely communication is a fundamental requirement to inform and respond to stakeholders about the change, its impact on them and its outcomes; to enable feedback; to manage expectations; to ensure a smooth change transition; and to support uptake and continual improvement.

• **Communication delivery is local** Communication from the local area will mean that messages are relayed in a language that is relevant to the audience. Engagement with local communicators across the business and technology will increase the effectiveness of the communication.

• **Communication is consistent and repetitive** With a common approach across the program, stakeholders will come to expect communication through specific methods (channels), with given formats (look) and timing. Repeating key messages through multiple channels will increase the amount of information that is absorbed.

• **Communication is linked to the project objectives** Linking the communication to the objectives provides a context and reasoning behind change. Repeatedly providing these links will serve as reminders as to the wider benefits of the project.

2.3.3 Setting Communication Goals
All communication developed and distributed throughout the project is intended to achieve the following goals:

- Stakeholders and project team members are aware and informed;
  - Stakeholders and program/project team members should receive timely information about what is happening (why, when and how, and what it means to them). This information starts at a generic level (which is repeated throughout the project lifecycle), and becomes more detailed, specific and targeted to the audience as the project progresses. This information enables stakeholders to think about, understand, and be prepared for change and plan for future project streams of work.

- Stakeholders and program/project team members are engaged;
  - Opportunities are created and communicated to key stakeholders to support them in exploring and becoming involved in and committing to a new way of doing things, for example:
    - Different stakeholders and project team members will move through and transition at different rates/times.
    - Communication will aim to gain key stakeholders and project team members’ commitment by implementation.
    - Strategies and implementation roadmaps can be developed to manage stakeholders and project team members who are resistant to the change throughout the transition.
  - Communication is two-way, with stakeholder input and feedback sought and valued at all stages;
  - Stakeholders and project team members expectations are managed;
    - The aim of communication is to provide set expectations of strategic initiatives, program/project scope, associated constraints, risks and dependencies, explain why this may differ from expectations (in targeted messages), and to provide ongoing updates on expected and actual outcomes.
  - Acquisition of skills and knowledge is supported;
  - Training is backed up by supporting communication to reinforce training and provide opportunities to share knowledge.

2.3.4 Recommendations on a Communication Approach
An approach to communication management for the project may include:

- Conduct an effective stakeholder analysis;
  - Stakeholder analysis is developed at the Project Board, User Group, Project Team and Stakeholder levels.

- The Stakeholder Analysis will focus on all parties (users, management, executives or third parties) required to achieve the desired outcomes and any parties impacted by the change to ensure full coverage.
- Categorise stakeholders into specific audiences (communication channels).
- Identify information requirements of all parties and establish distribution lists by subject area;
- Have regular meetings. There should be regular meetings organised with various levels within the project to ensure that there is regular communication.
- (Use sparingly) Where project team meetings do not meet communication requirements (for example, where cross-area representation is required for specific project deliverables):
  - One-on-one meetings may be required to obtain specific input and/or deliver important messages (as required).
- A common wiki or alternate online knowledge management solution to provide access to all parties and used by some to provide a workspace.
- A shared drive to maintain the main reference point for overview of the project with links to documentation for wide dissemination and feedback.
- Electronic newsletter or company-wide communications, providing regular project news (updates, upcoming events, outcomes) delivered by email.
- E-mail may be used for targeted, individual or group communication — with a specific purpose.
- Standard templates for communicating regular information such as project status reports, meeting minutes, and reports should be used to ensure communication is consistent and repeatable.
- Track required message delivery.

2.4 Accountability
Your organisation is investing in AEM, and top executives are expecting results. For this to happen, it is the job of the leader and senior stakeholders to hold themselves and their people accountable — employees, teams, partners, and most importantly him or herself. Start with changing the perception that accountability is about punishment and hard discipline. It should really be about learning and improvement.

To define accountability, you can create a project charter (PC). This is a document that states that a project exists, why it is important, who is involved, its timeframes, the expected outcomes, and the resources needed for it to be successful. It also gives you written authority to begin work.

### 2.4.1 Steering Committee

Setting up a group of high-level stakeholders and/or experts will help you achieve the four subcomponents of leadership and, at the same time, set the direction of the project. This Steering Committee can also help by:

- Prioritising initiatives;
- Reviewing business cases for new initiatives;
- Lobbying for the necessary time, personnel and budget;
- Ensuring quality in decision-making;
- Encouraging a collaborative work environment;
- Monitoring progress towards goals;
- Controlling scope and resolving conflicts.

### 2.4.2 Common Roles and Responsibilities Within a Steering Committee

The following high-level roles and responsibilities are based on industry-standard practices for Steering Committees.

<table>
<thead>
<tr>
<th>Role(s)</th>
<th>Responsibility</th>
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<tbody>
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</tr>
</tbody>
</table>
| Business or Technology Sponsor | The sponsor is ultimately accountable for the outcome of the project and is responsible for securing spending authority and resources.  
- Vocal and visible champion  
- Legitimises and lends credibility to the strategic goals and objectives  
- Is the escalation point for changes and issues outside the agreed tolerances  
- Assists with stakeholder engagement where required |
|---|---|
| Business Executives | The Executive’s role is to ensure that the project is focused on achieving its objectives and ensuring a cost-conscious approach, delivering a product that will achieve the forecast benefits, balancing the demands of the business.  
- Designs and appoints the project management teams  
- Oversees the development of the business case, ensuring corporate strategic alignment  
- Monitors and controls the progress at a strategic level, in particular reviewing the business case regularly  
- Escalates issues and risks  
- Is the escalation point for issues and risks, and ensures that any risks associated with the business case are identified, assessed and controlled  
- Makes decisions on escalated issues, with particular focus on continued business justification  
- Ensures overall business assurance and ensures that the project remains on target to deliver products that will achieve the expected business benefits. |
| Business Owner | This role represents the interests of all those who will use the product, including operations and maintenance, those for whom the product will achieve an objective or those who will use the product to deliver the benefits and value drivers.  
- Provides quality expectations and defines acceptance criteria  
- Ensures that the desired outcome is specified  
- Ensures that products will deliver the desired outcomes, and meet user requirements  
- Ensures that the expected benefits are realised  
- Provides a statement of actual versus forecast benefits at the benefits reviews  
- Resolves user requirements conflicts |
| Technical Owner | This role represents the interests of those designing, developing, facilitating, procuring and implementing the product. This role is accountable for the quality of product delivered by suppliers and is responsible for the technical integrity of the project.  
- Assesses and confirm the viability of the approach  
- Ensures that proposals for designing and developing the products are realistic  
- Advises on the selection of design, development and acceptance methods  
- Ensures quality procedures are used correctly, so that products adhere to requirements |
| Assurance Owner | Assurance covers the primary stakeholder interests of the business, technical, end users and suppliers.  
- **Ensures that** the right people are planned to be involved in quality inspection at the correct points in the product’s development |
- Sees that staff are properly trained in the quality methods
- Ensures that quality methods are being correctly followed
- Makes sure that quality control follow-up actions are dealt with correctly
- Ensures that an acceptable solution is being developed
- Monitors scope creep to ensure that the scope of the project is not changing unnoticed
- Oversees internal and external communications to ensure they are working
- Ensures applicable standards are being used
- Ensures that the needs of specialist interests (for example, security) are being observed

**Business assurance responsibilities**
- Assists to develop the business case and benefits review plan
- Reviews the business case for compliance with corporate standards
- Verifies the business case against external events
- Checks that the business case is being adhered to throughout the project
- Checks that the project remains aligned to the corporate strategy and continues to provide value for money

**User assurance responsibilities**
- Ensures that the specification of users’ needs is accurate, complete and unambiguous
- Assesses whether the solution will meet users’ needs and is progressing towards that target
- Advises on the impact of potential changes from users’ point of view
- Ensures that the quality activities relating to products at all stages has appropriate user representation
- Ensures that quality control procedures are used correctly to ensure that products meet user requirements

**Supplier assurance responsibilities**
- Reviews the product descriptions (features and capabilities) and aligns to delivery
- Advises on the selection of the development strategy, design and methods
- Ensures that any supplier and operating standards defined for the project are met and used to good effect
- Advises on potential changes and their impact on the correctness, completeness and integrity of products against their product description from a supplier perspective
- Assesses whether quality control procedures are used correctly, so that products adhere to requirements.

You can also include partners and key vendors as part of the Steering Committee. Their broad understanding and experience on AEM technology can positively benefit the outcomes of your AEM implementation.

### 2.4.3 Setting up a Working Group

Having a Working Group (with subject-matter experts) working below a Steering Committee will help achieve specified goals. In your AEM implementation, this Working Group includes the
practitioner leads executing the project. They would meet more regularly and report upwards to
the Steering Committee.

The Working Group should have a weekly discussion where issues and risks are address and the
status, progress and approach of the project are discussed.

3 Strategy

“74 per cent of business executives say their company has a business
strategy. Only 15 per cent believe that their company has the skills and
capabilities to execute on that strategy.”
  - Forrester: Accelerating your digital business, 2013

3.1 Digital Strategy

One of the biggest digital challenges organisations face is being able to define what they are
trying to achieve through digital channels. In many cases, corporate websites aren’t owned by a
single owner, leading to a mix of different or — even worse — competing interests and purposes.
This causes a mixture of counterproductive results.

A clear digital strategy enables your digital team to align its activities to the key priorities of your
business and succeed as an integral part of your organisation. A key point to consider is that your
digital strategy should always be aligned to the overall business goals of the organisation.

These are steps you can follow to craft your digital strategy:

• Identify all of the key stakeholder groups that have input into your company’s digital
  approach;
• Gather key business objectives from each group separately;
• Merge the goals into a set of four to five key objectives;
• Based on your understanding of the corporate strategy, prioritise and rank the list of goals;
• In a group meeting, review and refine the goals with key stakeholders — if needed, involve
  a neutral third party to mediate potential disagreements;
• Based on stakeholder feedback, finalise the business objectives and define KPIs to
  measure these by;
• Share an overview of the agreed-upon digital strategy with key stakeholders.

A Suggested Digital Strategy Framework
Key terminology

Enterprise Goals:

- Strategic business goals and objectives
- Aligned across the business at an enterprise level
- Tied to increased revenue (or decreased costs)
- Can include medium to long term vision of the company

Examples: Increase revenue (by five per cent), Expand Product Line (new Line of Business), Improve Customer Satisfaction (by five per cent)

Digital Goals:

- Strategic business goals and objectives for your digital channel
- Identify how the digital channel will contribute to achieving the Enterprise Goals
- There can be more than one Digital Goal for each Enterprise Goal
Examples: Increase online sales (by five per cent), Increase online audience (by ten per cent), Increase Online Customer Satisfaction (by five per cent).

Below is the Adobe Business Optimisation for Success framework. As you can see, defining your business goals is the key first step in this process. It's paramount to have these communicated and agreed upfront.

**Initiatives:**
- Strategic digital goals
- Actionable projects
- Relates to digital channel as a whole (not just web analytics)

Examples: reduce shopping cart abandonment, increase mobile content, increase new visitors

**Tactics:**
- Specific actionable online business requirements
- Gaps in achieving online initiatives and goals
- Achievable end goal

Examples: measure shopping cart abandonment, measure application form abandonment, report mobile usage

**Key Performance Indicator (KPI):**
Key metric to evaluate business success of digital activities

**Example (Business Objectives and Metrics)**

<table>
<thead>
<tr>
<th>Business Objective</th>
<th>Metrics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. $500M in sales through digital channels</td>
<td>Revenue</td>
</tr>
<tr>
<td>2. Increase brand awareness</td>
<td>Visitors</td>
</tr>
<tr>
<td>3. Drive deeper and enduring customer relationships</td>
<td>Logins</td>
</tr>
</tbody>
</table>

Digital Strategy Framework

3.1.1 Digital Experience Management Self-Assessment Tool

This tool will enable you to identify your organisation’s strengths and prioritise focus areas across seven digital experience management dimensions:

1. **Web Content Management** How your organisation is managing content across your digital properties.

2. **Digital Asset Management** How your organisation is managing and using assets across your digital properties.

3. **Personalisation** How your organisation is using personalisation to provide engaging experiences.
4. **Content Delivery** How your organisation is engaging customers across your digital properties.

5. **Mobile Site and Apps** How your organisation is managing its mobile digital properties.

6. **Communities** How your organisation is using owned social channels to engage customers.

7. **Strategy** The combined level of talent, technology, processes, and knowledge of your organisation’s digital property management practice.

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**Adobe Experience Manager Maturity Model**

<table>
<thead>
<tr>
<th>AREA</th>
<th>MATURITY LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONTENT MGMT.</td>
<td>All website variations are managed independently</td>
</tr>
<tr>
<td></td>
<td>Content integration with Third party tools</td>
</tr>
<tr>
<td></td>
<td>Assets used across all related digital properties are linked and shared</td>
</tr>
<tr>
<td></td>
<td>Manage changes made to a primary digital property to all versions of that property</td>
</tr>
<tr>
<td></td>
<td>Multi Channel agnostic authoring.</td>
</tr>
<tr>
<td>ASSET MGMT.</td>
<td>No formal asset inventory or lifecycle management</td>
</tr>
<tr>
<td></td>
<td>Ad-hock inventories and asset classification</td>
</tr>
<tr>
<td></td>
<td>Enterprise repository for digital assets and formal asset lifecycle</td>
</tr>
<tr>
<td></td>
<td>Asset management across the enterprise</td>
</tr>
<tr>
<td></td>
<td>Enterprise asset management and re-use across multiple channels &amp; enterprise systems</td>
</tr>
<tr>
<td>PERSONALISATION</td>
<td>No content targeting</td>
</tr>
<tr>
<td></td>
<td>Manual segmentation definition</td>
</tr>
<tr>
<td></td>
<td>Automatic segmentation for known and unknown visitors based on demographics</td>
</tr>
<tr>
<td></td>
<td>Automatic Segmented for known visitors on demographic &amp; inter-channel behavior</td>
</tr>
<tr>
<td></td>
<td>Auto detection of segments and the ability to personalise experience 1:1 with CRM profile</td>
</tr>
<tr>
<td>CONTENT DELIVERY</td>
<td>Static content on premise</td>
</tr>
<tr>
<td>-----------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>MOBILE SITES &amp; APPS</td>
<td>Web Only</td>
</tr>
<tr>
<td>COMMUNITY</td>
<td>Not available</td>
</tr>
<tr>
<td>STRATEGY</td>
<td>Low skill level; no influence</td>
</tr>
</tbody>
</table>

"Companies with greater digital capabilities were able to convert sales at a rate 2.5 times greater than companies at the lower level did."

You can go here to take the assessment.

3.2 Focus

Focus means understanding and focusing on the organisation’s key business goals and strategic initiatives to achieve objectives. It is also important to prioritise these goals as well as their scope and timing for completion. As competitive environments change it’s also important to review your business strategy and goals on a quarterly or bi-annual basis to ensure they remain relevant to the current environment.

3.2.1 KPI Strategy

Focus also includes defining the key performance indicators (KPIs). In digital, these indicators can be metrics such as online revenue or order conversion rate, along with associated targets for those metrics (for example, increase conversion rate by 30 per cent).
A common mistake when setting KPIs is selecting random metrics from an industry-related list and expecting they will fit and perform towards achieving your unique business goals. Make sure you always start with understanding your business goals before selecting appropriate KPIs. As you deploy your digital properties using AEM you will be able to use these KPIs to understand the impact changes in content, design and architecture have had on your business.

**What are Key Performance Indicators?**

What they are:
- Quantifiable/measurable and actionable
- Measure factors that are critical to the success of the organisation
- Tied to business goals and targets
- Limited to 5-8 key metrics
- Applied consistently throughout the company

What they are not:
- Metrics that are vague or unclear
- “Nice-to-know's” or metrics that are not actionable
- Reports (e.g., top search engines, top keywords)
- Exhaustive set of metrics
- Refutable

*Source: Dykes, Brent. 2010. KPIs: Focus on the Special “K”.*

### 3.3 Alignment

Organisations are dynamic. Business strategy changes, leadership changes, websites and communications in general are redesigned, the market landscape changes, services and new products are introduced, marketing campaigns are launched, new channels appear, new competitors are born, and so on. All these changes make it hard for leaders to ensure alignment between the company’s current strategy and the implementation of digital solutions.

To make sure there is a proper alignment between your AEM implementation and your digital strategy, your measurement strategy needs to be dynamic and adjust as changes occur within your business. Having a member from the digital team sitting in the Steering Committee can ensure that the team knows what is happening within the business and any possible changes in priorities.

#### 3.3.1 Measurement Strategy

The objective behind a good digital measurement strategy is to obtain accurate measured results of your digital marketing investments. It will help you understand your business goals, KPIs and reports which, at the end, will help you understand your business performance.
Why do we need a measurement strategy?

- **Gain a clearer understanding** of your company’s online business performance. Without well-defined KPIs, you’re not truly going to understand business performance and take appropriate action.
- **Achieve greater buy-in and adoption** by involving key executives and stakeholders in the business requirements gathering phase.
- **Align your organisation** around shared measurement objectives that are tied to key business goals. Having everyone focused on what’s most important to the business is extremely valuable.
- **Avoid costly missteps** that may require re-implementation and delay “time-to-value”. Measure twice, cut once.

Capturing data about customer interactions across multiple digital marketing channels is easier than ever. The challenge is being able to understand and convert that data into actionable steps that increase customer interactions and help your business grow. A well-structured digital measurement strategy will help you plan, organise and coordinate all the necessary elements needed to manage the big volumes of data being produced, as well as making sure this data is put to work throughout your organisation.

### 3.3.2 Content Strategy

Successful content marketing plans do not come from brainstorming sessions, hunches, or inherited habits. Businesses must gather quantitative and qualitative data, some from sources they already own and some created or purchased, to plan for content that customers will find and value.
With AEM, you can leverage content managed in the AEM authoring environment to build highly engaging campaigns. Marketing assets designed, managed, and validated in Adobe Experience Manager can be easily published across different channels.

**Framework for content strategy**

**Pre-Production**

- **Research/Insight:** This stage involves starting with your user, understanding their needs, the development of personas, as well as a review and inventorying of existing assets and position.
- **Content management/resourcing:** This next stage involves all aspects of content management and is designed to establish and maintain appropriate structures, organisation and resourcing.
- **Content planning and objective setting:** All aspects of planning content including guidelines, plans, objectives and key performance indicators (KPIs)

**Production and Execution**

- **Content production:** The creation and production of content. This includes content creation, authoring, editing, asset production, and content optimisation — accessibility. SEO, tagging and classifying, insourcing/outsourcing in production, role of third-party tools and technology and content re-use.
- **Delivery/distribution:** The execution and delivery of content. It is important to determine and understand the role of agencies and third parties and how the content will be distributed across channels.

**Post-Production**
Content review/optimisation: Evaluation of content, adaptation and optimisation. This includes analytics evaluation, optimisation, test and learn and user experience.

3.3.3 Test, Targeting and Personalisation Strategy

A test, targeting and personalisation strategy will give you the opportunity to identify the right content to be delivered to a specific segments of visitors with different preferences or needs and then create targeted experiences for each of them.

Testing will help you compare a standard control sample against a variety of test samples, so that you can see and determine which one is more effective in helping you achieve your KPIs.

Targeting helps you detect how different segments of visitors to your website respond differently to different content. You can then leverage that information to produce and offer customised experiences that are more engaging for them. Your digital team can choose to target as part of a test, or you can just target without testing if you are certain how a specific segment will respond to your campaign.

Targeting differs from personalisation and individualisation. With targeting, the objective is to reach broad segments that will likely generate a positive impact to your key metrics or bottom line.

Dynamically tailoring your site to the wants and needs of each user is called personalisation. The objective behind personalisation is to give visitors a more tailored, relevant and engaging experience when visiting your site. Personalisation is an excellent tactic for improving loyalty and increasing conversion rates.

Offering personalised experiences often takes time and requires a well-planned digital strategy. Start with onsite testing and slowly evolve to personalisation.

Note that AEM has both testing and targeting capability, but if you wish to advance your testing and targeting program Adobe Target provides a more advanced interface and integration to AEM.

Optimisation Evolution – Start with Onsite Testing and Evolve to Personalisation
3.3.4 Digital Asset Management (DAM) Strategy

Let’s start by understanding what the Digital Asset Management (DAM) in Adobe Experience Manager is, and what it can help do.

Digital assets are electronic files or content such as videos, photos, PDFs, graphics, animations, audios etc. With DAM, digital assets are easy to find, share, tag, revise and publish, regardless of format or location. AEM Digital Asset Management is a modern, unified digital asset management system that empowers enterprises to simplify planning, production, management and delivery of digital assets.

With the Adobe Experience Manager DAM you can:

- **Connect marketers with creative professionals** Collaborate on assets within Adobe Creative Cloud, and take advantage of deep integrations with desktop applications, such as Adobe Photoshop®, Illustrator®, and InDesign®.
- **Increase the ROI of digital assets** Dynamically repurpose assets and optimise delivery across new channels, devices, target audiences, and geographies.
- **Improve brand consistency** Preserve brand equity with versioning and workflow controls.
- **Reduce cost of asset management** Eliminate redundant asset creation, tagging, editing, and distribution.
- **Increase IT agility** Access a centralised repository via a web browser, and ease installation with no client software requirements.
- **Increase business agility** Meet time to market goals, and accelerate asset products with DAM workflows.
DAM Strategy

Start by understanding what assets you have and how they are being used. Asking questions that help you recognise when, how, and why digital assets are being used will help you get an overall understanding of what you need for the future.

Once you know what digital assets you have, locate where they are currently being stored. Identify all the access and management requirements, as this will help your IT and digital team create a list of system requirements. This will also help you identify everyone involved in creating and managing digital assets. Talk to these stakeholders as they will provide good feedback about DAM day-to-day activities and how they can improve.

Planning and implementing a strategy for Adobe Experience Manager DAM will require a culture change inside your organisation and your third-party agencies. Adoption is usually the greatest obstacle in a successful DAM project. Spend time making sure all teams and departments understand the benefits and improvements this system can bring to the organisation.

When working with digital assets in AEM, you need to understand the following terminology:

**Collection**

A collection of assets, either based on physical location (folder), common properties (saved search folder), or user selection (lightbox folders).

**Metadata**

Assets have metadata — for example, author, expiry date, DRM Information (Digital Rights Management), and so on. Metadata is under access control. CQ DAM supports the following various common metadata schemata out of the box:

- Dublin Core (including author, description, date, subject);
- IPTC (including event, model, location);
- WCM (including page properties, on- and off-times).

**Tagging**

Assets can be tagged and classified. Tags are a quick and easy method of classifying content within your website. In technical terms, a tag is a piece of metadata assigned to a content node within CQ (usually a page). You can also think of them as keywords or labels that you attach to a page to help you find it again.

**Renditions**
A rendition is the binary representation of an asset. Assets always have a primary representation — the uploaded file itself. They can have any number of additional representations that are created, for example by customised workflow steps or when an asset is uploaded. Renditions may be of a different size, with a different resolution, with an added watermark, or some other changed characteristic.

**Versions**

Versioning creates a snapshot of digital assets at a specific point in time. You can restore assets to previous versions.

**Sub-assets**

Sub-assets are assets that make up an asset — for example, layers in an Adobe Photoshop file or pages in a PDF file. In CQ DAM, you can manage sub-assets as you would assets.

**Recommendations for Digital Asset Management:**

- Organisations with higher maturity in digital asset management possess an enterprise digital asset management system integrated with creative tools, along with the possibility to re-use assets across channels and digital properties.
- To achieve a higher level of digital asset workflow capability organisations should develop and implement asset management workflows across the entire enterprise.
- Organisations with a higher level of image delivery capabilities can deliver dynamic personalised images to the customer leveraging user data, image templates, 360-degree rotational view and mixed media capabilities.
- To achieve a higher level of video delivery, marketers should have the capability to deliver dynamic personalised video leveraging user data, templates and targeting capabilities.

**3.3.5 Agile Strategy**

The Agile movement proposes alternatives to traditional project management. Agile approaches are typically used to help businesses respond to unpredictability. This methodology is used as a fast reaction technique in unpredictable scenarios, and is being widely adopted by digital teams due to the pace of change and flexibility required to react to competition in a digital world.

Agile is used in the implementation and delivery of AEM. Its framework helps Adobe provide instruction on how to implement the basic concepts, identify the roles and responsibilities, and lay
out best practices. This methodology helps you to easily receive the benefits from Adobe technology.

Agile development will give you the opportunity to assess the direction throughout the development lifecycle. This is achieved through regular cadences of work, known as Sprints or iterations, at the end of which teams must present a potentially shippable product increment. By focusing on the repetition of abbreviated work cycles as well as the functional product they yield, agile methodology is described as “iterative” and “incremental”. In waterfall, development teams only have one chance to get each aspect of a project right. In an agile paradigm, every aspect of development — requirements, design, etc. — is continually revisited. When a team stops and re-evaluates the direction of a project every two weeks, there’s time to steer it in another direction if required.

3.4 Innovation

Once your organisation is successfully collecting the right data on a reliable and consistent basis, you are in a good position to innovate. This can be accomplished by using this data to gain competitive advantage. Your organisation will be able to explore new applications and ways to extract even greater value from your digital data. Your company may even be able to transform data into unanticipated revenue streams via new products or value-added services for your customers or partner networks. The opportunities are limitless once the foundational pieces are in place.

4 People

The people category consists of the expertise, resources and the proper organisational structures required to run a successful implementation of Adobe Experience Manager.

4.1 Expertise
Expertise refers to the different skills required by your organisation’s digital and technical staff, business users, and senior executives. Not every group will need the same skills but an overall understanding of how a digital strategy and AEM will help the organisation is fundamental.

Investing in training is a key activity when implementing new technologies. Make sure you have training programs not only for onboarding new staff, but also for current employees, so they can continue growing their expertise over time.

“Only 48 per cent of Digital Marketers feel ‘highly proficient’ in digital marketing. Training is necessary to bring marketers up to speed.”
- Adobe: Digital Distress Survey 2014

Adobe offers a wide range of courses that can help you with your AEM implementation. These courses are available in multiple formats and are to suit your needs — at one of our regional training centres, online as virtual learning, or on-site at your company.

To see all AEM courses go to AEM Course Catalogue.

4.2 Structure

A well-designed organisational structure will give you and your staff clear guidelines about how the organisation is put together, who they have to report and delegate to, and how information flows across different levels. Defining an organisational structure — including roles and responsibilities — before starting with your AEM implementation will also ensure the project runs efficiently.

4.2.1.1 Structures Types

Below is a common list of organisational structures we see in digital organisations.
**Dispersed** This structure is typically an early stage organic and reactive response to initial staffing and resourcing requirements arising in local or specific departments. While this works well initially, it has limited strategic scalability and can prove problematic in coordinating a top-down strategic vision for the long-term structure and direction of digital capability, particularly within a large and diverse organisation.

**Centralised** Digital marketing roles and capabilities are centralised into a single area or team. This is typically characterised by a reporting structure through to one head of digital, e-business, or e-commerce.

**Hub and Spoke** A combination of both, typically whereby digital marketing expertise is split, some positioned at the centre looking across the whole organisation, and some sat within divisions or departments, often acting as a connection point between the Centre of Excellence and local non-digital teams.

**Dandelion** Organisations have a hub-and-spoke approach but across multiple units or divisions. Usually larger corporations that are operationally divided around key audiences (B2B and B2C for example) that might centralise some key digital capability across the entire corporation, but also could have some hub-and-spoke arrangements in each of the key divisions.

**Honeycomb** One additional structure is the holistic, or “honeycomb” structure, where each employee is empowered with capability. This structure might be interpreted as the equivalent of a fully integrated digital capability where digital expertise and skills are the domain of a broad range of people and roles throughout the organisation. In this scenario no specialist digital roles exist, and no single role has digital capability as its sole remit.

### 4.2.2 Project-Based Recommended Organisational Structure
4.2.3 Business Recommended Organisational Structure

Organisations commonly use a Centralised model for digital implementations. In this structure, all of the digital resources are centralised into a single area or team often with a reporting structure through to one Head of Digital, e-Business, or e-commerce. This is a generic example of an organisational structure:
The main advantages of having a centralised model are:

- **Consistency and control** Consistent methods, procedures, and terminology.
- **Governance and focus** Unified commercial entity, strategy and budgets; ease of securing senior management buy-in to digital marketing strategy and projects; consistent standards, greater efficiency in the allocation of resources, ease of project prioritisation across the organisation.
- **Scalability and support** The application of digital expertise to support the wider business; clarity on where to go for support and advice.

The above model will need to be right-sized for your business depending on the size, structure & geographical nature of your business.
4.2.4 Roles and Responsibilities

4.2.4.1 In a Centralised model

Director of Digital

- Director of digital analytics, marketing analysis, CRM, or business intelligence;
- Position of authority to influence others;
- Key point of contact for executives, business owners and analysts;
- Focuses on corporate-level issues but maintains visibility into regional or business unit issues;
- Works closely with executive sponsor to drive value from analytics across the organisation;
- Drives cultural change and product adoption within organisation via user education and other interactions;
- Manages core team and commercial relationship with analytics vendors.

Head of Strategy

- Drives and owns the digital strategy roadmap;
- Coordinates the on-going strategy workshops with stakeholders;
- Ensures the business is continually focused and aligned with business objectives;
- Determines priority of new implementation projects;
- Drives the digital Steering Committee, not just a “web analytics” Steering Committee;
- Manages the business analysts and project management resources.

Digital Analyst Lead

- Focused on measuring business unit’s key performance indicators (KPIs) and optimising business unit online;
- Owns the analytical reporting requests log;
- Single point of contact for end users within business unit and understands end users’ changing needs;
- Validates data collection for business unit;
- Meets with business unit reporting owners and core team on a regular basis (monthly);
- Informs core team of business unit activity and champions its needs to the core team;
- Coordinates QA efforts and manages ongoing data accuracy.

Business Analyst

- Defines requirements for prioritized projects
- Runs workshops to gather business analytics implementation reporting requirements
• Develops the business requirements document for each project  
• Gathers business sign-off  
• Writes user stories and acceptance criteria  
• Works collaboratively with the Scrum team, the IA and design team and other internal stakeholders to define the user stories

Head of Engineering

• The Head of Engineering is responsible for leading and managing all engineering activities  
• Leads and directs all product management activities with relation to development, QA, resourcing, and IT Infrastructure management  
• Engage with department heads to develop engaging solutions

IT Operations Manager

• Provides technical expertise and leadership for campaigns, large-scale websites, mobile applications and other digitally enabled executions  
• Manages the IT Operations, System Administration and Development teams  
• Maintains effectiveness and efficiency by defining, delivering, and supporting strategic plans for implementing information technologies.

System Architect

• Designs the system architecture and oversees implementation  
• Expert in data storage best practices and security  
• Provides information and recommendations on Service Oriented Architectures

QA Manager

• Drives the testing roadmap  
• Owns the testing campaign initiatives  
• Key point of contact for testing technical aspects  
• Owns the testing deployment and QA process and manages ongoing data accuracy  
• Manages the process of automated testing
Head of User Experience and Design

- Oversee the user experience (UX) activities for the product(s)
- Oversee all aspects of product design and branding
- Create a bridge between IT and the business, with the customer as the lever that drives vision and overall direction

Information Architect

- Test concepts, perform task and user analysis, and assist with user acceptance testing
- Develop prototypes that succinctly illustrate hierarchy and navigation
- Strategise and drive interactive product development from site map to launch
- Create compelling online consumer experience that drive business results
- Possess knowledge of prototyping and wireframe creation tools

Creative Director

- Oversees the responsibilities of artists, graphic designers, photographers and other members of the creative team
- Leads the communication design, interactive design, and design concepts
- Provides leadership and motivation and conveys the vision and values of the organization to the creative team
- Works closely with the Information Architect and Product Marketing teams

Program Management / Project Management Office

- Accountable for the delivery and quality of the product
- Works collaboratively with all department heads to determine product vision and focus
- Manages the project implementation resources - assigns project to Product Owner and Scrum Team
- Escalation point for issues within Scrum team or stakeholder collaboration
- Manages ongoing relationship with internal and external integration teams

Please see section 5.2.1.1 Scrum Roles for a breakdown of the roles in a Scrum team

**Head of Product Marketing**

- Coordinating and developing digital delivery solutions and ensuring projects are executed within timeframes and with overall customer satisfaction
- Responsible for the outbound marketing activities

**Product Manager**

- The Product Manager is responsible for the product planning roadmap and execution throughout the product lifecycle
- Propose an overall budget to ensure success
- Deliver a monthly revenue forecast
- They are an expert on their market and their customer
- They will request new features and tasks from the Product Owner and Scrum team

**Content Manager**

- Maintain communication among cross-functional teams
- Own the process for creating, enforcing and managing the content production plan
- Collaborate with all departments to define and manage goals, scope, specific deliverables and scheduling needs
- Aggregate and distill input from all areas of the organisation and develop the best approach for incorporating feedback into project executions
- Contribute to strategic thinking around content models that adapt, scale and expand over time and distribution platforms
### 4.2.4.2 Key Teams and Roles

**Business Users: Product Owners and Input Providers**
- Provide overall business strategy and goals for products;
- Develop key messaging and customer segmentation strategy for online sales;
- Are not involved in day-to-day management of the website.

**Marketing: Brand Awareness and Site Management**
- Develops strategy for product marketing across all channels including Adobe.com;
- Drives day-to-day site marketing (content changes, testing) activities;
- Provides market research and analytic support for site management;
- Partners with Sales to deliver online revenue.

**Sales: Online Revenue and e-Commerce Business Strategy**
- Owns strategy and execution for all e-commerce-related aspects of the site;
- Develops growth plans and delivers to business objectives;
- Partners with Marketing to deliver online revenue.

**IT: Implementation and Delivery**
- Provides support to site strategies and objectives;
- Develops technical strategy to deliver business vision;
- Partners with Marketing Product Owners to enhance platform framework with new templates/components and capabilities.

### 4.3 Resources

You will need to decide the right balance and allocation of internal staff and external consultants. This will be determined by your organisation’s previous experience with digital implementations — less-experienced organisations may require more help from consultants.

Internally speaking, your organisation will need to implement a talent strategy to determine how best to hire and retain digital and analytic talent.

*“Having the right talent and sufficient resources on your digital team is crucial to your long-term, data-driven success.”* — Brent Dykes – Adobe
4.3.1 Resource Model

To get the most out of Adobe Experience Manager, and to deliver a better digital experience to your customers, you need to get the most out of your implementation. Investing in external resources will help you optimise your investment, mitigate project risk and identify new opportunities.

4.3.1.1 Adobe Consulting and Partners

Organisations are facing a deficit of digital marketing expertise, and Adobe Consulting and Partners can play a critical role in making AEM operational within your business — implementing it, running and operating the solution and the realising value through business optimisation. Based on your resources and the project scope, working with Adobe Consulting and Partners can help you in many different ways: from developing your customer journey including creative and user experience; building your content strategy; defining your workflow processes; training and enablement; to building your page template and components, making necessary customisations to the implementation, integrating with other technology platforms, and providing general guidance on how to use the solution.

“Only 15 per cent of business executives believe that their company has the skills and capabilities to execute their digital strategy.” CREDIT SUISSE SECURITIES RESEARCH & ANALYTICS, 22 September 2014, Asia Pacific/India, Equity Research, Consumer Internet

Adobe Consulting Services

Benefits of working with Adobe Consulting and Partners:

- Gain confidence in the project delivery;
- Compress timelines through parallel delivery using Adobe GDC resources;
- Avoid "fire-drills" — reduce risk in the project from the start rather than finding issues later;
- Provide proactive input, accelerating and maintaining knowledge transfer;
- Handle the complexity of marketing technology deployments;
- Increase visibility inside Adobe and create easier access to key expertise;
- Support direct to your offshore teams;

Adobe Consulting and Partners help in delivering:

4.4 Community

It is key to encourage the creation of a digital community within your organisation. Invest in creating an environment where all members can learn from each other and share experiences, ideas, best practices and campaign wins. When you have distributed analysts and business users across different business units and countries, the digital analytics community provides valuable
support to new users as well as opportunities for more advanced users to share their collective knowledge. This is especially important in traditional businesses where up-skilling traditional skillsets with digital ones is vital; it can be a useful forum in which to educate the traditionally minded people within your business. Community can be fostered in a number of different ways, such as a simple email distribution list, internal wiki, corporate chat groups, and workshops.

4.5 Culture

Some organisations may be more resistant than others embracing change when it comes to the adoption of new technologies and business processes. Despite the fact that your organisation has invested in AEM, some leaders and employees may still have doubts about the benefits of the solution. Probably they don’t fully understand what analytics, automation, content management, user experience and other components of digital bring to the table. This is common in a business world that is still adapting and changing into digital.

Changing culture inside and organisation is a difficult but not impossible task. It usually starts by having a clear vision of the future followed by strengthening change with management tools such as role definitions and measurement and control systems. Don’t forget to involve key stakeholders and share that vision of the future across the organisation. One of the main reasons why organisations fear change is because they have little or no information at all about where the change is taking them.

5 Process

In this section of the document, you will find information needed to deploy and use Adobe Experience Manager effectively. There are four main types of processes: deployment, usage, sustainability, and change management.

5.1 Deployment
Deployment covers the various processes related to implementing and configuring Adobe Experience Manager in an efficient and effective manner. Organisations should have a formal process for gathering business requirements for new projects. Without well-defined processes in the deployment phase, key data needed by the business can be left out due to incomplete requirement gathering, introducing unnecessary risks and delays. Larger corporations with several deployments occurring concurrently need to involve project managers.

5.2 Project Phases

**Ideation and Strategy**

At the front end of projects, opportunities are discovered, ideas are created, and the foundation for projects and portfolios is laid. Before your project commences, the ideas for product creation and new features needs to be determined and brainstormed. The key stakeholders and business owners should be involved in this process to ensure the ideas presented meets business objectives and the company’s overall strategy and vision. A study will be undertaken to determine the feasibility of the idea/s and whether or not it is expected there will be any business value. An ideation workshop with all they key stakeholders and senior management is recommended at this stage.
Potential Risks during ideation and strategy:

- Ideas are not feasible
- Budgets are not available
- Management or stakeholder non-commitment
- Lack of consensus or decisions on strategic direction

Project Initiation

The project initiation phase is the first phase in the Project Management Life Cycle. This is the phase where the product or project is conceptualized and it is stated what should be accomplished. The steering committee is formed and the project scope is defined. A business case document may be completed in order to get approval on the basic concept and cost estimate. Your project management office should also be set up during this stage, or if you already have one, they become involved.

Potential risks during project initiation:

- Lack of consensus on project objectives
- Lack of management sponsoring and support
- Financial backing is not available
- Resources are not readily available

Definition and Planning

This is the stage where requirements for the project are gathered and documented in detail. One of the first steps should be to determine the desired delivery approach and project management methodology. Your PMO will nominate the project team members and ensure resources are available when required during the project. Requirement meetings and workshops will be held to define the information architecture, technical architecture, design considerations and any further project contingencies.

Potential risks during definition and planning:

- Lack of consensus or indecision with regards to project deliverables
- Lack of consensus on project implementation methodology and project team
- Budget and timeline blow-outs due to uncovering new requirements
- Talent acquisition / skill set required
Execution

The development, QA and production environments should be set up during this phase. To start with, only the development environments are mandatory, with the QA and production environments to follow as and when it is determined they are needed. If required, creative designs and HTML/CSS will be completed and integrated. The development team will perform any development and customization tasks and together with IT Operations, they will setup and configure the web applications and if required, 3rd party system integration. Content creation and data migration will also be performed during the execution phase and will be tested before publishing.

Potential risks during execution:

- Budget and timeline blow-outs due to uncovering technical constraints
- Requirements inflation / scope creep
- When coding and integration begin it becomes apparent that the specification is incomplete or contains conflicting requirements
- Higher than expected quality issues

Transition and Closing

Your internal stakeholders and content administrators will need to transition to using the new application. Training would have been provided prior to them adapting to the new system, however ongoing assistance should be provided to the authors as they start to use the tool. User Acceptance Testing (UAT) is one sure way to reduce unwanted issues in production. There should be a period of ’code-freeze’ where UAT can be performed. QA and the PMO approves the site or the application to go live once no more blocker issues are found. After go-live, the application or site is brush tested in production, and the project may be considered closed.

Potential risks during transition and closing:

- Training has been insufficient
- Last minute quality issues that delays go-live
- Deployment to production does not go as planned and needs to be rolled back
- Performance issues in production

BAU and Support
The BAU and product support phase is on-going for the life of the product and is the period after your product has been promoted to production. During this time, you may have releases that include enhancements, new features and potentially bug fixes. Adobe provide on-going support to clients with tailored SLAs. For more information of Adobe maintenance and support, please speak to your Adobe Account Manager or visit https://helpx.adobe.com/support/programs.html.

Potential risks during BAU and support:

- Software updates may have some adverse effects and the product needs to be tested again (this even includes browser updates)
- Performance monitoring shows a high volume increase in usage and hardware specs need upgrading

5.3 Project Management

Managing an AEM project requires planning and understanding of what the issues are around which you need to make decisions.

5.3.1 Setting up the Project Management Office

A Project Management Office (PMO) is a department that determines, maintains and sets the processes and standards related to project management inside an organisation. When implementing AEM, the main responsibility of a PMO is to make sure the project is aligned with corporate goals and strategies.

Some things to consider when building your PMO include:

1. Availability of resources inside your organisation;
2. Existing project management standards, processes and methodologies;
3. Current roles and responsibilities;
4. The politics and culture of your organisation;
5. Project size, volume and requirements;
6. Any existing project management problems.
If you have an existing PMO and they need to transition and adapt to Scrum, there may initially be some resistance. The best way to tackle this issue is with training. The PMO as well as the Scrum team need to understand Agile and Scrum well enough to appreciate the changes, and that the changes are in everyone’s best interests. Traditional PMO practices are incompatible with Agile because they are based on an entirely different set of premises. There is a wealth of evidence that combining agile delivery with a traditional PMO approach leads to problems and is not recommended.

Some opinions have been that there is no place for a PMO when the organization is changing to Scrum, however this is not the case. The larger your organization gets, and the more projects that are executed at one time, the more difficult it becomes to manage without a centralized management team, such as a PMO.

Some of the responsibilities of the PMO in a Scrum environment:

1. The PMO should be responsible for all Scrum training in the organisation
2. They should provide coaching, so they need to be well versed in Scrum methodologies
3. They should change existing behaviours. It is easy to fall back into old habits that are not Agile.
4. Assist with reporting, such as weekly status reports, burn-up charts and determining team velocity
5. Manage the inflow of new projects and assign them to teams that have the capacity and required skills
6. Assist with quality control and compliance needs
7. An Agile PMO should avoid introducing documents, meetings, approvals, and so on unless absolutely necessary
8. Create an appropriate amount of consistency (tools, systems, reporting) and knowledge sharing amongst Agile teams.
9. Facilitate and assist in meetings where team members are located remotely. This may be as simple as setting up a video conferencing facility, or it may be sorting out communication breakdowns
10. Collect information on how well teams are doing at delivering value. This may be a sensitive issue and caution and diplomacy should be practiced.

Global PMO

Organisations that require a PMO on a global scale are looking to improve performance by improving the effectiveness and efficiency of management of projects, programs, portfolios, and business processes in all their offshore offices. To achieve these goals, consistency across the global organisation needs to be found in tools, processes, reporting, metrics and methods of communication.

Good software architecture dictates modular design, so structure your teams the same way. Every office should be self-sufficient in developing a single piece of technology, which minimizes the amount of collaboration required with teams in other time zones and makes them generally autonomous.

Video conferencing does a lot to bridge the gap between global teams, but it’s less desirable than being there in person. Try to maximise as much as possible the cross-over hours where all teams are in the office during their normal work hours.

Key Roles

- Business Sponsor/Owner - ensure that the program/project is focused on achieving its objectives and delivering a product(s) that will achieve the forecast benefits
- Project Manager (Traditional) - Personally accountable for the success of the project. Leading, managing and co-ordinating the project team on a day-to-day basis. Plans all activities and delivers to the plan within clearly defined scope.
• **Product Owner (Agile)** – Owner of the product backlog. Personally accountable for the success of the project. This person should have the status and authority to make decisions about the product and provide the necessary leadership.

• **Project Team (Traditional)** - delivers the required deliverables under direction from the Project Manager.

• **Scrum Team (Agile)** – Self-organising team that delivers what they committed themselves to deliver in each planning meeting.

5.3.2 **Typical Critical Success Factors and Risks**

Consider the following success and risk factors when implementing AEM in your organisation.

**Success factors**
- Strong sponsorship at all levels;
- Organisational commitment and investment (team stability and availability);
- Well-defined success criteria for the program;
- Well-defined budget and KPIs to measure to;
- Well defined change management and communication plans (people, process and product);
- Incorporation of best practices;
- Commitment to on-going training.

**Risk factors**
- Project scoping not correctly defined;
- Lack of business users involvement and commitment;
- No vision (or only limited to the project itself);
- Too many specifics, which can lead to
  - Maintenance and/or deployment issues;
  - User adoption problems.

5.4 **Project Templates**

It is a common misconception that using Agile means more talk and less documentation. Documentation is just as important in Agile projects, though it is often more focused and condensed. The level of documentation needs to be appropriate, ‘just enough’ is considered best practice. Not all of the below templates will be required on all projects.

5.4.1 **Business Case Document**
Creating a business case document is actually the last of several stages that must be completed in order to have enough information and insights to create this document. Prior to completing this template, a thorough analysis should be done to determine if the project is actually feasible and if it will meet the business objectives. Essentially, you have to determine the business case for developing your business case.

Your business case will do the following:

- defines the business need or problem in detail
- justifies why the project is needed
- analyses options, eg:
  - Option 1 - Do nothing
  - Option 2 - An option that would achieve the same result or close to the same result as the preferred option
  - Option 3 - The preferred option
- compares options and projected outcome of each
- defines implementation strategy
- identifies costs, benefits and risks
- lists assumptions and constraints (if known)
- recommends a project management framework
- puts forward a proposal to senior management for approval to proceed with the project

5.4.2 Project Management Plan

A successful project requires a detailed and well-planned Project Management Plan. This document consolidates all the information about the project and forms the basis for monitoring and controlling once the project. This document is to be signed off by the Project Sponsor and any key stakeholders.

This document will mostly contain the following information:
5.4.3 Statement of Work (SOW)

**When**: Definition and Planning  

**Who**: Project Manager / Product Owner

A statement of work is a formal, usually binding contract that captures and defines the work activities, deliverables, and timeline a vendor must execute for a client. In most cases, it will be the vendor that creates the SOW.

Creating a detailed SOW will help to ensure that work is being performed according to your specifications and expectations. By clearly defining the work to be done it is more likely that the work is completed according to the project plan. The SOW must contain an appropriate level of detail so all parties clearly understand what work is required, the duration of the work involved, what the deliverables are, and what is acceptable. Any special requirements, such as security requirements should also be described.

All SOWs contain the following sections:
• The project objectives
• Scope of work expected
• A schedule with milestones and dates
• Price/estimates for delivery of the project
• Key assumptions and known constraints
• Acceptance (sign-off)

5.4.4 Cost Management Plan

**When**: Definition and Planning  
**Who**: Project Manager / Financial Director

The Cost Management Plan template will help ensure that you have an approach to managing costs throughout the life of your project. Reporting on cost management should be done on a monthly basis. All cost variances outside of the thresholds previously identified will be reported on, including any corrective actions. Change requests will also be identified and tracked in your monthly report.

The cost management plan identifies:

• Who is responsible for managing costs  
• Who has the authority to approve any additional or unexpected costs  
• How cost performance is measured and reported upon  
• Report formats, frequency and to whom they are presented

5.4.5 Risk Management Plan

**When**: Definition and Planning  
**Who**: Project Manager / QA Manager

The risks management plan/register helps you identify the risks associated with your project to analyse the impact and to determine the subsequent actions to be taken. Typical methods of identifying risks are interviews with subject matter experts, review historical information from
similar projects and conducting a risk assessment meeting with the project team and key stakeholders. An effective way to monitor project risks is to add those risks with the highest scores to the project schedule and assign a risk manager. This allows the project manager to see when these risks need to be monitored and can ensure they are actioned.

Your risks register will contain the following information:

- The risk identified with as much detail as possible
- The likelihood of the risk occurring
- The action/s that needs to be taken to further investigate and/or avoid the risk
- The person/s responsible for the action/s

5.4.6 Weekly project status report

Writing a project status report should be done regularly (once per week preferred) and should be quick and easy. It should also be short, clear and concise. It should provide a high level view for top-level management, yet also provide enough in-depth information for team members to be informative and helpful.

This document should provide:

- A list of what work was planned last week
- The work planned for the next week
- Open issues and risks
- Deliverables and their milestones and if keeping to the planned schedule
- State whether the project is ahead of or behind schedule and over or under budget

5.4.7 Post implementation report

When : Transition and Closing
Who : Project Manager / Product Owner
Closing includes the formal acceptance of the project and the ending thereof. The post implementation review is a vital phase of the project so that the project team may learn from experiences and apply to future projects. In Agile this review meeting is called a project retrospective. Normally a Post Implementation Review document consists of a list of things that went well and analysing things that went badly on the project. The project costs and the timings of deliverables will be analysed and recommendations for any future projects will be documented and shared with senior management and the entire project team.

**Project phases with Input and Output initiatives:**

<table>
<thead>
<tr>
<th>Input</th>
<th>Ideation</th>
<th>Initiation</th>
<th>Planning</th>
<th>Execution</th>
<th>Transition</th>
</tr>
</thead>
</table>
|       | • Ideation workshop  
• Defining problem or objectives  
• Product vision | • Kick-off meeting  
• Schematic design  
• Setup PMO | • Requirements analysis  
• IA and design workshops  
• Technical workshop  
• Determine team  
• Team Estimates | • Development  
• Validation / QA  
• Content / Data migration  
• System integration | • Authoring  
• Validation  
• Assess operational solution  
• Assess operational costs |
| Output |          |            |          |           |            |
|        | • Vision / strategic intent  
• Epic stories with new ideas  
• Business case  
• Project feasibility study | • High level timeline and estimates  
• Budget approval  
• Contractual agreements | • Scope of work  
• Wireframes  
• Site map  
• Design concepts  
• Tech Spec  
• Architectural design  
• Project schedule | • Dev and QA environments  
• Production environment  
• Working software  
• Regular progress reports | • QA report  
• Test cases  
• Application go live  
• Financial review  
• Post project review |

5.5 Common Project Workshops
Below is a list of the most common project workshops, however depending on your organization and type of project there may be others you wish to conduct, or may not need as many.

### 5.5.1 Ideation workshop

Team members for the Ideation workshop:

- A meeting facilitator
- Steering committee
- Senior management
- Business owners
- Marketing managers
- Product managers
- QA Manager

The ideation workshop allows for free, unconstrained exchange of ideas and thoughts regarding a specific business need or problem, and provides an opportunity for participants to determine if the suggested business need fits in the organisation’s strategic vision. The facilitator should make sure that all team members share a common understanding of key ideation and brainstorming processes and rules. Agree on the approach that will be used to address the business requirements. After each ideation meeting, everyone would have a task with a deliverable that would be presented at the next ideation or project kick-off meeting.

### 5.5.2 Requirements Workshop

Team members for the Requirements Workshop:
Properly managing a requirements workshop is essential to your business analysis process. A requirements workshop can be defined as a structured event for carefully selected stakeholders in order to discover, refine, prioritize, validate and discuss requirements. Participants may be split into multiple teams to get the discussion going within each team representing a mix of different interests. They may be given a problem statement to discuss and set objectives to identify requirements, review existing ones and assign a priority to each requirement. The results of the workshop will serve as the basis for the BA to prepare the requirements documents for subsequent validation with stakeholders.

5.5.3 User Experience and Design Workshop

Team members for the UX/Design workshop:

The UX and design workshop is held if you have any design elements to the project. For example, if the project is only to include analytics, or is a primarily technical project, then this workshop is not required. The purpose of this workshop is to come up with feasible ideas for given UX / Design problems. Like with other workshops, it is important to have a facilitator so that discussions don’t go off topic. Depending on the size of the group, this workshop can be completed in just a few hours. Clearly define the objectives and allow for brainstorming and creativity. Building on others'
ideas is one of the most valuable aspects of having a UX and design workshop. Allow the user experience specialist to collaborate with the designers and come up with solutions that look great and function well.

5.5.4 Technical workshop

Team members for the Technical workshop:

- Project Manager / Facilitator
- Information architect
- IT Director
- Sys Admin / IT Ops team members
- QA Manager
- Product Owner
- Product Manager

The technical workshop is an opportunity for any technical, infrastructure and security questions to be asked and issues to be raised. This meeting is also to propose potential hardware and software solutions and architecture for the scoped project. Release management should be discussed to determine how regular releases are expected and best methodology. The IT Operations team members that will be assigned to this project should be included in this meeting and their availability for the project should be made known to the PMO.

5.5.5 QA Workshop

Team members for the QA Workshop:

- Project Manager / Facilitator
- QA Manager
- QA Engineer/s
- Product Owner
- Product Manager

The QA workshop is a forum where decisions can be made about the QA strategy and plan for the project. Quality assurance includes processes such as requirements definition, software
design, coding, source code control, code reviews, software configuration management, testing, release management, and product integration. Depending on which project management toolset is being used, you may decide on creating test cases in a separate document, eg Excel, or you may use an issue tracking tool such as JIRA to raise test cases and bugs. This workshop is about raising ideas on the best approach and coming to a consensus.

It is also a common error to involve QA too late in the project, thinking they only get involved when testing commences. They should be involved from the project initiation stage all through the deliver process so they can plan ahead and be testing all during the execution phase.

5.5.6 Project kick-off workshop

Team members for the project kick-off workshop:

- Project Manager / Facilitator
- PMO member
- Product Owner
- Product Manager
- Steering committee
- Client/Partner/Vendor

The Kickoff Meeting is the first meeting held after the project as a concept has been approved by the steering committee. It is also the first meeting with the project team and the client of the project. The kick-off meeting is to communicate everyone’s roles and what contributions are expected of each. Risks should be raised and documented. Clarity is given by the project lead if there is any ambiguity in the process implementations. The project lead should be displaying a thorough knowledge of the goal and steps on how to reach it. They should come to this meeting well prepared, and sometimes this will mean interviews with the key stakeholders ahead of time to get their insights.

It is preferable to have face-to-face kick-off meetings. Without having the key members in a room together, you will lose a lot in body language, visual communication and at times there is uncertainty of who is speaking.
5.5.7 Post Implementation Review

Team members for the PIR:

- Project Manager / Facilitator
- Key stakeholders
- Product and Business Management
- Entire team that contributed to the project

A Post-Implementation Review is conducted after completing a project. Its purpose is to evaluate whether project objectives were met and to determine how effectively the project was run. During this workshop you will learn lessons for the future, and ensure that your business achieves the greatest possible benefit and knowledge from the project.

By conducting a thorough and timely PIR, you'll identify key lessons learned, and you can then apply those lessons to the planning and management of future projects.

Ask the following questions in the PIR:

- Did the project fully solve the problem that it was designed to address?
- Can we take things further, and deliver even bigger benefits?
- What lessons did we learn that we can apply to future projects?
- Was the project delivered on time and within budget?

At the end and after every workshop:

Ensure all team members know what actions items are allocated to each, when they are expected to be completed and circulate these actions to the team members promptly after the meeting.

5.6 Project tools to deliver
There is a huge variety of project management applications available. Most are general purpose (not aimed at any one industry). Below we have named a few, however these are widely used but are not endorsed by Adobe in any way. This Wikipedia page compares features: https://en.wikipedia.org/wiki/Comparison_of_project_management_software

1. JIRA and JIRA Agile
2. Confluence
3. Microsoft Project
4. UniPhi
5. Hansoft
6. Trac
7. Basecamp
8. AtTask
9. Netsuite
10. Liquidplanner

In the next section, we take a closer look at Atlassian's JIRA and Confluence as project management tools and how you would typically set them up in an Agile environment (although you don't have to be Agile to use them).

5.6.1 Agile/Scrum Toolsets

Before kicking off your first sprint, it is recommended you select and setup your toolsets. There are several toolsets available to assist you in managing your Scrum process and project management. The advantage of using such tools are they give everyone in the organization visibility of what is being developed and what the current status is. These toolsets help you to define and organize the work.

A few examples of project task management and Scrum boards are:

- Atlassian – JIRA & JIRA Agile
- Mingle – Thoughtworks
- Hansoft
- Rally

A few examples of Wiki and project collaboration are:

- Atlassian Confluence
At Adobe, we use and recommend Atlassian’s Jira, Jira Agile and Confluence. Below are some basic instructions on how to set up and manage your first AEM Project in the Atlassian toolset.

### 5.6.1.1 Setting up your project in JIRA

Firstly, you will need JIRA administrator access to set up a new project and add any new JIRA users. Usually JIRA admin access is reserved by the IT Department, so you may need to ask them to set up the new project. Create a new project in JIRA, selecting “Agile Scrum” as the project type. Ideally the project name in JIRA should reflect the actual name of the project.

To create a new project in JIRA:

- Click Projects (in header) > Create project.
- Follow the wizard to create the project.

### 5.6.1.2 Creating Users in JIRA

Ensure the Scrum team and any users who will contribute to the project have access. This can sometimes be challenging if you have users that are not on the same network, or permitted access due to organisational security policies. A JIRA instance that can be accessed by all individuals contributing to the work will be infinitely valuable for clear communication and transparency. At a bare minimum, the Product Owner, ScrumMaster and Development team members must have access to JIRA.

To create a user:

- Open the ‘User’ browser and click the Create User button to open the ‘Create New User’ dialog box.
- Enter the new user’s Username, Password, Full Name and Email address. Optionally, select the ‘Send Notification Email’ check box to send the user an email containing their login name and a link from which to set their password (this link is valid for 24 hours).
- Click the Create button.

To assign permissions to a user:
• Locate the user in the ‘User’ browser and click the ‘Groups’ link in the Operations column.
• This will display two lists; the one on the left shows all ‘Available Groups’, and the one on the right shows the ‘Current Groups’ to which the user currently belongs.
• Choose a group(s) and click the ‘Join selected groups’. The user will inherit the rights of the group(s).

To assign a user to a project role:

• To view a user's project role membership, locate the user and click the ‘Project Roles’ link in the ‘Operations’ column. This will display a table showing all the projects and project roles that exist in JIRA, and the user's current project role membership for each project.
• Click the ‘Edit Project Roles’ button. The check boxes will then be available for you to select to add the user to a project role.

1. Once the project is set up and users have access, the Product Owner, Business Analyst and Stakeholders may start creating stories and tasks.

To create a new JIRA issue:

• Click ‘Create’ at the top of the screen to open the ‘Create Issue’ dialog box.
• Select the relevant Project and Issue Type (eg. Epic, Story, Task, Bug) on the ‘Create Issue’ dialog box. Epics and Stories only become available after you add JIRA Agile.
• Type a Summary for the issue and complete any appropriate fields — at least required ones which are marked by an asterisk.
• When you are satisfied with the content of your issue, click the ‘Create’ button.
A JIRA workflow is the set of statuses and transitions that an issue goes through during its lifecycle. Workflows typically represent business processes. Best practices are to have as few workflows as possible, and to share workflows with many projects. This makes administration much easier and controllable. Therefore, before amending a workflow, be sure to check if it is shared with other projects first.

Below is an example of a basic JIRA workflow. When you create a new project, a default workflow will be assigned to the project.
JIRA workflows can be altered to suit your project. The first step is usually to add additional statuses that can be included in the workflow. A status represents the state of an issue at a particular point in a specific workflow. An issue can be in only one status at a given point in time. Examples of statuses: "Open", "In Progress", "Resolved", etc. New statuses you may wish to add are "Ready for QA", "In QA", "Ready for development", "In refinement", etc.

**Defining a new status:**

- Log in as a user with the JIRA Administrators global permission.
- Choose > Issues. Select Statuses to open the ‘Statuses’ page, which lists all statuses in JIRA.
- Click ‘Add Status’ and complete the ‘Add Status’ form:
  - Name — specify a short phrase that best describes your new status
  - Description — add a sentence or two to describe what workflow step this status represents
  - Category — choose a category that this status will be grouped into

Now you will need to associate your new status with a workflow ‘step’. Workflow designer (see below) is a graphical tool that allows you to see the layout of your workflow and to create and edit a workflow's steps and transitions.
Changing the workflow:

- Check if the workflow is being shared with any other projects, and if the change you are about to make is required for all these projects
- Add a status or transition
- Click and drag a status to transition to reposition it
- Select a status or transition to edit its properties, rename it, or to delete it (from the workflow but not JIRA), from the properties panel. NB. As status names are stored on the global level, renaming one would affect all of JIRA immediately, even if the workflow draft is not published.
- Add a global transition that allows every other status in the workflow to transition to the selected status. Select ‘Allow all’ statuses to transition to this one in the properties panel for the transition.
- Change the screen that a transition uses.
- Configure advanced transition options, such as triggers, conditions, validators and post functions. See the Advanced transition configuration page. Set properties for a status or transition.

5.6.1.4 Adding JIRA Agile
The JIRA Agile add-on extends JIRA as a powerful platform for agile development teams. There are several features JIRA Agile provides, such as creating a Scrum board, a planning board to view and prioritise the backlog, Epic and Stories and many other Agile specific elements.

5.6.1.5 Creating an Agile - Scrum board

A board displays issues from one or more JIRA projects.

Creating a completely new board:

- Select Agile > Manage Boards from the top navigation bar
- Choose ‘Create board’ at the top-right of the page
- Pick the type of board you want to create - for AEM projects we recommend Scrum
- Follow the wizard to finish creating the board.
  - For boards based on projects: Scrum boards will be preconfigured with the following issue filter: project = "[YOUR PROJECT(S)]" ORDER BY Rank ASC
  - For boards based on filters: You must have access to at least one saved JIRA filter, otherwise you will need to create one first. Only users with access to the filter will see the issues on the board.

Once the board has been created, you will have access to the work mode and the plan mode.

Work mode:

![Sprint Planning](image)

The “work mode” is in essence your “Agile Scrum board” and may be configured and customized to suit your project and team. The idea is drag and drop items from “To do” to the next column.
and the next, until it can be placed in “Done”. By the end of the sprint, you want to have as many in “Done” as possible. A task should only be placed in the “Done” column, once it conforms to the team’s previously defined “definition of done”.

**Plan mode:**

Once we have user stories in our product backlog, they are ready for the PO to prioritise. The above is an example of the “Plan mode” in JIRA Agile. The list of items can be reordered by dragging and dropping them.

During the sprint planning meeting, the ScrumMaster will create a new sprint and drag and drop the already refined and estimated stories that the team has agreed to work on into the new sprint. Once this is done and the sprint has started, the team will use the “Work mode”.

5.6.1.6 **Creating Epics and Stories**

When putting User Stories onto a Product Backlog (or feature list), you shouldn’t feel compelled to break everything down until the features are nearing development. As they near development (1-2 sprints in advance), the items on the top of backlog should be defined in sufficient detail that the team can reasonably estimate its size. Until that time, it can be considered a placeholder, a large user story, or what we refer to as an “Epic”.
To create an Epic:

- Whilst on the “Plan mode” of the Scrum board, click ‘Create Epic” as per screenshot below. If the Epics panel is not shown at the left of the screen, select Tools > Show Epic Panel.

  ![Sample Scrum Panel Project](image)

- In the ‘Epic Name’ field, enter a short name. The ‘Epic Name’ (rather than the Summary) will be used to identify your epic and to label issues that belong to it.
- Your new Epic will be added to your board's Epics panel.

To create a User Story (Issue):

A user story is created in the same way you would create a usual JIRA issue (see section on creating a JIRA issue). The difference is that you would select “Story” as the issue type and you would write it out as you would a typical user story:

As a <persona>, I want <what> so that I can <why>.

Example: “As a user closing the application, I want to be prompted to save if I have made any change in my data since the last save.”

You would then add some acceptance criteria. Describe the conditions that have to be fulfilled so that the story may meet the criteria of “Done”. The criteria enrich the story and make it more precise and testable. Regardless of how detailed the acceptance criteria are, the team should have a conversation about them and adjust the acceptance criteria to capture the results of the discussion.

Example: Acceptance criteria:
1. Any change to any of the form fields that has not been saved will result in a pop-up message if the user tries to close the application without saving.
2. The message will give the user 2 choices, Save or Discard changes.
3. If the user selects save, any changes will be saved and the browser tab or window closed.
4. If the user selects discard changes, no save will be performed and the browser tab or window will close.

Wireframes or designs may be added to the JIRA issue for reference.

5.6.1.7 Project documentation and collaboration using Confluence

Confluence may be used as an online central repository and collaboration tool for project documentation. From business requirements through to test cases and release notes, adding these documents to Confluence and linking them to respective JIRA tasks is an ideal method to store and share information. Confluence also allows for user collaboration on every page, making online discussions visible and accessible. As with JIRA, all team members involved in the project should have access to Confluence.

5.6.1.8 Best practices for your Knowledge Base or WIKI

When it comes to organizing your knowledge base into categories and sections, it's important to consider the audience that may be searching for the documentation. Some people like to search, while others like to browse. Ensure you use clear page and document titles, and if available, use meta-data that will allow the content to come up in a search. For the user that is browsing a navigation tree; remember to keep it simple. Over-structuring your navigation tree with too many categories that are too specific can lead to confusion for your authors as well as your readers. Over time, as more articles are added to your knowledge base, opportunities for more section headings or categories will become clear, so be prepared to grow your knowledge base organically.

As the product itself evolves, be sure to keep your knowledge base documentation up to date, otherwise others visiting the wiki will be confused by old and inconsistent information. Make sure every document or page is dated and the author is mentioned (in case they need to be contacted).
Every organisation and project/product is unique, and so the way you decide to structure your knowledge base content will depend on several factors. As long as the content created is up-to-date, accurate and is logically ordered and easy to find, you are succeeding in building a valuable knowledge base.

**Typical Confluence dashboard:**

![Dashboard](image)

### 5.7 Release methodology

#### 5.7.1 QA Code Freeze

A “Code freeze” means absolutely no new features or any changes whatsoever added after this point. No exceptions. This allows QA to do final acceptance test without the possibility of regression issues occurring. Exactly how to proceed at this point depends on your business policies, but typically critical bugs found in this phase are allowed to be fixed, while non-critical bugs are merely recorded for later fixing. Once the acceptance test is passed (which means no remaining critical bugs), then the product or release is allowed to be shipped.
This method is not used in Agile. The advantage of having this period for testing is that it eliminates all risks for bugs to unintentionally find their way into the code and be released to production. However, there are several drawbacks to having a “code freeze” period:

- Slower to market as there is no continuous integration, therefore also more costly to the business
- If developers could fix bugs during “code freeze”, then why could they not have done so earlier?
- What do the developers work on while QA are testing during “code freeze”?

Code freeze can be eliminated if there is a high level of confidence that software deployments will not have unintended consequences. This comes with a mature delivery methodology.

### 5.7.2 Continuous Integration, Delivery and Deployment

**Tip**

CICD allows you the flexibility to build and deploy anytime

Continuous integration is the practice of merging developer code changes with a shared mainline once or several times a day.

Continuous delivery / deployment is a design practice used in software engineering to automate and improve the delivery process for software development.

Automation is a cornerstone of a well-implemented development workflow. Every task that can be done by a machine should be. Humans make mistakes, whereas automated testing will test everything you have preset it to test with every code change. Whenever the main development branch in your repository passes all the tests, you should push your code at least into a staging or QA environment. Furthermore, you can run tests against that staging system to make sure it works in a production-like environment. By automating every part of your deployment, you can push new features, but more importantly, push fixes very quickly.

The main benefits implementing continuous deployment arise as a result of reducing lead time, with two main effects:

- earlier return on investment for each feature after it is developed, which reduces the need for large capital investments
- earlier feedback from users on each new feature as it is released to production, which affords techniques such as parallel (or A/B) testing
5.8 Agile Scrum Methodology

5.8.1 Recommended Methodology

At Adobe we operate using a maturity model that envelopes Agile principles within the Scrum framework. We believe this approach leads to a more responsive and adaptive product development life cycle. Agile allows project participants to adjust their activities in response to situations that arise during the project management process. It makes the process of software development more focused and better controlled.

Tip
Adobe strongly recommends an Agile/Scrum or similar methodology level. This should be applied to your marketing execution as much as it is to your implementation.

5.8.2 Scrum Process
The Scrum process is relatively simple in theory. In practice, it can take some time to get the process fully operational. Scrum is a lightweight framework designed to help small, close-knit teams of people develop complex products. The stakeholders, product managers, marketing managers and the Scrum team will contribute to the list of feature requirements in the product backlog. The Product Owner will accept (or reject) these, and will prioritise these features in the product backlog. The Product Owner works closely with the business to understand their requirements and considers all their requests before making decisions on what to include in the product backlog.
The product backlog is mainly comprised of a list of features and tasks (also known as user stories), stacked one underneath the other in order of priority. The top of the backlog should be stories that are already refined and estimated, ready for development. Best practice is to have approximately 2 sprints worth of stories already refined, so the Scrum team can select which of those they wish to add to the next sprint. As you get down to the bottom of the product backlog, you will find stories that are larger with not much detail. For some people, particularly those used to a more traditional project approach that are used to detailed specifications up-front, this can potentially feel very uncomfortable. It shouldn’t. The logic here is simple. There is little point defining a feature (or set of features) in detail if it may never reach the top of the priorities. This
happens more often than you would think, and then you have not wasted all that time scoping it out.

The Sprint Planning meeting is attended by the whole Scrum team and they decide as a group which stories will be added to the sprint backlog.

The sprint may last anything from 1 - 4 weeks, but should remain consistent, i.e. if a 2-week sprint is decided at the start of the project, it should always be 2 weeks. This is so that a team velocity can be calculated and helps the team understand how much work they can take on in a sprint.

By the end of the sprint, the stories that are complete, i.e. ‘done’, are potentially shippable and may be released to production.

5.8.3 The Scrum team

Product Owner:

- holds the vision for the product and represents the interests of the business
- represents the customers
- owns the product backlog
- prioritizes the items in the product backlog
- creates acceptance criteria for the backlog items
- is available to answer team members’ questions

This person is responsible for managing the list of features in the "product backlog". This person holds the product vision and works closely with stakeholders and product marketing. The product
backlog is prioritised and owned by the Product Owner. They have the authority to make decisions regarding the development and timing of what gets pulled into a sprint.

**ScrumMaster:**

- scrum expert and advisor
- coach
- impediment bulldozer
- facilitator

This person facilitates the Scrum ceremonies and ensures the team works within the Scrum framework. The ScrumMaster takes on the administrative, coaching and leadership role that make Scrum development possible. They remove obstacles raised by the team and helps the team to become self-organising. The ScrumMaster ensures the team understands Agile/Scrum principles and is able to perform at their optimum.

**Development Team:**

- responsible for completing user stories to incrementally increase the value of the product
- self-organizes to get all of the necessary work done
- creates and owns the estimates
- works out how to do the work
- avoids thinking “it’s not my job”

The Scrum team consists usually of developers and testers, but may also incorporate some design, UX and BA. The team should remain consistent and learn to become self-organising in order to become a high-performing team. The team is a cross-functional group of professionals who, among them, have all the necessary skills to deliver each increment of the product. The development team estimates the efforts of the work.

**5.8.4 Scrum Ceremonies**

**Daily Standup Meeting**

The entire Scrum team meets at the same time and place every day for a 15-minute meeting where everyone stands up so that the meeting is brief and informative. During the meeting, each Team member explains the following:

- What he or she has accomplished since the last meeting
• What he or she is going to do before the next meeting; and
• What obstacles are in his or her way, if any.

**Sprint Review Meeting**

At the end of the Sprint, a Sprint Review or Demo meeting is held. During this meeting, the Scrum team and key stakeholders discuss what was achieved in the last sprint, and the team gives a demonstration of completed tasks and answers questions. The Sprint Review provides valuable input to subsequent Sprint Planning meeting.

**Sprint Retrospective Meeting**

After the Sprint Review and prior to the next Sprint Planning meeting, the Scrum Team has a Sprint Retrospective meeting. The purpose of the Retrospective is to inspect how the last Sprint went in regards to people, relationships, process and tools. The inspection should identify and prioritize the major items that went well and those that if done differently, could improve things for future work. This meeting is most valuable because the Scrum Team will identify actionable improvement measures.

**Sprint Planning Meeting**

The Sprint Planning meeting is when the next iteration is planned and is held at the beginning of each new sprint. The Product Owner presents the top priority Product Backlog to the Team. They work together to figure out what functionality is to be developed during the next Sprint. The input to this meeting is the Product Backlog, the capacity of the Team, and past performance of the Team. The amount of backlog the Team selects is solely up to the Team.

**The Sprint**

A sprint may run for one month or less, usually a two-week period is considered an average duration. During the sprint, a “Done”, useable, and potentially releasable product increment is created. Sprints should have consistent durations throughout a development effort. A new Sprint starts immediately after the conclusion of the previous Sprint. No changes may be made during the sprint that would endanger the Sprint Goal.

5.8.5 **Scrum Artifacts**
Scrum relies on transparency and open communication. Decisions to optimize value and control risk are made based on the perceived state of the artifacts. Artifacts defined by Scrum are specifically designed to maximize transparency of key information so that everybody has the same understanding of the artifact. Scrum features three tangible artifacts:

- **Product increment** - an integrated, potentially shippable subset of the product available at the end of each sprint
- **Product backlog** - the list of stories and tasks for the product, in order of priority
- **Sprint backlog** - the detailed plan for development during the next sprint
- **Burn-up or Burn-down chart** (examples below) – tracks progress towards project completion or major releases based on team velocity and scope of work.

As can be seen in the Burn-up chart, the blue line indicates the originally planned due date, which was at the end of sprint 14. The red line plots the actual development and is made available to the key stakeholders at the end of each sprint, so they have constant updates on the team's progress. According to this example, the team is behind schedule by approximately 2 sprints. A new estimated date is plotted (see red dotted line).
At the outset of the sprint, the team forecasts how much work they can complete during a sprint. A sprint burndown report then tracks the completion of work throughout the sprint. The x-axis represents time, and the y-axis refers to the amount of work left to complete, measured in either story points or hours. The goal is to have all the forecasted work completed by the end of the sprint.

What to watch for:

- The team finishes early sprint after sprint because they aren't committing to enough work.
- The team misses their forecast sprint after sprint because they're committing to too much work.
- The burndown line makes steep drops rather than a more gradual burndown because the work hasn't been broken down into granular pieces. This usually means a very large story(s) was placed into done, hence the big drop.
- The product owner adds or changes the scope mid-sprint. Once the sprint is set, no more work should be added, unless they are bug fixes (which the team would have provided some time for in the sprint).

Please visit Agile at Adobe for more Agile resources on ideas, experiences, and challenges related to the Agile Scrum Methodology.

5.9 Waterfall Project Management
Waterfall as a project management methodology is often considered the classic approach to the systems development life cycle. The waterfall model describes a development method that is linear and sequential. The advantage of waterfall development is that it allows for departmentalisation and managerial control, however the primary disadvantage of Waterfall is that it does not welcome change. For example, once an application is in the testing stage, it is very difficult to go back and change something that was not well-thought out in the concept stage. With Agile, work is performed in iterations of 1-4 weeks, which means changes can be introduced without risk to the project delivery.

If you have decided on the Waterfall method, the phases for your AEM implementation will look something like this:

Activities during the Proof of Concept phase:

- Installation and setup of AEM on AWS platform
- AEM Project configuration
- Template development, eg. home and product pages
- Component development, eg. global and page-specific components
- Map HTML, CSS, JS and assets to templates/components
- Integration and Ingestor configuration and testing
Activities during the Discovery phase:

- Define project scope/workload
- Functional & Technical workshops
- Information architecture and designs
- POC demo
- System architectural definitions
- AEM Developer Training (customer)
- AEM Content Author Training (train-the-trainer)

Activities during the Build phase:

- Environment set up and configuration
- Setup & configuration of local Eclipse/Git/Maven
- Development of Templates & Components
- Configuration of Integrations
- Data integration and migration
- Manual content authoring

Activities during the Testing phase:

- Functional and visual testing
- Regression testing
- Load testing
- Customer testing
- Corrective action

Activities during the Production deployment phase:

- Deployment of code & content to Production
- Configuration Deployment

Activities during the Final Checks phase:

- Final testing on production environment before go-live
- Qualification of discrepancies
- Corrective action on priority tasks
- Deliverability checks
- Architecture checks
- Training checks
- Go/no-go meeting
Activities during the Release to Production phase:

- DNS and related updates
- Monitoring of environment
- Sanity test after go-live

5.9.1 Typical Critical Success Factors and Risks

Consider the following success and risk factor when implementing AEM in your organisation:

Success Factors

- Strong sponsorship at all levels
- Organisational commitment and investment (team stability and availability)
- Well-defined and measurable success criteria for the program
- Well-defined budget and KPIs to measure to
- Incorporation of Scrum best practices
- Agile / Scrum commitment from the entire organization, not just the development team
- Commitment to on-going training
- Estimates are coming from the development team

Risks Factors

- Lack of business users’ involvement and commitment
- No vision (or only limited to the project itself)
- Maintenance and/or deployment issues
- User adoption problems (can usually be mitigated by training)
- Resistance to Agile / Scrum, or the selected project management methodology
- Key team members located offshore and in different time zones can be challenging for clear communication
- Communication problems can lead to lack of transparency
- Security policies may hinder access to collaborative online tools where 3rd party vendors are involved
- Unrealistic expectations can lead to cost and delivery blow-outs. The project estimates should be obtained from the team that is nominated to deliver.

5.10 RACI

For each design build, test and delivery activity include the expected roles and responsibilities for all involved parties.

A RACI matrix or similar will help you document and track roles and responsibilities across project phases.
Responsible - do the work to achieve the task. There is at least one role with a participation type of responsible, although others can be delegated to assist in the work required.

Accountable - ultimately answerable for the correct and thorough completion of the deliverable or task, and the one who delegates the work to those responsible. In other words, an accountable must sign off (approve) on work that responsible provides. There must be only one accountable specified for each task or deliverable.

Consulted - typically subject matter experts; and with whom there is two-way communication.

Informed - kept up-to-date on progress, on completion of the task or deliverable; one-way communication.

Below is an example RACI matrix with high-level breakdown of roles and responsibilities:

<table>
<thead>
<tr>
<th>Phase</th>
<th>Name</th>
<th>Adobe Architect</th>
<th>Adobe Consultant</th>
<th>Product Owner</th>
<th>ScrumMaster and DevTeam</th>
</tr>
</thead>
<tbody>
<tr>
<td>Build</td>
<td>Infrastructure</td>
<td>R</td>
<td>C</td>
<td>RA</td>
<td>ACI</td>
</tr>
<tr>
<td></td>
<td>Templates</td>
<td>C</td>
<td>R</td>
<td>RA</td>
<td>ACI</td>
</tr>
<tr>
<td>Test</td>
<td>Performance</td>
<td>C</td>
<td>C</td>
<td>RA</td>
<td>ACI</td>
</tr>
<tr>
<td></td>
<td>Functional</td>
<td>C</td>
<td>C</td>
<td>RA</td>
<td>ACI</td>
</tr>
<tr>
<td>Delivery</td>
<td>DNS Updates</td>
<td>C</td>
<td>C</td>
<td>RA</td>
<td>ACI</td>
</tr>
</tbody>
</table>

5.11 First Implementation Process

In this section of the document, you will find information to effectively manage your Adobe Experience Manager project execution.

5.11.1 Pre-work Recommendations for Adobe Experience Manager
<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Define SLAs</td>
<td>Ensure that SLAs are identified and/or benchmarked before designing architecture. These maybe different for author and publish instances.</td>
</tr>
<tr>
<td>Licenses</td>
<td>Are there any license restrictions that are in place? Work with your account executive to define the full license roadmap and your implementation strategy and product usage.</td>
</tr>
<tr>
<td>Synchronizing content across the environments</td>
<td>Using content packages to move content through the environment in both directions will ensure that each one has the latest content available. There is also the VLT tool available to help migrate large amount of content quickly.</td>
</tr>
<tr>
<td>Archiving</td>
<td>You will need to define how much version history needs to be maintained in the live system for compliance and how to store old versions of the content offline</td>
</tr>
<tr>
<td>Caching ratios</td>
<td>Define how much of the content is static, and how often does content get activated?</td>
</tr>
</tbody>
</table>
| Sizing                                   | • Publisher - visitor traffic to the site, how much dynamic content.  
• Author - number of concurrent editors and the expected size of the dam  
• Dispatcher – recommended 1:1 with publishers, however if high static content with low activations there are occasions where this maybe be altered |
| Security                                 | • Is user authentication integration required?  
• Do the servers need to connect over secure sockets |
5.11.2 Discovery Phase

The discovery phase is an information gathering process to find out what is important to your organization and what your AEM implementation would ideally look like to suit your long-term digital strategy. We will spend the time to understand your business and your audiences so that even beyond the initial project, you know you have a partner you can rely on. This stage will assist us in defining your optimum system architecture, hosting solutions and software implementation, and that is why it is imperative to find out as much as possible about your requirements without getting lost in the detail.

5.11.3 Minimum Viable Product

Also determined in the discovery phase is what you agree to will be your MVP - Minimum Viable Product that you are confident enough has sufficient features and content for you to go live with. Building a MVP is a strategy for avoiding the development of features that customers do not want or use. The idea is to rapidly build a minimum set of features that is enough to deploy the product and test key assumptions about customers’ interactions with the product. Once your MVP is launched to production, you can immediately start analyzing visitor behavior and add or even remove features based on this early data.
Key points to focus on in the discovery stage:

- What are the goals you trying to achieve?
- Define MVP and optimal system architecture
- Hosting and managed services solution
- Integration into existing or prospective 3rd party systems, eg CRM, Finance systems, LDAP authentication
- Gather existing quantitative data to extract learnings
- Are there any technical constraints or specialized technical requirements?
- Data migration requirements?
- Multi-channel requirements?
- Add-ons required, eg. Analytics, Social, etc.
- Internal and external communications strategy
- Risk and issue management
- Knowledge management
- Determine project management methodology
- RACI and key roles and responsibilities
- Create Epic stories in the product backlog and prioritise them (does not have to be in the toolset that will be used to start with)

Minimum

Bad product that nobody wants to use

MVP

MVP – good enough set of features to release to market to start gaining valuable insights

Viable

Full set of features but takes longer to achieve and comes at a higher cost
Key Participants during the discovery phase:

- Customer Business & Product Owners
- Customer Architects
- Customer IT Manager
- Adobe Technical & Business Consultants
- Adobe Architects
- Adobe Trainer
- Partner Architect

5.11.4 Sprint zero – let’s get started

This planning sprint is dedicated to handling tasks to getting the project off the ground. The executive team and the PMO use ‘Sprint Zero’ to put all necessary systems in place in order to start delivering business value in subsequent iterations. Some preparation needs to be made before any development can commence:

- Form the Scrum team - Identify the Product Owner, the ScrumMaster and the Development Team which are to remain unchanged for the duration of the project (if possible)
- The business and Product Owner should present the project objectives and company vision and strategy to the Scrum team
- Setup the development environments, and if possible, a dedicated QA environment should be ready as well
- The IT Manager should describe the planned system architecture, available environments and the planned release process to the Scrum team
- The Scrum team defines and agrees on the ‘Definition of Done’
- Set up project in an issue tracking and Agile management tool (eg. JIRA and JIRA Agile)
- Create the product backlog with enough groomed stories for at least the next sprint
- The Scrum team should estimate and refine the top priority stories. The Product Owner, key stakeholders, business analysts, etc. should attend the backlog refinement so that there is no ambiguity for the stories in sprint 1
- Determine who will be responsible, accountable, consulted and informed on various aspects of the project
- Determine regular meeting requirements and communication plans outside of the normal Scrum ceremonies
- Define process for risk and issue management
- Setup list of Epic stories on the Scrum board, ready for scoping and refinement

Ideally, sprint zero will last no more than 1-2 weeks. It is imperative to get the Scrum team set up with the tools and environments they will need, as well as scope out the work that is expected for sprint 1.
You now have a Scrum team and at minimum, a development environment. You also have enough refined and estimated user stories in the backlog to start your first sprint. The team are eager and ready to begin. Sprint 1 planning meeting is completed and the development team can start.

With your first release, you may have opted to produce a minimum viable product and go live as soon as possible. The MVP should have been defined in the Discovery Phase, even if only at an Epic story level. With this in mind, the Product Owner will ensure that only stories and tasks that form part of the MVP are being worked on for the first few sprints until the first release has been deployed to production.

Below is a diagram that illustrates the Agile development lifecycle.


During the Agile development lifecycle and as part of each sprint, AEM work is being tested which means you will not need a long period of time for “code freeze” and regression testing. Also, as sections of AEM are ready for content to be added or imported, authors can start contributing
content and preview the content as it will display once the site is in production. The earlier content can be added, the sooner issues can be addressed and rectified before the go-live date.

### 5.11.6 Automated build & Deployments

As part of continuous delivery, the automated build is the beating heart of your release cycle. It helps shorten the feedback loop and reduces risk to the development and deployment code in your organization. Automated build is a process that scripts or automates tasks that developers do in their day-to-day activities, such as compiling source code, packaging the code, running scripted tests and deploying to QA or production environments. It saves time and reduces risk.

### 5.11.7 First release to production

Your first release to production will be dependent on the environments being set up and tested, stakeholder and product management approval, and of course, QA approval.

Basic environment setup (may vary depending on application and requirements):

<table>
<thead>
<tr>
<th>Development environments</th>
<th>QA environment</th>
<th>Pre-production environment</th>
<th>Production environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Authoring + Publishing instances</td>
<td>Authoring + Publishing instances</td>
<td>Authoring + Publishing instances</td>
<td>Authoring + Publishing instances</td>
</tr>
<tr>
<td><strong>The development environments are the developers’ local computers on which they develop code.</strong></td>
<td><strong>The QA environment is available for testing the application setup and the new features built during the sprint.</strong></td>
<td><strong>The pre-production environment mimics the production environment as closely as possible. This environment is used for testing the release before it is deployed to production. This environment allows for a ‘practice’ deployment of the real thing.</strong></td>
<td><strong>The production environment drives the site/application in production. This is usually what your customers and end-users have access to.</strong></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>When the developer commits their code changes, the automated build process deploys their changes to the QA environment.</td>
<td>The QA environment is updated regularly with the code changes that the developers have committed during the sprint.</td>
<td>A deployment to pre-production is done just before the release is due. Developers will create a release branch, which is set of features that have passed testing on the QA environment, and the Product Owner has approved for release.</td>
<td>A deployment to production means the release is ‘live’ and usually means it is available to the end user. Once a release does go-live, QA should do brush-testing, to ensure the deployment went well and all the features expected in the release are now on the live website.</td>
</tr>
</tbody>
</table>

### 5.11.8 Code Deployment, Code Management and Backups

Appropriate management of the code base for the website(s) is becoming more critical, key areas of discussion are Source Control, Code Deployment, backup and archiving, and testing.

**Source Control**
One of the key areas that needs to be addressed is the current Source Control (Version Control) process, which should be consistent across the organisation (e.g. a common and defined source control tool that can be readily used for all code libraries). Adobe AEM is currently using subversion (SVN), therefore we are suggesting to use SVN for your projects as well.

**Code Deployment**
An extremely important process in development is the effective management of code releases (deployment) to various environments.

The key criteria for code deployment are to ensure that all risks are mitigated and that all parties are aware of the steps, time frames and responsibilities for a release.

**Backup and Archiving**

In AEM, it is good practice to take backups of:

- Your software installation - before/after significant changes in the configuration
- The content held within the repository – regularly

Your company will probably have a backup policy that you will need to follow, additional considerations of what to backup and when include:

- How critical the system and data is.
- How often changes are made to either the software or data.
- Volume of data; capacity can occasionally be an issue, as can the time needed to perform the backup.
- Whether your backup can be made while users are online; and if possible, what is the performance impact.
- The geographical distribution of users; i.e. when is the best time to backup (to minimize impact)?
- Your disaster recovery policy; are there guidelines on where the backup data has to be stored (e.g. ofsite, specific medium, etc).

Often a full backup is taken at regular intervals (e.g. daily, weekly or monthly), with incremental backups in between (e.g. hourly, daily or weekly).

When implementing backups of your production instances, tests *must* be made to ensure that the backup can be successfully restored. Without this, the backup is potentially useless (worst case scenario).

### 5.12 Communication

#### 5.12.1 Communication Plan

A detailed communication plan will help you outline the approach that will be used to ensure the flow of communication among the various members of the project team, engaging the key stakeholders and any other members of the AEM Implementation Project. The aim of this plan is to manage and coordinate communication, as well as to engage the management and stakeholders to gain their commitment to the implementation of the project.
5.12.2 Collaboration

AEM deliveries are complex projects that require teams working together.

These are some factors that can help you in the process of building collaborative teams:

- Top-level executives can boost collaborative behaviour by investing in facilities with open floor plans to improve communication.
- At organisations where senior executives are highly collaborative, teams collaborate well.
- Invest in teaching employees how to communicate well and build relationships can improve team collaboration.
- When employees feel a strong sense of community, it becomes easier for them to reach out to others and share knowledge.
- Collaboration improves when the roles of individual team members are clearly defined yet the team understands the objectives and goals they have to achieve together.

5.12.3 DACI — For Approval Authority

We see the most successful AEM projects using a DACI or similar model in their communication strategy.

DACI is used to clarify roles in a way that makes it clear who has approval authority and who needs to be consulted before a decision is made and who needs to be informed once a decision has been made.

The role definitions are as follows:

<table>
<thead>
<tr>
<th>Role</th>
<th>Responsibilities</th>
</tr>
</thead>
</table>
| Driver | Communicating roles and responsibilities with other team members  
         | Making sure these roles and responsibilities are clear  
         | Overall coordination of the project                     |
| Approver | Approval or disapproval of decisions affecting progress of the project  
          | Some approvals may still fall under the decision of the project’s Driver |
| Contributor | Consulting and providing input to the necessary decisions |
Informed

Does not necessarily have an approval role, but must be informed once a decision or change is made.

5.13 Administration

5.13.1 Users

Users can log in to AEM with their account. Each user account is unique and holds the basic account details, together with the privileges assigned.

Creating a user account:

1. Open the User Administration dialog.
2. Click Create User.
3. You can then enter the Properties:
   • UserID used as the account name.
   • Password needed when logging in.
   • Principal Name to provide a full textual name.
   • Intermediate Path, which can be used to form a tree structure.
4. Click on the Save (green tick symbol).
5. The dialog will be expanded so that you can:
   • Configure Properties.
   • See Group Membership.
   • Define Impersonators.

AEM has OOTB reporting to monitor active & inactive users

Users are often Members of Groups, which simplifies the allocation of these permissions and/or privileges.

5.13.2 Groups

Groups are collections of Users and/or other Groups; these are all called Members of a Group.

Their primary purpose is to simplify the maintenance process by reducing the number of entities to be updated, as a change made to a Group is applied to all Members of the Group. Groups often reflect:
• A role within the application — such as someone who is allowed to surf the content, or someone who is allowed contribute content.
• Your own organisation — you may want to extend the roles to differentiate between contributors from different departments when they are restricted to different branches in the content tree.

Therefore Groups tend to remain stable, whereas Users come and go more frequently.

With planning and a clean structure, the use of Groups can reflect your structure, giving you a clear overview and an efficient mechanism for updates.

Creating a Group account:

1. Open the Group Administration dialog.
2. Click Create Group.
3. You can then enter the Properties:
   • Principal Name to provide a full textual name.
   • Intermediate Path, which can be used to form a tree structure.
4. Click on the Save (green tick symbol).
5. The dialog will be expanded so that you can:
   • Configure Properties.
   • See Group Membership.
   • Manage Members.

5.13.3 Actions

Actions can be performed on a page (resource). For each page in the hierarchy, you can specify which action the user is allowed to take on that page. Permissions enable you to allow or deny an action.

Read: The user is allowed to read the page and any child pages.

Modify: The user can modify existing content on the page and on any child pages or create new paragraphs on the page or on any child page.

Create: The user can create a new page or child page.

Delete: The user can delete existing paragraphs from the page or any child page and delete a page or child page.
**Read ACL:** The user can read the access control list of the page or child pages.

**Edit ACL:** The user can modify the access control list of the page or any child pages.

**Replicate:** The user can replicate content to another environment (for example, the Publish environment). The privilege is also applied to any child pages.

### 5.13.4 Permissions

Permissions define who is allowed to perform which actions on a resource. The permissions are the result of access control evaluations.

You can change the permissions granted/denied to a given User by selecting or clearing the checkboxes for the individual AEM actions. A check mark indicates that an action is allowed. No checkmark indicates that an action is denied.

Where the checkmark is located in the grid also indicates what permissions users have in what locations within AEM (that is, which paths).

Along with the grid view, AEM provides a detailed view of permissions for a selected user/group at a given path. The detail view provides additional information.
5.13.5 Permissions Best Practices

<table>
<thead>
<tr>
<th>Rule</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Use Groups.</strong></td>
<td>Avoid assigning access rights on a user-by-user basis. There are several reasons for this:</td>
</tr>
<tr>
<td></td>
<td>- You have many more Users than Groups, so Groups simplify the structure.</td>
</tr>
<tr>
<td></td>
<td>- Groups help provide an overview over all accounts.</td>
</tr>
<tr>
<td></td>
<td>- Inheritance is simpler with Groups.</td>
</tr>
<tr>
<td></td>
<td>- Users come and go. Groups are long-term.</td>
</tr>
<tr>
<td><strong>Be Positive.</strong></td>
<td>Always use Allow statements to specify the Group’s rights (wherever possible). Avoid using a Deny statement.</td>
</tr>
<tr>
<td></td>
<td>Groups are evaluated in order, and the order may be defined differently per User.</td>
</tr>
<tr>
<td></td>
<td>In other words: You may have little control over the order in which the statements are implemented and evaluated. If you use only Allow statements, the order does not matter.</td>
</tr>
</tbody>
</table>
**Keep It Simple**

Investing some time and thought when configuring a new installation will be well repaid. Applying a clear structure will simplify the ongoing maintenance and administration, ensuring that your current colleagues and/or future successors can easily understand what is being implemented.

**Test**

Use a test installation to practice and ensure that you understand the relationships between the various Users and Groups.

**Default Users/Groups**

Always update the Default Users and Groups immediately after installation to help prevent any security issues.

### 5.13.6 LDAP, Single Sign On and Portals

Various authentication methods can be realised by using different login modules. For example, AEM can interact with an LDAP server that stores user information centrally, eliminating the need for duplication. This central server is then used to verify login information which can be used to realise Single Sign On, both with other in-house applications and external Portals.

### 5.14 Workflows

#### 5.14.1 Content Management

Content management is the administration of digital content throughout its lifecycle, from creation to permanent storage or deletion. The content involved may be images, video, audio and multimedia as well as text.

With AEM, you have an integrated web content management system for delivering digital content across multiple channels, including web, mobile, and social. It provides an open, standards-based platform for delivering engaging, multichannel customer experiences that drive online business success. You will be able to attract new audiences, deliver targeted content through actionable data and social interactions, leverage rich media assets, and optimise multichannel outreach for increased click-throughs, conversions, and revenue.

- AEM content management system has a simple to use content-authoring interface to allow business users the ability to edit their digital content quickly and easily without dependence on IT.
• To boost your end-user experience, AEM lets you integrate third-party systems. This also will help you leverage end-user information, product assets and additional content from other enterprise systems.

• AEM content management system will help you achieve higher efficiency in managing localised content. This is due to its capability to share assets across all related digital properties, as well as to be able to automatically apply content changes from the main digital property to all of its various versions across regions, locals, products, organisations, etc.

• Higher levels of reporting capability given by AEM mean that your team will have the ability to access the information on content performance, workflow status and bottlenecks easily with the use of dashboards.

5.14.1.1 Content Localisation

Localisation is the process of adapting content to make it usable for new geographical regions and markets. This often includes translating text from the source language into the language used in the new location. Other forms of localisation may include currency, product examples, specific information about geography etc.

You can create a copy of your existing site and AEM will translate it for you automatically. For example, if you have a site only in English and want to translate it to Spanish, then AEM will do this for you after you execute the task to create the language copy.

5.14.1.2 Content Migration

AEM content migration allows for the ability to move digital content from one platform to another easily. Ideally, your AEM content migration takes place as one of the final steps in your development process.

Migrating from an existing Content Management System to AEM is a common process with most projects and requires some definition and planning. Discovery sessions should solidify the task and a plan would be the outcome.

**Key things to remember:**
• Make file names easy to type and remember. File names should also be entered in lower case letters and should not contain spaces and any special characters. Having clean and simple file names serves two purposes. For content editors, it makes finding and linking pages much simpler. For site visitors, it makes website URLs cleaner and more understandable.

• Resize images before inserting them on your web page — photos should not exceed the width of the content area.

• Don’t place off-site links in your left hand navigation — use the Related links section or link inside the content area.

• Use descriptive links.

• Avoid writing in all capital letters (“All Caps”) on web pages.
  • Writing in all caps is generally considered a web faux pas, and sometimes even rude on the Internet as it implies shouting. If you would like to emphasise a point or short block of text on your web pages, using bold or italic text is the preferred way.

• Use headings.
  • Headings can also improve your page's visibility to search engines, which often use page headings to determine what a page is about. Note, however, that Heading 1 and Heading 2 are reserved; use only Heading 3 through Heading 6.

5.14.1.3 Content Targeting

Content targeting on AEM enables you to include components on your web page that dynamically display different content to different visitors based on information known about that visitor. Any component in the AEM authoring system can be configured to display targeted content by assigning a campaign to it.

A campaign is a set of rules that defines what content is shown to visitors. The campaign consists of various sets of content called offers. Each offer is associated with a specific segment. A segment is a class of visitors defined by specific criteria (for example, English-speaking males over the age of 50).

Targeted components contain the content (offers) displayed to visitors according to the campaign rules. When a visitor opens a page containing a targeted component, the client context system
provides information about the visitor to the targeted component. Based on the information, the component dynamically selects and displays an offer in accordance with the campaign rules.

Content targeting requires that a campaign and segments are already created. There are two main types of campaigns: those managed entirely through AEM and those connected to an Adobe Target account. Content targeting can use either kind of campaign.

5.14.1.4 Content Activation and Deactivation

Activation and deactivation are synonyms with publishing and unpublishing. These are the primary terms for the actions that make your content publicly available on your public website (your publish environment).

You can schedule content for both activation and deactivation. This can help you manage content and make sure the right information is both displayed and removed at the right time.

5.14.1.5 Content Age

Content Age refers to the period of time a specific asset is visible to end users — from the moment the content is published to the time it is archived. Both the publishing and archiving can be set automatically to make sure only relevant, authorised and pertinent content is viewed by your end users.

You can use reporting features to get details on when an asset was last created, modified and removed.

5.14.1.6 Content Governance

Governance is a set of practices within content strategy that defines how content is reviewed, who is empowered to make editorial planning decisions, and what to do after content is published.

Questions to ask:

- What roles are required?
- Who needs to be involved in the review process?
- What tools are needed?
• How is content created, managed and delivered?
• Who is responsible for the creation, management and delivery of content?

5.14.1.7 Content Inventory

Content inventory will help you with the assessment and audit of your content. It will give you an important starting point to understand what you have and what you need in terms of content analysis, migration and creation.

It is important to define the content inventory project purpose, scope and objectives.

**Purpose** — What is the purpose of investing in content inventory? Examples might be facing a content migration or a website redesign.

**Scope** — How big is the project? You will also need to decide the scope of the inventory. If you are considering an enterprise-wide content inventory, break it down into easy to manage pieces.

**Objectives** — Once you understand the purpose and scope of the content inventory project, it will be easy to determine your objectives. That is, the information you need as a result of the inventory. Some examples for objectives are: number of web pages; what kind of content is working and what kind is not; what existing content is useful and what needs to be created etc.

5.14.1.8 Content Version

Versioning in AEM helps you create a snapshot of digital assets at a specific point in time. You can restore assets to previous versions at a later time. For example, if you need to undo a change that you made to an asset, versioning allows you to restore to the correct version of the asset.

Examples of when you might create versions include the following scenarios:

• You upload a file to CQ DAM. For example, if you modify a CQ5 DAM asset externally in another program and upload it through the user interface or WebDAV, CQ5 creates a new version of that asset so your original image is not overwritten.
• You edit the metadata.

You can also enable automatic versioning by using a workflow. When you create version, it saves all the metadata as well as renditions of that asset. Renditions are rendered alternatives of the same images; for example, a PNG rendition of an uploaded JPEG file. Renditions appear at the bottom of the Digital Asset Manager in the Rendition panel.

With versioning, you can perform the following functions:
• Create a version of an asset;
• View what revision of the asset you are using;
• Restore the asset to a previous version.

5.14.1.9 Content Metadata

Metadata means data about data. In this regard, data refers to the asset you are dealing with, for instance an image or video. Metadata is important because it allows users to manage assets more efficiently.

Metadata is the collection of all the data available for the asset, but that is not necessarily contained in that asset, for instance:

• The name of the asset;
• The time and date it was last modified;
• The size of the image as it was stored in the repository;
• The name of the folder it is contained in;

These are the basic metadata properties that AEM can manage for assets, which allows users to see all assets, for example, ordered by their last modification date — useful when trying to discover what assets have recently been added to the repository.

You can add more high-level data to digital assets, for example:

• The type of asset (an image, a video, an audio clip, or a document);
• The owner of the asset;
• The title of the asset;
• The description of the asset;
• The tags that are assigned to an asset.

More metadata helps you further categorise assets, and is helpful as the amount of digital information grows. While it is possible for a single person to manage a list of a few hundred files simply based on their file names, this approach falls short when the number of people involved and the number of assets managed grows.

As metadata is added to assets, the value of the asset grows, because the asset becomes

• More accessible — people can find it much more easily;
• Easier to manage — you can find assets with the same set of properties more easily and apply changes to them;
• More complex — the more metadata you have added to an asset, the more important managing metadata becomes.
For these reasons Adobe Experience Manager provides you with the right means of creating, managing, and exchanging metadata for your digital assets.

5.14.1.10 **Content Self-Publishing**

Self-publishing refers to the publication of content without the necessary involvement of all the stakeholders and steps normally required. The idea behind self-publishing is to empower business teams and users to publish their own content when necessary.

By allowing and encouraging different business teams to self-publish, you will:

- Get a faster time to market;
- Minimise role dependency;
- Minimise the number of steps.

**Self-Publish — Business Author**

5.14.1.11 **Site UX**
When users visit your website, they increasingly want an experience that’s valuable, easy to use, aesthetically pleasing, and emotionally satisfying. To retain and gain customers, you have to win their hearts by providing them with a compelling user experience (UX) that is useful, usable, and desirable.

<table>
<thead>
<tr>
<th>Useful</th>
<th>Customers can accomplish their goals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Usable</td>
<td>Customers can easily perform tasks</td>
</tr>
<tr>
<td>Desirable</td>
<td>Customers enjoy their experience</td>
</tr>
</tbody>
</table>

Improved user experience translates into three key benefits:

- **More customers will be willing to purchase.** On average, companies that provide a superior experience have 14.4 per cent more customers who are willing to consider them for another purchase than companies in the same industry that offer a poor customer experience.
- **More customers will resist doing business with competitors.** Compared with companies that offer a poor experience, companies that offer the best experience in their industries have 15.8 per cent fewer customers who are likely to consider doing business with a competitor.
- **More customers will recommend you.** Companies with the highest experience scores have 16.6 per cent more customers who are likely to recommend their products or services compared with their lowest-scoring competitors.

Mike Gualtieri, Best Practices In User Experience (UX) Design, Forrester Research, Inc

5.14.1.12  Content Insight

Content Insight in AEM provides information about page performance using web analytics and Search Engine Optimisation (SEO) recommendations. You can use Content Insight to make decisions about how to modify pages, or to learn how previous changes have changed performance. For every page that you author, you can open Content Insight to analyse the page.

Content Insight can help you generate reports that show:

- Page views;
- Average time spend on the page;
- Sources;
- Data for a period of time that you control;
You can also specify the granularity of the reported data, for example you can see daily, weekly, monthly, or yearly data.

- Campaign activities;
- SEO recommendations.

### 5.14.1.13 Optimisation

A key issue is the time your website takes to respond to visitor requests. Although this value will vary for each request, an average target value can be defined. Once this value is proven to be both achievable and maintainable, it can be used to monitor the performance of the website and indicate the development of potential problems.

The response times you will be aiming for will be different on the author and publish environments, reflecting the different characteristics of the target audience:

**Author Environment**

This environment is used by authors entering and updating content. It must cater for a small number of users who each generate a high number of performance-intensive requests when updating content pages and the individual elements on those pages.

**Publish Environment**

This environment contains content that you make available to your users. Here the number of requests is even greater and the speed is just as vital — but since the nature of the requests is less dynamic, additional performance enhancing mechanisms can be applied; such as caching the content or load-balancing.

### 5.14.1.14 Personalisation

Personalisation centres on providing the user with a tailor-made environment displaying dynamic content that is selected according to their specific needs — whether on the basis of predefined profiles, user selection, or interactive user behaviour.

There are three main elements involved in personalisation:

**Users**
• Have profiles, both individual and group. These profiles contain characteristics (such as job description, location, interests), which can be used to personalise the content they can see.
• Take actions. These can then be analysed and matched against behaviour rules to tailor the content they see.

Content

• Is what the user wants to see. Preferably content of interest and use to them for fulfilling their tasks.
• Can be categorised, and therefore made available to users according to predefined rules. In other words; the content must be dynamic.
• Must, in some way, be dependent upon the user — if every user would see the same content, then personalisation would be redundant.

Rules

• Define how personalisation actually happens — which content the user can see, and when.

Recommendations for Personalisation:

• Organisations at a higher level of content personalisation are using advanced content targeting tools that feature business user support for creating and managing targeted campaigns.

• To achieve higher levels of customer personalisation, organisations should leverage tools for automatic personalisation paired with integrated data sources about customers such as CRM or other enterprise systems.

• Organisations with higher levels of product content displays are leveraging automatic updates with their product catalogue tools as well as business user support for maintaining product content.

• To provide an engaging shopping experience to their customers, organisations need to convert all their website pages to shoppable pages and add business user support for product updates.

• Achieving a higher level of content-testing capability depends on having integrated content-testing tools with business user support for test setup and maintenance.

• Organisations with a higher level of content analytics capability can leverage an integrated analytics solution to receive cross-channel content performance information in dashboard format.
AEM allows you to track user interaction on your website. Working together with Adobe Analytics, AEM lets you choose what you want to track based on your key performance indicators such as page views, unique visitors, return frequency, campaign conversions, views by browser etc. and then use the data collected to update your site.

Integrating the two systems is easy and it will equip your organisation with a powerful tool. To learn how to add Analytics Tracking to AEM Component you can go to integrate Adobe Analytics and Adobe Experience Manager via the configuration screens.

It is more important than ever for businesses to foster communities by engaging and interacting with customers through multiple channels, including social. AEM Social Communities capability let you integrate your social media into your websites. By doing this, it will be easier to leverage user-generated content like product reviews, and creating dedicated social communities. Tying social media is easy with AEM. It enables you to host community forums, deliver content to social channels and build stronger customer engagement.

Social Communities is an additional module to AEM. By purchasing it, you will gain access to a simplified experience for the creation and customisation of community features such as forums, blogs, journals, calendars, comments, reviews, and tallies (polls, voting, and ratings).

With Adobe Experience Manager social communities you will be able to:

- **Drive conversions** Build knowledge of customers for better segmentation and targeting.
- **Grow revenue** Influence buying decisions through peer and expert recommendations.
- **Retain control** Deliver user management, access control, and moderate interactions to retain control of the brand.
- **Build a community** Engage users with the branded community.
- **Build brand loyalty** Drive higher lifetime value and customer advocacy.

Adding social capabilities to your website can be a challenge without the right security controls and infrastructure in place. AEM offers spam scanners and built-in moderation tools to help ensure that only filtered and workflow-moderated content is posted to a site.

Other capabilities include:

**Integration with social media sites**

Many companies maintain Twitter and Facebook pages to disseminate information, but with AEM Social, you can make sure your posts and tweets are updated in real time directly from the Adobe Experience Manager interface. Add social plug-ins to your site — for example, a tweet or Like can
be added with the same drag-and-drop ease as other Experience Manager components to enable sharing of content and amplification of brand message through social networks and social context.

**Customer insight**
Experience Manager social communities capabilities enable an integrated blend of user-generated content, such as ratings, reviews, and comments, into web content. This will empower you to deliver social proof, drive brand loyalty and gather instant market feedback. These community components can be simply dragged and dropped onto pages where the features are desired. AEM can provide any content as a feed and allow authors to decide which content to push out to subscribers.

**Profile management and social logins**
AEM social communities make it easy for everybody to join the conversation and make a contribution. Profile management provides self-service sign-up, account provisioning, and user profiles.

User identities managed in AEM are OpenSocial-compliant — an open standard initiative spearheaded by Google to enable user, social graph, and activity sharing between social networks. Self-service registration and full profile customisation allow optimised identity representation for community needs. The new Extended User Profile functionality allows for a more complete picture of your users. Activity streams keep you informed of a user's actions on your site to assist in moderation and engagement.

Social communities also allows for users to log in using their Facebook or Twitter accounts to target and personalise their experience. Experience Manager pulls in selected data from their social profile into the ClientContext, so content can be targeted according to interests and demographic information for more successful campaigns.

**Community Groups**
Community groups helps you offer customers, prospects, and partners the ability to create community groups from a selection of templates that they set up. Companies can modify these templates at any time and update all existing communities. Groups can include end-user blogs, forums, Q&A, calendars, activity streams, and member lists. There are three membership models to choose from: public, by invitation only, or private groups. In addition, end-user moderation is possible, so companies can enable users to assist in moderation, whether it is flagging comments or approving new members.
Social engagement
An engaged community is an active community, and an active community contributes content in the form of blogs, forum posts, and Q&A. Experience Manager allows for the definition of rules for on-site interactions. Users can score points for actions, such as creating communities or contributing content, and earn badges. This gamification is placed in the user's profile and is accessible to other components.

Moderation
To comply with enterprise security policies, AEM features a proprietary replication technology that facilitates workflow-based moderation of community content and allows only permission-based publishing. It puts untrusted contributions under quarantine and intelligently routes them behind corporate firewalls for approval, thereafter to be published to public production servers.

AEM social communities aids moderators of large communities with dedicated tools for moderating user-generated content which allows search and advanced filtering of all user-
generated content — blogs, comments, forums, product ratings, and more — by status, sentiment, and type. Community managers can deal with individual replies, including viewing profile information and previous activities taken by the user.

These are some early discovery questions you might want to answer about social content:

- What is your social strategy?
- Do you intend to create social communities on your owned digital properties?
- How do you currently leverage social network sites for promoting your brand? Do you have a Facebook site, or participate in other social sites (sales rep should look this up ahead of time)?

About social communities:

- What is your blogging strategy? Do you have company and employee blogs?
- How are you using discussion forums today?
- How do you monitor and moderate user-generated content? Do you have community-based moderators, company moderators or both?
- What are your current use cases for discussion forums and Q&A pages?
- Do you offer customer support through forums?
- Do users often find the right answer, or are similar threads repeated due to lack of visibility into “correct” answers?
- Do you allow users to authenticate with Facebook/Twitter credentials? Is self-registration an option?
- Do you use polling, voting and or rating?
- Do you use Calendaring and Event functions? Would you if they were integrated into your community spaces?
- Does your current solution include spam filtering?
- Do you see specific device traffic? For which devices should the site be optimised?
- Has a decision been made for either a responsive or adaptive approach yet?
- Do you integrate with external or third-party systems?

Recommendations for Social Communities:

- To achieve a higher level of social content syndication, organisations should have business user support for content syndication to and from leading social networks.

- Organisations at a higher level of their user-generated content maturity have support for threaded discussions, polls, ratings, reviews, calendaring, blogs, and features such as moderation and spam filtering.

- To achieve a high level in quality of social profiles across their digital properties, organisations should have the ability to leverage end-user social profiles from leading social networks in addition to internal user information sources.
• Organisations with a high level of social analytics capability have business user support for social analytics across all their owned and third-party social properties.

5.14.1.17 Search Marketing

Search marketing is the process of gaining visibility and traffic from search engines through both paid (Pay per Clicks or PPC) and unpaid efforts (Search Engine Optimisation or SEO).

With all of the built-in features, Adobe Experience Manager still needs a search strategy to produce greater results. Addressing your strategy at the beginning will help with future implementations.

The following can impact SEO and should be considered during development, migration and content authoring:

• Creating unique and accurate metadata — page titles, descriptions;
• Using a friendly and optimised URL structure for pages and documents — have a brief but descriptive name;
• When migrating or moving content, making use of permanent (301) redirects to take the user to the new page location — this will allow search engines to retain the previous score and transfer it to the new page location;
• Make the site easy to navigate by using breadcrumbs and crawlable hyperlinks,
• Create a naturally flowing hierarchy and, where possible, limit the depth of a site’s navigation structure;
• Control crawlers using robots.txt or robots metadata tags;
• Prevent crawlers from indexing of search result-like pages and add rel=“nofollow” to user-generated content
• Produce sitemaps and consider how they can be managed by authors or admins;
• Have a useful 404 page;
• Optimise site content — keep it fresh and unique;
• Use HTML headings appropriately and avoid embedding text within images;
• Have useful anchor text and make anchors easy to spot;
• Have alt text on images;
• Make the site social media-friendly by including appropriate metadata tags for relevant social media platforms.

You can use the SEO Recommendations report in AEM to view a checklist of page features that indicates which features the page does and does not include for maximising its findability using search engines.

This report enables you to create tasks so that improvements are made to improve page findability. Recommendations indicate that tasks have been created for implementing the recommendation.
Individual visitors to your website can only be identified when you allow them to log in. There are various reasons why you may want to provide a login capability:

- Social communities — When communicating, the visitors need to be able identify each other.
- Closed user groups — You may need to limit access to your website (or sections of it) to specific visitors.
- Personalisation — Allowing visitors to configure certain aspects of how they access your website.

Login (and logout) functionality is provided by an account with a **Profile**, which holds additional information about the registered visitor (user). The actual processes for registration and authorisation may differ:

- Self-registration from the website — For social communities you might allow visitors to register without authorising each individual profile.
- Request for registration from the website — For a closed user group you might allow visitors to request registration, but enforce authorisation by means of a workflow.
- Register each account from the author environment — If you have a small number of profiles, which will need authorisation anyway, you may decide to register each directly.
To allow visitors to register, a series of components and forms can be used to collect the required identification information, then the additional (often optional) profile information. After they have registered, they should also be able to check, and update, the details that they have submitted.

Additional functionality can be configured or developed:

- Configure any reverse replication that is required.
- Allow a user to remove their profile, by developing a form together with a workflow.

The information specified in the profile can also be used to provide the user with targeted content using Segments and Campaigns.

5.14.1.19 Behavioural Trigger

Behavioural triggers initiate and nurture marketing campaigns based on prospect activity or behaviour. For example, when a potential customer performs — or fails to perform — a certain action, such as abandoning his shopping cart, AEM can identify this behaviour and send them the right message to get them back on to the sales process.

5.14.1.20 Behavioural Targeting

Behavioural targeting is any method of targeting a consumer after they have taken some kind of action (behavioural trigger). It involves classifying visitors based on actions they have taken on your site, or based on qualities they possess that are more likely to cause them to behave in ways that you can anticipate.

5.14.1.21 Campaign Marketing

Effective Campaign Marketing will let you efficiently plan, design, launch, optimise, and organise your marketing campaigns across multiple digital channels including websites, landing pages, email, and mobile. With an easy-to-use, unified platform for campaign management, you can increase your marketing effectiveness without complicated IT resources.

Benefits of marketing campaign management capabilities

- Author engaging content — Create extraordinary page designs for agile landing pages and microsites;
- Create relevant site visitor experiences — Tune campaign messages and content with advanced targeting;
• **Grow lead volume and drive revenue growth** — Capture and manage leads with your customer relationship management system;

• **Maintain brand identity and equity** — Extend the power of Adobe Experience Manager to reuse content and assets in emails, landing pages, and websites;

• **Increase conversions** — Leverage customer and behavioural data to create personalised experiences.

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5.14.1.22  **Mobile and Apps**

Adobe Experience Manager gives you the control you need to optimise content and create a great customer experience across mobile web and mobile apps, while providing technology teams the tools they need to deliver quickly and effectively. Your organisation can manage the following types of websites and mobile apps in one place, which helps maintain brand consistency, streamline workflows, improve mobile ROI, and integrate mobile into the broader customer experience.

• **Consistent mobile web experiences using responsive design** Deliver an experience to customers across desktops, tablets, and mobile devices using one set of code and one set of content;

• **Unique mobile web experiences** Deliver mobile-specific sites that reflect the customers’ intent and adapt to their device type;

• **Native and hybrid mobile apps with utility** Manage content in native apps or create and manage hybrid apps for distribution across platforms using Adobe PhoneGap;

• **Content-centric digital publication apps** Create engaging app content within Adobe Experience Manager and package for delivery using Adobe Digital Publishing Suite.

**Recommendations for Mobile Sites and Apps:**

• Organisations with higher level maturity in multichannel delivery can deliver their content across web, e-mail, mobile, print TV, electronic kiosks, billboards, etc. as well as emerging channels such as smart TV and in-car devices.

• To achieve a higher level of maturity in mobile commerce, brands need to have a consistent branded shopping experience across web, mobile and other channels as well as business user support for cross-channel product management.

• Organisations with high-level mobile content-testing capabilities should be able to test content across both digital and offline channels.
5.15 Usage

Once Adobe Experience Manager is in place, how your company uses the tool becomes important because it will help you maximise your investment. Usage is all about establishing and leveraging best practices that will help you with your overall reporting, analysis and decision-making. Here are a few questions you will need to consider:

- How will you manage time and resources spend on reporting and deep-dive analysis?
- If your analysts are going to be overloaded with reporting and analysis requests each week, what tools and workflows do you need to implement to help them prioritise those requests?

For routine reports and business questions, it may be helpful to agree on the best approach to ensure numbers match up properly regardless of who is building the report or performing the analysis.

5.16 Sustainability

5.16.1 Document Process and Apply

Sustainability focuses on having the right structure and measures in place to support or sustain Adobe Experience Manager post-deployment. These processes ensure that your content delivery agility and optimisation initiatives do not go off course in six to 12 months. Some examples of sustainability practices include documenting each deployment for future reference, establishing and enforcing corporate standards, creating a centralised knowledgebase of metrics and reports and scheduling periodic implementation reviews.

5.16.2 Scaling Maturity

When scaling an AEM installation, determining the appropriate architecture can be complex. An AEM installation is composed of a number of distinct parts, each of which can be configured in a number of ways, yielding a large number of possible configuration combinations.

The following are a number of common use cases that all exhibit some type of scaling problem:

- High Processing Input Feed
High Volume Input Feed
High Frequency Input Feed
Many Editors
High Volume and High Performance Delivery
Many DAM Assets
Geographically Distributed Editors

You can go to Scaling AEM to see a number of possible solution patterns and tuning strategies

5.16.3 Site uptime performance management

Performance (or the lack of it) is one of the first things that your users notice. So as with any application with a user interface, performance is of key importance. To optimise the performance of your AEM installation you need to monitor various attributes of the instance and its behaviour.

The problems that cause performance issues are often difficult to track down, even when their effects are easy to see.

A basic starting point is a good knowledge of your system when it is operating as normal. Unless you know how your environment looks and behaves when it is performing properly, it can be difficult to locate the problem when performance deteriorates. This means that you should spend some time investigating your system when it is running smoothly and ensure that collecting performance information is an ongoing task. This will provide you with a basis for comparison should the performance suffer.

The following diagram illustrates the path that a request for AEM content can take — and therefore the number of different elements that can impact the performance.
Performance is also a balance between Volume and Capacity:

**Volume**

The amount of output that is processed and delivered by the system.

**Capacity**

The system’s ability to deliver the volume.

Certain rules should be kept in mind when optimising performance:

- Performance tuning must be part of every project;
- Do not optimise early in the development cycle;
- Performance is only as good as the weakest link.
- Always think about capacity vs. volume;
- Optimise important things first;
- Never optimise without realistic goals.

5.17 Change Management
Change management is about managing the people side of change. In order for this to happen, leaders, employees, and partners may need to adjust existing attitudes and behaviours.

Define the change management mission.

- Ensure documentation of all proposed changes;
- Ensure verification of technical completeness;
- Ensure timing of change executions does not conflict;
- Ensure appropriate management involvement and approval (-offs, approval, deferral);
- Ensure the verification of successful testing to the degree required by organisation standards before change introduction;
- Ensure documentation of actual change (enable communication of change results, provide a history of changes, support the maintenance of systems documentation).

Define change management guidelines

- Monitor all changes;
- Formal change management system must be in place;
- Define the change management lifecycle functions.

6 Product

6.1 Solution Architecture

At the infrastructure level AEM provides the following:

- Web Application Server: AEM can be deployed in standalone mode (it includes an integrated Jetty web server) or as a web application within a third-party application server (WebLogic, WebSphere, etc).
- Web Application Framework: AEM incorporates the Sling Web Application Framework that simplifies the writing of RESTful, content-oriented web applications.
- Content Repository: AEM includes a Java Content Repository (JCR), a type of hierarchical database designed specifically for unstructured and semi-structured data. The repository stores not only the user-facing content but also all code, templates and internal data used by the application.

Building on this base, AEM also offers a number of application-level features for the management of:

- Websites
- Mobile Applications
6.1.1 Hosting options

Built with a modern and lightweight architecture, Experience Manager is easily installable both on-premise and on cloud infrastructures. Experience Manager offers two cloud deployment strategies: Adobe Experience Manager Managed Services, which provides dedicated, Adobe-managed, cloud-based hosting for an efficient, secure, customizable, and cost-saving alternative to on-premises content management; and Adobe Experience Manager Cloud Management, an Adobe web application to create, manage, and deliver self-managed or partner-managed personalized digital experiences on top of a cloud-based infrastructure.

Adobe Experience Manager is available in three deployment models, all based on the same proven platform:

- AEM On Demand Cloud Management (deployed in our shared datacenters)
- AEM Managed Services (dedicated and securely hosted by Adobe)
- AEM On-Premise (in your datacenter)

6.1.1.1 AEM On-Demand Cloud Management

Adobe Experience Manager is architecturally designed to take advantage of the on-demand and elastic principles of cloud computing. Included with Experience Manager is Cloud Management, a Software as a Service (SaaS)-based utility enabling customers to quickly spin up Experience Manager instances on popular cloud infrastructures. By simply providing a license key and a cloud infrastructure account, organizations can provision an Experience Manager environment in minutes without burdening IT or going through lengthy approval processes.

6.1.1.2 AEM Managed Services
Deploy your digital experiences in the cloud to reduce time to market while maintaining all the control, security, and customization of on-premises deployment. With Adobe as your single partner for hosting and support, you get expert help whenever you need it — without all the infrastructure and personnel costs. Adobe provides cloud hosting and expert application support enabling enterprises to concentrate on building brand and customer acquisition. Included is 24x7 maintenance and support and a single point of contact for each customer throughout the application lifecycle. AEM Managed Services is available for our Web Content Management, Digital Asset Management and Social Communities products.

A key differentiator of Experience Manager Managed Services, compared to other hosting and managed services providers, is that Adobe is the actual vendor behind the stack being deployed. Adobe writes and supports the software, and our team is in direct contact with Experience Manager engineering and Adobe Support whenever needed. This close relationship enables our team to scale deployments much faster and meet customer demands.

6.1.1.3 **AEM On-Premise**

AEM on-premise means that your AEM instance is installed and configured in your own data centre. On-premises deployments have an associated capital expenditure investment cost, however you have full control of the application. There are several reasons this may be a more suitable option for you; IT security policies, specific requirements for data-center integration and authentication, 3rd party application integration, amongst others. Deploying Experience Manager on-premises requires a careful sizing and capacity planning to architect the IT infrastructure and procure any additional hardware upfront. Your IT department will also be responsible for security, backups, and disaster recovery. Adobe can help you scope this out to ensure you have sufficient resources.

6.1.2 **Author / Publish Environments**

A typical AEM setup consists of an author and a publish environment. These environments have different requirements regarding the underlying hardware size and system configuration.

In a typical project setup, you have several environments to stage project phases:
Development environment/s

Prior to authors creating and editing their content in AEM, the developers are responsible for developing and customizing the proposed website. They:

- develop and customize components
- realize the design within the website
- develop the necessary scripts to implement the required functionality of the website

Depending on the scale of your system, the development environment can have both author and publish instances, or the test environment will be used for such functionality.

Author Test (QA) environment

To verify and test changes. The number of test environments can vary depending on the project requirements (for example for separate QA, integration testing, or user acceptance testing).

Publish Test (QA) environment

Especially for testing social collaboration use cases or the interaction between author and multiple publishing instances.

Author Pre-Production environment

An authoring instance for the testing of the deployment package. If code changes were made to the authoring application, they should be tested here. The Pre-Production phase of the software lifecycle is often tested on hardware that mirrors hardware used in the production environment.

Publish Pre-Production environment

A publishing instance in the pre-production environment to test the front end site to confirm the content or code changes are good.

Author Production environment

An authoring instance for the input and updating of live content. There may be a workflow to preview and approve the content before it gets published.

Publish Production environment

To serve approved, published content to live that was updated in the authoring instance.

Additionally, the environments may vary, ranging from a single-server system running CQ, CRX and an application server, through to a highly scaled set of multi-server, multi-CPU clustered
instances. We recommend that you use a separate computer for each production system and that you do not run other applications on these computers.

6.1.3 Dispatcher

Dispatcher is Adobe Experience Manager's caching and/or load balancing tool. The most common use of a Dispatcher is to cache responses from an AEM publish instance, to increase the responsiveness and security of your externally facing published website. The Dispatcher can also be used to increase the responsiveness of your author instance, particularly if you have a large number users editing and updating your website.

Why use the Dispatcher to implement caching?

There are two basic approaches to web publishing:

- Static Web Servers: such as Apache or IIS, are very simple, but fast.
- Content Management Servers: which provide dynamic, real-time, intelligent content, but require much more computation time and other resources.

The Dispatcher helps realize an environment that is both fast and dynamic. It works as part of a static HTML server, such as Apache, with the aim of:

- storing (or "caching") as much of the site content as is possible, in the form of a static website
- accessing the layout engine as little as possible.

Which means that:

- static content is handled with exactly the same speed and ease as on a static web server, additionally you can use the administration and security tools available for your static web server(s).
- dynamic content is generated as needed, without slowing the system down any more than absolutely necessary.

How Dispatcher returns documents:
Dispatcher works as part of a static HTML server with the aim of:

- storing (or "caching") as much of the site content as is possible, in the form of a static website.
- accessing the layout engine to retrieve dynamic content as and when necessary, but as little as possible.

**Using Dispatcher with a CDN**

A content delivery network (CDN), such as Akamai Edge Delivery or Amazon Cloud Front, deliver content from a location close to the end user. By that it speeds up response times for end users and takes load off your servers.

**6.1.4 Security**

Experience Manager instances are hosted on dedicated, single-tenant virtual machines and clusters. Hypervisor-secured virtualized disks, along with other resources, warrant the isolation of customers’ data, processes, and runtime environments.
All customer data stored on the EBS system is encrypted with AES 256-bit keys. To secure backups, the encrypted data is disaggregated into small packets stored across the highly available storage system. Manually reconstructing a backup is close to infeasible. In addition, Adobe supports erasing purged backup chunks through the DoD 5220.22-M or NIST 800-88 data sanitation procedures, when requested by the customer. Adobe operates Adobe Experience Manager Managed Services in compliance with ISO/IEC 27001:2005 (Adobe self-audited) and SSAE 16 Type II or SAS 70 (AWS certification). Adobe’s certification for FEDRAMP and HIPAA full standards compliance are under way.

Despite these measures, customers are advised to check compliance with industry-specific regulations, as well as national data protection acts, that may constrain the storage of data to nations where AWS does not own a cloud region.

### 6.1.5 Monitoring

The customer cluster is managed by Adobe Control Systems and monitored by Adobe’s Network Operations Center using a combination of active and passive tools. The entire stack is monitored 24 hours a day, 7 days a week, including metrics and indicators for infrastructure health, performance, and user experience. When traffic peaks are detected, Adobe reacts swiftly by temporarily provisioning new instances—at no extra cost to the customer—to help ensure no degradation of the user experience or loss of business occurs. Adobe communicates this event to the customer to determine if it was an extraordinary situation or if the baseline should be expanded permanently with additional charges.

**Service availability guarantees**

Several service availability guarantee schemes exist depending on the deployment topology.

- 99.5% availability with a non-high-availability (HA) deployment topology. Single availability zone and single region. Suitable for development environments.
- 99.9% availability with a HA deployment topology. Dual availability zone and single region.
- 99.9% availability with a geo HA deployment topology. Dual availability and dual region, with a latency sensitive DNS.

In all cases, the customer solution is composed of a clustered Amazon ELB that spreads the load across application servers arranged in three tiers (dispatcher, publish, and author), providing an extra guarantee of availability.
6.1.6 Backups and disaster recovery

Instances of the publish and author tiers are periodically backed up to Amazon S3 (while encrypted) using snapshots. This process takes only a few minutes and is followed by the distribution of snapshots to all availability zones in a given cloud region.

Differential backups are performed on a daily basis and retained for seven days by default. However, you can request to change the frequency and retention period (some limitations may apply).

For disaster recovery, five recovery modes target specific types of failure with different service-level agreements (SLAs) and recovery windows.

- Failure of an individual application server or data volume
- Failure of all application servers or data volumes in a solution tier
- Failure of the Amazon ELB, with or without an accompanying failure of instances
- Complete failure of an Amazon availability zone
- Failure of an entire Amazon cloud region.

To help ensure quality and SLA adherence, Adobe practices “war game” exercises every two to four weeks, with periodic participation of Amazon support. Customers may also join with prior arrangement. In addition, Adobe mirrors real customer solutions and executes disaster drills at least once every six months.

6.1.7 Product updates and change management

Adobe provides customer-specific upgrades, minor upgrades, and major upgrades. The timing for these upgrades is agreed on between the customer and the Adobe team. Adobe engineers perform the upgrades via a formal deployment procedure, communicated in advance. After the customer has tested and approved the upgrade in a staging environment, Adobe schedules the rollout to production environments in liaison with the customer. Adobe also includes emergency upgrades when necessary to guarantee service continuity.

6.2 Site Architecture

6.2.1 Site UX
When users visit your website, they increasingly want an experience that’s valuable, easy to use, aesthetically pleasing, and emotionally satisfying. To retain and gain customers, you have to continually win their hearts by providing them with a compelling user experience (UX) that is useful, usable, and desirable.

<table>
<thead>
<tr>
<th>Useful</th>
<th>Customers can accomplish their goals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Usable</td>
<td>Customers can easily perform tasks</td>
</tr>
<tr>
<td>Desirable</td>
<td>Customers enjoy their experience</td>
</tr>
</tbody>
</table>

Improved user experience translates into three key benefits:

- **More customers will be willing to purchase.** On average, companies that provide a superior experience have 14.4% more customers who are willing to consider them for another purchase than companies in the same industry that offer a poor customer experience.

- **More customers will resist doing business with competitors.** Compared with companies that offer a poor experience, companies that offer the best experience in their industries have 15.8% fewer customers who are likely to consider doing business with a competitor.

- **More customers will recommend you.** Companies with the highest experience scores have 16.6% more customers who are likely to recommend their products or services compared with their lowest-scoring competitors.

Mike Gualtieri, Best Practices In User Experience (UX) Design, Forrester Research, Inc

6.2.2 Information Architecture and Design Practices

**Everything rests on your Project Design**

All metrics to be measured will, in some way, be affected by the design of your project. Conversely, many issues will be best solved by design changes.

Therefore, you should define your target metrics before your design has been finally decided. This allows you to optimize your design based on these factors. Once your project has been developed, it will be difficult to make any changes to the basic design principles.

When you create the structure for the website, follow the recommended structure for CQ5 websites. Make sure you understand the following issues and/or principles:
• How to structure website content
• How templates and components work*
• How caching works
• The impacts of personalized content
• How the search function works
• How you can use CSS and related technologies to create compact, non-redundant HTML code

*It is important that your design team thinks of their HTML in a modular fashion. They need to firstly consider how AEM uses templates and components and will need to work with the AEM technical team to determine which elements on a page will be best suited to a component.

If the design team does not work within these boundaries and communicate with the technical team right at the start, the technical team could possibly take much longer to implement what should be simple elements on a page.

6.2.3 Templates

In AEM, a template specifies a type of page.

A template is used to create a page and defines which components can be used within the selected scope. A template is a hierarchy of nodes that has the same structure as the page to be created, but without any actual content.

Each template will present you with a selection of components available for use. Components use, and allow access to, widgets. These are used to render the content.

A template defines the structure of a page; including a thumbnail image, and other properties. For example, you may have separate templates for product pages, sitemaps, and contact information.

AEM comes with several templates including a content page and home page.

The content page component creates a new page for content according to a template selected by the author.
Title: The title displayed on the resulting web page.

Label: The label used when naming the page.

Template: A list of templates available for use when generating the new page.

The following example illustrates use of the content page component:
6.2.4 Components

The following are the categories of components available in AEM.

- General: Includes basic components, including text, images, tables, charts, and so on.
- Collaboration: Includes Social Collaboration components, including comments and ratings.
- Columns: Includes components necessary for organising the layout of the content.
- Form: Includes all the components needed to create a form.
- Other: Includes gadget, search, and tag cloud components.

For a complete list of all components in each category please go to components.

When working with any components, you can add them either by double-clicking or dragging and dropping the component from the sidekick onto the page. Some default components are hidden from view and are usually only added by a developer. The procedure for adding these components is described in Developing Components.

Components:

- are modular units which realise specific functionality to present your content on your website;
- are re-usable;
- are developed as self-contained units within one folder of the repository;
- have no hidden configuration files;
- can contain other components;
- can run anywhere within any AEM system or can also be limited to run under specific components;
- have a standardised user interface;
- use widgets;
- have an edit behaviour that can be configured.

As components are modular, you can develop a new component on your local instance, then deploy this seamlessly to your test, then live environments.

Each AEM component:

- is a resource type;
- is a collection of scripts that completely realise a specific function;
- can function in isolation — either within AEM or a portal.

Components included with AEM include:

- paragraph system;
- header;
- image, with accompanying text;
6.3 DAM Architecture

A typical DAM setup consists of end users accessing DAM via a load balancer. The DAM instance might be part of a clustered setup, where each DAM instance runs in a Java Virtual machine process on either a physical machine or a virtual machine. DAM storage is either provided by a RAID disk in cases of single-machine setups or a managed network attached storage in case of clustered setups.

6.4 DAM Best Practices

Plan and act intelligently
Make sure that bulk asset uploads and scheduled processes are launched at off-peak times, or provision and connect worker Experience Manager instances via proxy workers when expecting peak loads during standard hours.

When certain projects are under active development, spin them off temporarily onto a dedicated author environment so that workflows are launched in isolation from the core infrastructure.

**Tweak the default workflows**

Ensure that workflows don’t incur any unwanted overhead by applying these techniques.

- Selective rendition generation. Prevent DAM from generating the costliest renditions under certain conditions based on asset metadata properties.
- Conditional workflows. Defer triggering workflows until the point where the ongoing asset editing finishes.
- Reduce asset activation delay. Disable redundant workflows on the Publish environment (if you have one), because they would have already been triggered in the Author.

**Align the limit of concurrent workflows with your CPU features**

You can limit the number of concurrent workflows allowed in each Experience Manager DAM instance. Apply the following considerations based on the number of processing cores.

- Introduce a fudge factor, such as \(-1\), to leave room for non-workflow-related tasks.
- Cater for multitasking features of your CPU, such as hyper-threading.
- Consider I/O and other wait times that might leave processing cores idle.

**Scale out to a private cloud**

Customise Adobe Experience Manager DAM to spawn new CQ instances on a private cloud dynamically, either on a scheduled basis or on-demand when ingestion peaks are taking place.

**Gauge your setup with Adobe’s Tough Day test**

Leverage the *Tough Day Test*, to assess your installations, calculate a baseline, and measure the impact of adjustments in a reliable, mathematical manner.

**Access control management best practices**

Model Access Control Lists (ACLs) in terms of group permissions. Users come and go, but groups are long term. Groups simplify the structure and provide a valuable overview of the user population. They also facilitate inheritance of permissions.

Make sure to also review and restrict the default users and groups included out of the box to avoid surprises and security vulnerabilities.

Complex ACL hierarchies have an impact on overall performance, because the system has to calculate access rights on every read. To optimise performance, keep it simple and follow a clean, hierarchical pattern, rather than assigning ad hoc, one-off permissions along the tree.
Some DAM customers choose to follow a laxer ACL model, with the goal of promoting asset discovery and encouraging reuse of existing media. This allows them to cut media acquisition and procurement costs. Most assets are visible to anyone, but workflows are enforced to formally request usage and authorise modifications.

Encourage users to grant impersonation privileges to peers in their business unit so that business matters don’t come to a standstill when key users are out of the office.

**Sync with your central identity management**

Most businesses nowadays manage their user identities and roles in a central identity management application or directory, such as Active Directory or similar providers.

You can configure Adobe Experience Manager DAM to sync with an external Identity Manager via industry-standard LDAP. Authentication is always validated against the LDAP provider (with a local cache), but the authorisation model or ACLs are kept in Adobe Experience Manager.

With this integration, DAM administrators are no longer the bottleneck to managing accounts as users come and go or get reassigned to different business units or projects within the organisation.

**Extend the access control logic with custom requirements**

With Adobe Experience Manager DAM, you can tailor access control evaluation to your needs. DAM provides the hooks and tools to implement complex behaviour, such as locking access to the original assets and only granting access to lower-resolution renditions or watermarks.

**Collaborate with external parties via Creative Cloud**

With Creative Cloud, you can work with external collaborators without providing them access to your infrastructure or network, because DAM Author instances are normally located behind firewalls and IT security concerns apply.

With the DAM Creative Cloud integration, assets uploaded by collaborators are immediately available for DAM authors to import within just a few clicks.

### 6.5 AEM Forms

Adobe Experience Manager (AEM) provides an easy-to-use solution to create, manage, publish, and update complex digital forms while integrating with back-end processes, business rules, and data.

AEM forms combine form authoring, management, and publishing along with correspondence management capabilities, document security, and integrated analytics to create engaging end-to-end experiences. Designed to work across web and mobile channels, AEM forms can be
efficiently integrated into your business processes, reducing paper processes and errors while improving efficiency.

AEM forms leverage and extend the capabilities of your existing investments in XFA forms and Adobe LiveCycle solution.

In large enterprises, forms are often created once and reused by copying to a content management system. Keeping a large database of forms up-to-date and making them discoverable can be a considerable challenge. AEM provides a customisable Forms Portal that ensures that customers find and access forms they need across both web and mobile channels.

AEM Forms provides form-management tools that not only let you manage adaptive forms, but XFA forms, PDF forms, and related assets as well.

Key capabilities of AEM Forms:

AEM forms provide powerful form management features that reduce manual processes and increase customer satisfaction.

- A Centralised Forms Portal for designing and deploying dynamic forms, including PDF, HTML5, and adaptive forms;
- An easy-to-use graphical user interface to let business users easily import, manage, preview, and publish forms;
- A responsive forms directory with powerful search features using keywords, tags, and metadata;
- Dynamic detection of a user's device and location to render the form appropriately across web and mobile channels;
- Integration with Adobe Analytics to effectively measure form usage metrics;
- Integration with Adobe EchoSign integration or Scribble to encrypt documents containing confidential information;
- Automated form-publishing capabilities and the ability to deliver timely, personalised, and consistent communication through multiple channels.

6.6 AEM Integrations

Today, it's essential to have a unified platform that easily integrates content with applications while leveraging open standards and enabling Agile development to create a diverse array of immersive experiences for customers.

Companies are frequently using various tools to measure and optimise different areas of their digital marketing (for example, social media, email, targeting, and so on). Integration between technologies is critical because companies can benefit from integrated data and workflows that streamline processes, provide better insights, and enable greater agility to seize.
6.6.1 Integrating with Third-Party Services

Listed below are the most common non-Adobe applications and integrations for AEM.

For Tag Management:

**Ensighten**: Quickly deploy, conditionally load and enrich any tag — from simple conversion pixels to complex analytics and personalization — across any channel and device, at scale, while increasing client performance and responsiveness.

For social:

**Janrain**: Helps companies know their customers and collect the accurate customer profile data needed to personalise every interaction. The Janrain Integration for AEM enables marketers to collect and store first-party demographic, psychographic and behavioural customer profile data collected via social login and registration.

For eCommerce:

**Hybris**: The hybris integration with Adobe Experience Manager is a component of the Adobe Commerce Integration Framework, which fully supports experience-driven commerce with the following features:

- Product catalogue synchronisation and integration;
- Navigation of product category and search results pages;
- Shopping cart and check out — the experience can easily be managed and fine-tuned directly in Experience Manager, initiating cart and orders in hybris accessible in real time via the hybris Customer Service module;
- Order history and customer account management integration;
- Mobile and omnichannel experiences — can be tailored using adaptive or responsive approaches.

**Experience Driven Commerce**: The Oracle Web Commerce (ATG) edition allows consumers to purchase products at the point of desire while enjoying compelling, content-rich experiences.

Customisations to Adobe Marketing Cloud products integrated with ATG ecommerce software let marketers and merchandisers deliver higher conversion rates and larger share of wallet through integration with one of the market-leading ecommerce solutions, finally realising the benefits of
effective, personalised content-led marketing that keeps consumers coming back for more. Merchandisers benefit from both integrated access to the ATG product catalogue via Adobe Experience Manager’s WYSIWYG authoring environment and new tools to make any piece of content immediately available to purchase, share, or save to a wish list without leaving where they are.

For Authentication:

**LDAP**: LDAP (the **Lightweight** Directory **Access Protocol**) is used for accessing centralised directory services. This helps reduce the effort required to manage user accounts as they can be accessed by multiple applications. One such LDAP server is Active Directory. LDAP is often used to achieve Single Sign On, which allows a user to access multiple applications after logging in once.

**SAML**: AEM provides SAML (Security Assertion Markup Language) Authentication Module built-in, which can be configured as Service Provider (SP) to authenticate, for instance, with your corporate Identity Provider (IdP).

For Internal systems:

**Salesforce**: Integrating Salesforce with AEM provides lead-management capabilities and leverages the existing capabilities provided out of the box by Salesforce. You can configure AEM to post leads to Salesforce and create components that access data directly from Salesforce.

The bidirectional and extensible integration between AEM and Salesforce enables:

- Organisations to fully use and update data to enhance the customer experience;
- Engagement from marketing to sales activities;
- Organisations to automatically transmit and receive data from a Salesforce datastore.

For Multi-lingual:

**Microsoft Translator**: Delivers automatic translation features and functionality to enable you to extend the reach of your created content, increase time to market for content, optimise costs, and increase discoverability by users through Search Engine Optimisation resulting in better use of resources and increased ROI.

Take your content management experience one step further by enabling automatic translation features and functionality powered by the Microsoft Translator API seamlessly within AEM. Users will be able to leverage the state-of-the-art automatic translation from any of Translator’s supported languages expanding the reach of your content to deliver greater experiences to customers regardless of the language they speak.
Other commonly used third-party integrations include:

**Silverpop Engage**: Provides marketing automation, email, mobile, and social.

**Facebook and Twitter**: Popular social networking services. AEM's integration with Facebook and Twitter enables organisations to provide a Facebook or Twitter login option on owned digital properties, and then personalise the user experience based on profile information. Marketers can also combine profile information with data from additional sources, such as a customer relationship management system or a website profile, to create a unified view of the customer.

For more information on AEM applications and integrations visit [AEM Exchange](#).

### 6.6.2 Offline Data Collection

AEM Forms provides Forms Workspace, a mobile application that extends your digital business processes to mobile devices. Using Forms Workspace, you can collect and record data even when offline. Forms Workspace leverages the capabilities of your mobile device, and lets you capture photos, videos, and collect data such as timestamps and other information. The next time you connect to a network, you can synchronise the collected data.

Capturing data offline and synchronising it the next time you return online is especially helpful for people in the field. It improves productivity and reduces errors.

Advantages of using Forms Workspace for offline data collection:

- Easy-to-use HTML workspace application for task assignment and tracking;
- Drag-and-drop workflow design environment;
- Enterprise content management connectors (ECM);
- Open standards support, including XML and SOAP to connect forms data with enterprise systems;
- Out-of-the-box HTML reports monitor backlogs, work queues, and Key Performance Indicators (KPIs);
- Customisable dashboards for real-time insight into business operations;
- API for connecting with third-party reporting tools;

### 6.6.3 Adobe Marketing Cloud Integrations

The Adobe Marketing Cloud includes powerful web analytics and website optimisation products that deliver actionable, real-time data and insights to drive successful online initiatives. It offers an integrated and open platform for online business optimisation. The Cloud consists of integrated
applications to collect and unleash the power of customer insight to optimise customer acquisition, conversion and retention efforts as well as the creation and distribution of content.

With Adobe Experience Manager (AEM), you can seamlessly integrate with the following products of the Adobe Marketing Cloud:

6.6.3.1 Integration with Adobe Analytics

Adobe Analytics is the industry-leading solution that provides digital marketers with one place to measure, analyse, and optimise integrated data from all online initiatives across multiple marketing channels. It provides marketers with actionable, real-time web analytics intelligence about digital strategies and marketing initiatives. Adobe Analytics helps marketers quickly identify the most profitable paths through a website, segment traffic to spot high-value web visitors, determine where visitors are navigating away from the site, and identify critical success metrics for online marketing campaigns.

You can use Adobe Analytics to analyse data from your sites.

Integrating with Adobe Analytics allows you to do the following:

- Enable Site Catalyst user tracking;
- Map your run models (for example author, publish) to different report suites;
- Submit Client Context variables as conversion variables or traffic properties;
- Use predefined variable mappings;
- Configure complete site sections at once;
- Track custom-defined events.

6.6.3.2 Integration with Adobe Target

Adobe Target is used by marketers to design and execute online tests, create on-the-fly audience segments (based on behaviour), and automate the targeting of content and online experiences.

Online consumers today have constantly evolving needs and expect relevant, even personalised content from the wide variety of sites and content sources they can access. To engage an online audience, it is critical that online marketers quickly identify which offers and content are relevant and compelling to their audiences. Armed with this knowledge, marketers need the capability to continually evolve their sites and to target the appropriate content to different audiences.

Adobe Target puts control directly in the hands of marketers to quickly and continually execute multiple A/B testing and multivariate (MVT) testing, measure effectiveness and relevance of
content across any online channel and increase content relevance through segmentation, targeting and automated personalisation.

Your AEM based site can be seamlessly integrated with Adobe Target, allowing you to do the following:

- Create campaign offers and mboxes with CQ and manage them with Adobe Target;
- Submit Client Context variables when requesting mbox content.

### 6.6.3.3 Integrating with Adobe Dynamic Tag Management (DTM)

Adobe Dynamic Tag Management allows marketers to manage, consolidate and publish tags to different analytics systems. Tags are used to track user actions within a given page. Adobe DTM gives marketers intuitive tools to quickly and easily manage an unlimited number of Adobe and third-party tags. You'll have more control and flexibility to optimise virtually anything online, all while reducing dependence on IT resources.

Before you integrate, you need to create the Dynamic Tag Management web property that tracks the domain of your AEM site. The hosting options of the web property must be configured so that you can configure AEM to access the Dynamic Tag Management libraries.

After you configure the integration, changes to Dynamic Tag Management deployment tools and rules do not require you to change the Dynamic Tag Management configuration in AEM. The changes are automatically available to AEM.

In summary, the key benefits are:

- Provide a central location to manage and deploy tags;
- Allow your marketing team to manage tags with little assistance from IT;
- Streamline the process of creating, adding, removing tags throughout the site.

### 6.6.3.4 Integrating with Adobe Media (Audience Manager)

Adobe Audience Manager consolidates audience information from all available sources. It identifies, quantifies, and optimises high-value target audiences, which can then be offered to advertisers via an integrated, secure, privacy-friendly management system that works across all advertising distribution platforms.
For information on how AEM integrates with Adobe Audience Manager, see Integrating with Adobe Audience Manager.

6.6.3.5 Integrating with Adobe Search&Promote

Adobe Search&Promote enables marketers to optimise how visitors browse, find, compare, and select relevant products and content on web and mobile sites. Businesses can easily promote priority items based on business objectives and visitor intent, as well as automate merchandising and promotions activity via KPI-based triggers or metrics.

Adobe Search&Promote is a reliable and scalable hosted site search application, capable of scaling to millions of pages or products, for heavily visited online businesses ranging from retail to news sites. It offers unprecedented levels of marketer control and metrics-based relevance.

For information see Integrating with Adobe Search&Promote.

6.6.3.6 Integrating with Adobe Social

Adobe Social is a comprehensive, hosted solution for building effective relationships that inform customers and drive brand loyalty through unified management and moderation of all social activity.

For information on how AEM Social Communities integrates with Adobe Social, see Integrating with Adobe Social.

6.6.3.7 Integrating with Adobe Campaign

Adobe Campaign lets you manage email delivery content directly in Adobe Experience Manager. The aim of this application is to define, optimise, execute, and analyse communications and marketing campaigns. Adobe Campaign acts like a unified order and execution centre for marketing strategies.

A user-friendly, wizard-driven interface provides the functional point of entry to the definition and management of campaigns and deliveries.

Adobe Campaign provides a number of features and options:
• Campaign — the core application;
• Email delivery — management of email communications;
• Interaction — the real-time offer-proposition engine on both inbound and outbound channels and touch points;
• Lead management — lead capture, nurturing, scoring and distribution to the sales force;
• Message centre — real-time management of unitary transactional messages;
• MRM — management of the marketing plan, resources, budgets etc.

6.7 AEM Basic Development Concepts

Adobe Experience Manager is a powerful platform to build complex, highly dynamic, multichannel websites covering the most demanding requirements. Adobe Experience Manager addresses these concepts:

• Authors create pages — a combination of content and a reference to the template that knows how to render that content;

• A template points to the component in charge of the rendering and optionally defines the default content (overridden by the page);

• A component outputs an element of a page based on a rendering script and content;

• Adding a component to the paragraph system makes it available for authors to drag and drop into content canvases — authors configure components within edit dialogs;

• Everything is stored in a JCR in the form of nodes.

Packages assemble content and nodes that can be deployed atomically.

6.7.1 Testing

You should be aware of the basic principles of Software Testing and Quality Assurance. Preferably you should have experience of testing projects.

There are many websites, books and courses that deal with such principles, so they will not be dealt with in detail in this document.

6.7.1.1 Types of Tests
There are various standard classifications of tests which are appropriate for use when testing a AEM project. You should be familiar with these to decide which you will use.

**Units Tests**

Tests (usually) made by the development team to ensure that the individual elements behave correctly — albeit in isolation.

**Integration Tests**

Tests modules when combined. These tests are made after Unit Testing, but before System Testing.

**Smoke Tests**

These are quick-and-dirty tests used to prove that the software is running and high-level functionality is available. The details are not tested.

**Functional Tests**

These are used to test the functionality of the software. A series of tests will be designed to cover all functional details, with both expected and unexpected and/or erroneous input.

Black-box tests are functional tests of a complete unit/component/module, performed without knowledge of the internal workings of the element in question.

**System Tests**

These test the entire system once it has been fully integrated and installed on a suitable platform. They test the functionality on a black-box basis.

**Performance Tests**

Performance tests are crucial when testing AEM.

They are used to illustrate the performance under differing conditions:

- **Normal**
  Conditions which the site will experience for say 90 per cent of the time. For example, when only a proportion of the authors are using the system.

- **Peak**
  Conditions which will be experienced for a proportionally short time due to special circumstances. For example, when all authors use the system concurrently or when new content is published and an increased number of visitors view your site.
• **Extreme**
  Can be used to emulate the performance forecast when new, extremely interesting content is published on your website. Then an extreme peak may be seen — though this may not always be fully predictable.

  These circumstances are sometimes seen when tickets for specific events are made available, or a much-awaited website is published for the first time.

  The results are then used to tune the application.

**Stress Tests**

Stress tests are made to confirm how a component or application behaves under extreme conditions. In particular these tests are used to show how behaviour deteriorates, when the element will fail, and how.

**Regression Tests**

Regression tests are used to confirm that functionality already proven in a previous release of the software is still operating correctly.

Regression Tests are good candidates for automation (if possible) to ensure they can be repeated quickly and consistently.

**Acceptance Tests**

Acceptance Tests are a special category as they are used to indicate the customer’s acceptance of the project.

The list of acceptance tests may contain a combination of tests from the various categories above, and are selected to verify that the project fulfills the customer’s requirements.

### 6.7.2 Security

This section deals with various steps that you should take to ensure that your AEM installation is secure when deployed.

Various areas are impacted and you should review all (in detail, the following list is meant to provide an introductory overview) to see which can be used to help protect your implementation:
Change Default Passwords An out-of-the-box installation of AEM includes various accounts to enable you to administer and use the instance. In particular, Adobe strongly recommends that after installation you change the passwords for the privileged (admin) account(s).

Uninstall example content and users All example content and users should be uninstalled completely on a productive system before making it publicly accessible.

Disable CRXDE Support CRXDE Support should be disabled on a productive system before making it publicly accessible.

Configure replication and transport users Create users with specific, restricted access rights for building replication content (Author environment) and for receiving content (Publish environments) instead of using the admin user.

Disable WebDAV CRX and AEM come with WebDAV support that lets you display and edit the repository content. Setting up WebDAV gives you direct access to the content repository through your desktop. WebDAV should be disabled on the publish environment.

Use the Latest Version of Dispatcher

Restrict Access via the Dispatcher The Dispatcher filter can be used to allow or deny external access to specific areas of AEM. To protect your instance you should configure the Dispatcher to restrict external access as far as possible.

Protect against Cross-Site Scripting (XSS) Cross-site scripting (XSS) allows attackers to inject code into web pages viewed by other users. This security vulnerability can be exploited by malicious web users to bypass access controls. AEM applies the principle of filtering all user-supplied content upon output. Additionally, a web application firewall can be configured to add protection.

Preventing Denial of Service (DoS) Attacks A denial of service (DoS) attack is an attempt to make a computer resource unavailable to its intended users. This is often done by overloading the resource. There are a few methods that can be used with AEM to help prevent such attacks.

Default Access to User Profile(s) is everyone By default, everyone (the built-in group) has read access to all user profile(s). If such access is not appropriate for your installation you can change these default settings.

Issues with Cross-Site Request Forgery (CSRF) This is a security issue from the CRX Security Checklist that is also appropriate to AEM. To address known security issues with (CSRF) in CRX WebDAV and Apache Sling you can configure the referrer filter.
Disable the AEM WCM Debug Filter on production systems. This is useful when developing, as it allows the use of suffixes, but should be disabled on a production instance to ensure performance and security.

Clickjacking Configuring your web server can help prevent clickjacking.

Access to Cloud Service Information Reviewing whether the default security on the Cloud Service Information matches your requirements is recommended.

OSGI Settings Changing some OSGI settings on your Publish instances can help avoid internal information leaking to the public.

6.8 Monitor and Reporting

To help you monitor and analyse, AEM provides a selection of default reports, which can be configured for your individual requirements.

Component Report

The component report delivers information about how your website uses the components.

- Author
- Component Path
- Component Type
- Last Modified
- Page

This means that you can see, for example:

- Which components are used where — useful when testing;
- How instances of a specific component are distributed — this can be interesting if specific pages (such as “heavy pages”) are experiencing performance issues;
- Identify parts of the site with frequent/less frequent changes;
- See how page content develops over time.

Tip
Ensure to invest in setting up issue-management process & tools, e.g.: JIRA, Confluence

All components are included, both product-standard and project-specific. Using the Edit dialog, the user can also set a Root path that defines the start point of the report — all components under that root are considered for the report.
Disk Usage

The disk usage report shows information about the data stored within your repository.

The report starts in the root ( / ) of the repository. By clicking on a particular branch you can drill down inside the repository (the current path will be reflected in the report title).
Page Activity Report

The page activity report lists pages and the actions made on them.

- Page
- Time
- Type
- User

You can monitor:

- The latest modifications;
- Authors working on specific pages;
- Pages that have not been modified recently, so might be in need of action;
- Pages that are most/least frequently changed;
- Most/least active users.

User-Generated Content Report

This report provides information about user-generated content — comments, ratings or forums.

- Date
- IP Address
- Page
- Referrer
- Type
- User Identifier

Allows you to:

- See which pages are receiving the most comments;
- Get an overview of all comments that specific site visitors are leaving (maybe the issues are related);
- Judge whether new content is provoking comments by monitoring when comments are being made on a page.

User Report

This report gives information about all users that have registered an account and/or profile; this can include both authors within your organisation and external visitors.

- Age
- Country
- Domain
- E-mail
- Family Name
- Gender
- Generic — The Generic column is available in the User Report so that you can access customised information, usually from the user profiles; for example, Favourite Colour as detailed under Adding Fields to the Profile Definition.
Given Name
Info
Interest
Language
NTLM Hashcode
User ID

Allows you to:

- See the demographic spread of your users;
- Report on customised fields you have added to the profiles.

Workflow Instance Report

This gives you a concise overview, providing information about the individual instances of workflows, both running and completed.

- Completed
- Duration
- Initiator
- Model
- Payload
- Starter
- Status

You can monitor the mean duration of workflows; if this happens regularly it can highlight issues with the workflow.

Workflow Report

This provides key statistics about the workflows running on your instance.

All reports can be accessed from the Tools console. Select Reports in the left-hand pane, then double-click the required report in the right-hand pane to open it for viewing and/or configuration.
6.9 Democratisation

Democratisation refers to the process by which access to technology rapidly continues to become more accessible to more people. At an internal scale, the use of AEM needs to be slowly democratised across your organisation. This can be done by sharing knowledge and training staff. The result will be the better utilisation of the solution as internal engagement increases.

6.9.1 Communication

6.9.1.1 KPI Reporting

The Users report provides a quick snapshot of all registered users in the system and information about their activity in the community. The information is displayed in a tabular format, and you can do the following with the data:

- **Sort** — Click the header of the column to sort the report by that field;
- **Filter** — Enter a filter criterion in the Filter box to limit the results to rows where the text in any field matches the text you enter;
- **Download** — Download the report in CSV format.

The system summary report displays a snapshot of system utilisation. The report provides a list of some of the most important usage statistics, indicating the summary of all activities in your community. At a glance, you can view the following:

- Number of users — The number of users who have been provisioned in the tenant, but not necessarily logged in;
- Number of unique user logins — The number of unique users who have logged in and used the service;
- Average number of sessions per user;
- Current number of published resources;
- Average duration of videos.

6.10 Automation
Automation can offset resource bandwidth issues. Whenever a company can substitute technology for people through automation, it means it can either reduce costs or reallocate resources to more strategic areas. Digital analytics can provide automated alerts to notify analysts of key problems requiring investigation, and refreshable Excel-based dashboards to simplify reporting and free up analysts’ time to focus on more strategic analyses.

Workflows in AEM enable you to automate Experience Manager activities using a series of steps that are executed in a specific order. Tasks can be assigned to help manage content change and log change events. Both can use the Notification Inbox.

For example, a key application of Experience Manager is Web Content Management (WCM), which enables you to generate and publish pages to your website. This functionality is often subject to organisational processes, including steps such as approval and sign-off by various participants. These processes can be represented as workflows, which in turn can be defined within Adobe Experience Manager, then applied to the appropriate content pages.

Many useful workflow models are provided with Adobe Experience Manager. In addition, any number of custom workflow models, tailored to the specific needs of your project, can be defined using the Workflow console.

You can go to workflows for more information on how to create, use and manage workflows.

### 6.10.1 Deployments

#### 6.10.1.1 Tagging

Tags are a quick and easy method of classifying content within your website. In technical terms, a tag is a piece of metadata assigned to an asset. You can also think of them as keywords or labels that you attach to a page to help you find it again.

- Within CQ, tags can be grouped into various namespaces. Such hierarchies allow taxonomies to be built. These taxonomies are transparent across CQ WCM, CQ DAM and CQ Social Collaboration.
- There are no restrictions on the tags you can create — though they must be unique within a specific namespace.
- Tags can be created by either the page creator, or viewer. Irrespective of their creator, all forms of tags are made available for selection, both when assigning to a page and when searching.
- To be able to modify the taxonomy, a user must be a member of the "tag-administrators" Group (or have modification rights to /etc/tags). Assigning existing tags to content nodes does not require tag-administration rights. It reflects the distinction between authors using tags and librarians managing the taxonomy.
• Tags are also used by the teaser component, which monitors a user’s tag cloud to provide targeted content.
• If tagging is an important aspect of your content, make sure to package tags with the pages that use them.

6.11 Leveraging Your Investment (The Big Picture)

The Adobe Marketing Cloud includes powerful web analytics and website optimisation products that deliver actionable, real-time data and insights to drive successful online initiatives. It offers an integrated and open platform for online business optimisation. The Cloud consists of integrated applications to collect and unleash the power of customer insight to optimise customer acquisition, conversion and retention efforts as well as the creation and distribution of content.

Once you are up running with Adobe Experience Manager and want to grow your digital capabilities to the next level, you might want to go back to what your business needs are. We see a common trend of AEM users purchasing Adobe Analytics as a next step in order to improve their data collection and analysis capabilities. Clients who feel they have a gap in acquisition, or want to improve their customer reach, opt to follow their AEM or Analytics purchase with Adobe Social, Campaign or Media Optimizer depending on their specific needs.

If your objective is to increase personalisation and engagement we suggest you purchase Adobe Target together with Adobe Audience Manager. This will help you test and personalise content across channels as well as extending audiences across solutions. In the specific case that you manage high volumes of video content and want to improve your video delivery across channels and devices, Adobe Primetime will do the work.

Continue growing your digital marketing strength and add a new Adobe Marketing Cloud solution based on what your business demands. A good integration across solutions will help you make, manage, measure and monetise your content across every channel and screen.
The following lists highlight some specific high-level points; they are not meant to be exhaustive but aim to give some pointers and provide a basis for your own checklists. You and your Adobe Customer Success Manager can use the first checklist to qualify which of our recommendations from this document have been put in place.

<table>
<thead>
<tr>
<th>Item</th>
<th>Responsible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive sponsor named and communicated</td>
<td>Client</td>
</tr>
<tr>
<td>Stakeholder buy-in across the business</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>3</td>
<td>A program name is assigned, a budget defined, project success criteria documented and this together with the executive sponsor has been communicated across the business</td>
</tr>
<tr>
<td>4</td>
<td>Testing communication plan created</td>
</tr>
<tr>
<td>5</td>
<td>Steering Committee set up</td>
</tr>
<tr>
<td>6</td>
<td>Working Group set up</td>
</tr>
<tr>
<td>7</td>
<td>KPI metrics set against current business goals</td>
</tr>
<tr>
<td>8</td>
<td>KPI metrics agreed and set across the business units</td>
</tr>
<tr>
<td>9</td>
<td>Digital strategy aligned and communicated</td>
</tr>
<tr>
<td>10</td>
<td>A testing strategy roadmap is defined and communicated</td>
</tr>
<tr>
<td>11</td>
<td>Roadmap includes tests to mature the business</td>
</tr>
<tr>
<td>12</td>
<td>Roles and responsibilities defined and communicated</td>
</tr>
<tr>
<td>13</td>
<td>A testing organisational structure is defined</td>
</tr>
<tr>
<td>14</td>
<td>Roles and responsibilities are documented</td>
</tr>
<tr>
<td>15</td>
<td>Training and enablement plan created</td>
</tr>
<tr>
<td>16</td>
<td>A proactive effort is underway to develop a culture of agile content delivery</td>
</tr>
<tr>
<td>17</td>
<td>Implementation process defined</td>
</tr>
<tr>
<td>18</td>
<td>Agile process adopted</td>
</tr>
<tr>
<td>19</td>
<td>PMO office named and communicated</td>
</tr>
<tr>
<td>20</td>
<td>Content ideation to production workflow defined</td>
</tr>
<tr>
<td>21</td>
<td>A plan for content aging, activation and deactivation is defined</td>
</tr>
<tr>
<td>22</td>
<td>A taxonomy for content metadata and application is applied</td>
</tr>
<tr>
<td>23</td>
<td>Process defined for code deployment, code management and backups</td>
</tr>
<tr>
<td>24</td>
<td>User groups and permissions are set up</td>
</tr>
<tr>
<td>25</td>
<td>A plan for integration with third-party resources is being implemented</td>
</tr>
<tr>
<td>-----</td>
<td>---------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>26</td>
<td>A security plan is enforced</td>
</tr>
<tr>
<td>27</td>
<td>The OOTB Adobe Analytics is set up for the authoring environment to monitor product usage and content time to market</td>
</tr>
<tr>
<td>28</td>
<td>External data integrations set up</td>
</tr>
<tr>
<td>29</td>
<td>Adobe Analytics module set up and used side by side when authoring pages</td>
</tr>
<tr>
<td>30</td>
<td>Target audiences defined and embedded for content targeting</td>
</tr>
<tr>
<td>31</td>
<td>A community data dictionary is shared</td>
</tr>
<tr>
<td>32</td>
<td>Templates documented and used across the business</td>
</tr>
<tr>
<td>33</td>
<td>Adobe Experience Manager maturity assessment completed</td>
</tr>
</tbody>
</table>

8 Active use of Adobe Experience Manager

<table>
<thead>
<tr>
<th>CONTENT MANAGEMENT</th>
<th>All website solutions are managed independently</th>
<th>Content integration with third-party tools</th>
<th>Needs assessed for all related digital properties are billed and shared</th>
<th>Management needs to be primary digital property in all versions of the property</th>
<th>Multi-Channel campaigns, authoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>PURPOSE MANAGEMENT</td>
<td>Pro-forma asset creation in multiple business processes</td>
<td>Asset management for digital assets and financial assets</td>
<td>Asset management across the enterprise</td>
<td>Asset management across the enterprise based on demographics</td>
<td>Auto-detection of fragments and the ability to personalize experience 3:1 with Click profile</td>
</tr>
<tr>
<td>STRATEGIES</td>
<td>Use of the content targeting</td>
<td>Content optimization</td>
<td>Automated segmentation for known and unknown audiences based on demographics</td>
<td>Automated segmentation for known audiences</td>
<td>Auto-detection of fragments and the ability to personalize experience 3:1 with Click profile</td>
</tr>
<tr>
<td>CONTENT DELIVERY</td>
<td>Static content on premise</td>
<td>Mostly static with some dynamics, on-premise</td>
<td>Mostly dynamic with some static, cloud</td>
<td>Mostly dynamic, cloud managed</td>
<td>Dynamic, content, cloud managed with scale in mind</td>
</tr>
<tr>
<td>DOCUMENTATION &amp; APPS</td>
<td>Sale of city</td>
<td>Limited capabilities for consistent experience across mobile</td>
<td>Experience optimized for mobile</td>
<td>Experience delivered across web, mobile and apps</td>
<td>Consistent experience delivered across all channels</td>
</tr>
<tr>
<td>COMMUNITY</td>
<td>Not available</td>
<td>Community engagement with users, ability to access and share social proof data</td>
<td>Innovative use for brand and personalized interaction with users</td>
<td>Personalized interactions for third-party social media</td>
<td>Build a social media community and external data</td>
</tr>
<tr>
<td>STRATEGY</td>
<td>Low skill level, no influence</td>
<td>Low skill level, low influence</td>
<td>Medium skill level, medium influence</td>
<td>Medium skill level, medium influence</td>
<td>Active community, high skill level, medium influence</td>
</tr>
</tbody>
</table>

9 Adobe Consulting Operational Maturity Review

Operational Readiness Assessment & Recommendations — $6k (per brand/business unit)
Adobe Consulting provides a package to review your operational business readiness and provide a recommended roadmap of initiatives to accelerate your maturity. This service is highly recommended if you are new to the solution and need assistance in evaluating your capabilities.

Activities include:
- Conference call/meeting to interview executive sponsor;
- Consulting guidance on completing the solution maturity assessment;
- Consulting walk-through of maturity operational readiness checklist;
- Qualification of current documents, templates, processes;
- Draft of initial findings, highlight focus themes reviewed with executive sponsor;
- Executive sponsor sign-off;
- High-level roadmap of recommendations presented to stakeholder group.

Adobe Experience Manager Glossary of Terms

Application Programming Interface (API)
A programming interface that allows for the sharing of data or specific features between your DAM and other core business systems.

Catalogue
The database that stores information about your assets. Catalogues are the highest level of organisation in a DAM and hold file information, metadata, thumbnails, and certain settings. Catalogues do not contain the original asset, but merely a pointer to where the original asset resides — on the server, a CD, DVD, or elsewhere. Catalogues can contain all types of metadata extracted from files, as well as any custom information that you may need to track.

Cataloguing
Also called ingesting, refers to the process of telling your digital asset manager where to find your original files, and allowing the asset manager to extract pertinent metadata from those files. During the cataloguing process, your original files may be automatically moved, renamed, or have metadata extracted, as well as have custom metadata applied.

Cheat Sheet
A brief and simple document that explains how users can accomplish a common task within a digital asset management system. For example, cheat sheets are often used to explain how to add files to a DAM. Usually a supplement or a replacement of formal training, cheat sheets can be created quickly using bulleted lists within a word processing program along with screenshots of key steps in the DAM user interface (screenshot keyboard shortcuts are helpful). Users can then view the cheat sheet electronically or print it out.

**Digital Asset Management (DAM)**

The process of cataloguing, finding, delivering and preserving digital assets including images, documents, video, audio and any other digital file. Digital Asset Management systems provide users with a central location to search, locate, access and share files in an easy and efficient way.

**Data Migration**

Transferring a database (assets, metadata, folder structure, etc.) from one system to another. Usually happens when one system is replacing another.

**Digital Negative (DNG)**

This is a file format created by Adobe that is publicly available and allows photographers to hold image data and access files in the future. Unlike proprietary camera RAW formats that cannot be read by a variety of software applications, DNG provides a public archival format for raw files to share files across workflows.

**Digitisation**

Converting a physical file, such and a paper document, slide or printed photograph, into a digital file.

**Embedding Metadata**

The process of storing descriptive information about your file directly within the digital asset itself. Embedding metadata is important in digital asset management because it maintains the asset’s information as it moves through the workflow and across different software applications.

**Enterprise Content Management (ECM)**
The strategies, methods and tools to capture, manage, store, preserve and deliver content and documents related to organisational processes. It was created by the Association for Information and Image Management (AIIM) and is usually an enterprise-wide effort of large magnitude and includes all types of digital assets, including organisational and operational files. Because the scope of an ECM solution is too broad, organisations find themselves in need of a more focused digital asset management solution to assist in the needs of creative and marketing groups and their rich media assets.

**Extracting Metadata**

The ability of a digital asset management system to read and collect information about your assets, which usually occurs upon ingestting and cataloguing files. This is important, as it allows users to enter metadata in other software applications that can later be used in the DAM system to help users organise and find assets more efficiently.

**Gallery**

Galleries are containers you can create for organising and displaying items within catalogues. Items added to galleries are not copied, moved, or changed in anyway. For example, an item (asset) can be added to more than one gallery but will still point back to the same record, metadata, thumbnail, and original file. You can think of galleries as “virtual collections” or like playlists in iTunes.

**Ingesting**

Ingesting is also referred to as cataloguing. The process of adding or uploading assets to your digital asset management system and adding, embedding and extracting metadata to/from your assets. Once the assets are in your DAM system, users can search, find, share and work with your digital files.

**Latency**

How responsive the DAM interface will be to commands like searching and paging through results.
Metadata

Metadata is descriptive information about your files (data about your data). Digital asset management systems rely heavily on metadata, as it’s critical for searching, retrieving and managing your rich media assets.

Premise-Based Solution

The IT department is responsible for setting up and maintaining the digital asset management solution hardware inside of their server room or data center.

RAW

A file format used by professional photographers that contains image metadata that is yet to be processed into other formats such as jpeg or tiff. It’s sometimes called digital negative. Because each digital camera manufacturer has its own RAW file format, support for these files varies among digital asset management vendors. A more standard alternative would be to use Adobe’s DNG file format to hold image metadata.

Rich Media Assets

Enhanced digital assets such as images, graphics, illustrations, audio and video that offer a more interactive experience for users, especially when compared to simple text documents.

Schema

When talking about databases, your schema is the framework or concept that helps organise and interpret information. It is your structure, your list of fields (such as date, author, name, subject, etc) that you would like your catalogues to contain.

Tagging

Tagging is the activity of adding metadata to digital assets to annotate and categorise content.
**Taxonomy**

The technique for creating classifications, using a very controlled vocabulary. Unlike folksonomy, it is hierarchical in nature, and represents information about your assets or metadata. An organisation may use taxonomy to better manage the metadata that users will assign to the digital assets.

**Uploading**

Uploading in digital asset management usually refers to the act of ingesting or cataloguing assets into the DAM system.

**Watermarking**

Adding a logo, copyright information or other message to a digital asset, usually to prevent unauthorised usage.

# 11 Adobe Experience Manager Templates

Below are some commonly used templates in managing your Adobe Experience Manager solution. If you’d like a copy of these templates please ask your Adobe Customer Success Manager for them.

**Project Management & Team Roles Template**

<table>
<thead>
<tr>
<th>Check</th>
<th>Response / Action</th>
<th>Owner</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who is the Project Manager?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Who is prime contact on the customer side?</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Who is the Lead Technical Expert?</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Who are the other team members?</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
Are all the above roles clear to all team members?

Have responsibilities been clearly defined for partner and customer?

Have all resources been reserved (and confirmed) for the whole duration of the project?

Have known absences been incorporated in the planning schedule? Where necessary have replacements (also allowing for handover effort) been planned?

Are there any special requirements for your development team e.g. on-site presence?

<table>
<thead>
<tr>
<th>Check</th>
<th>Response / Action</th>
<th>Owner</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have you performed risk analysis for your project?</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Has the scope of the project been clearly defined? Also (when appropriate) what is not within the scope?</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Have all key factors of the project been identified?</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Question</td>
<td>Answer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>--------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have all key resources been committed to for the duration of the project — Project Leader, Lead Technical Expert, main customer contact, etc?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have all decision makers been identified? Have their names/roles been communicated to all involved parties?</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Are all stakeholders included in the Steering Committee?</td>
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<td></td>
</tr>
<tr>
<td>Have you analysed all inter-dependencies within your project — between customer and partner, between development and testing, external resources?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have any security restrictions which may be imposed at the customer site, and impact the project, been identified?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have you assessed your risk factors to allow for unplanned surprises e.g. sickness, knowledge transfer, etc.? Have strategies been planned to cater for such events?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Are you aware of the experience level of each of your team members? Do you know what training and/or knowledge transfer actions will be necessary?

Will the customer be able to fulfill deliverables? Have methods of tracking this been defined for the Project Manager?

Have the requirements been defined precisely enough to define acceptance conditions?

Have any customer-specific processes which must be acknowledged and adhered to been identified and planned for?

Have escalation procedures been defined for if/when necessary? Have these been synchronised with the customer?

<table>
<thead>
<tr>
<th>Requirements Specification Template</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check</td>
</tr>
<tr>
<td>Question</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Have the functional and non-functional requirements been clearly specified?</td>
</tr>
<tr>
<td>Is there a method for monitoring progress and status — signed-off, final, work-in-progress, etc.</td>
</tr>
<tr>
<td>Have development committed to the requirements (as being achievable)? Including performance goals?</td>
</tr>
<tr>
<td>Has the priority of each requirement been defined?</td>
</tr>
<tr>
<td>Have the requirements for project sign-off and acceptance been defined?</td>
</tr>
<tr>
<td>Have the performance goals been defined for both the Publish and Author instances? These must include clearly defined, and realistic, performance tests. They must be agreed on by all parties before project begin.</td>
</tr>
<tr>
<td>Check</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Have the project goals been clearly communicated to all team members? Are measures in place to make ongoing checks to ensure everyone remains focused on the same goals?</td>
</tr>
<tr>
<td>Will this be a new installation or a migration project? Are the implications understood and planned for?</td>
</tr>
<tr>
<td>How will any requirements not (yet) in the product be catered for?</td>
</tr>
<tr>
<td>Is it clear to everyone that the Project Manager is the main point of contact? Has acknowledgment of this been received?</td>
</tr>
<tr>
<td>Is there a formal Project Plan? Has it been shared with all team members and any other relevant parties?</td>
</tr>
</tbody>
</table>
Has a method for maintaining and communicating the "State of the Project" been agreed on?

Have the project goals been clearly communicated to all team members? Are measures to make ongoing checks that everyone remains focused on the same goals?

Can customer processes be catered for?

Is the customer contacted at regular intervals?

### Release Planning Template

<table>
<thead>
<tr>
<th>Check</th>
<th>Response / Action</th>
<th>Owner</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has a release schedule been planned for the project?</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Has the product release plan been reviewed in relation to the project? Have you assessed when or whether missing functionality will be integrated in the product?</td>
<td></td>
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</tr>
</tbody>
</table>
Has the involvement of QA and the customer test team been incorporated in the release plan?

Has the schedule, and impact, of Product releases (CQ, CRX, CQDAM) and/or hotfixes been checked?

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## Development & Testing Template

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Have processes and tools been identified for tracking progress, status, etc and providing feedback?</td>
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<tr>
<td>Is the project dependent on integration with other systems? If yes, have these, and their impact, been defined and communicated to development?</td>
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<td></td>
</tr>
<tr>
<td>Question</td>
<td>Answer</td>
<td></td>
<td></td>
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<tr>
<td>-------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>Do you have a list of all extension or customisation points being developed — all areas where the project extends or customises the product? Such points include custom components, templates, overlays, extensions of foundation components, special selectors, overlayed widgets and so on. This list will be needed for testing, deployment and user acceptance testing. Eventually it will also be needed for future upgrades.</td>
<td></td>
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<tr>
<td>Do you have a change log for registering and managing all system and configuration changes as preparation for final deployment?</td>
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<tr>
<td>Have the CQ Development Guidelines and Best Practices been reviewed and applied where appropriate?</td>
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<tr>
<td>Has a complete test plan been drawn up, including smoke, regression, performance, load, security, etc, tests?</td>
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</tbody>
</table>
Have any differences in server hardware at the various levels (development, testing, production) and the impact on tests been assessed?

Who will perform QA tests? Development, a specific test team, customers?

How will testing be made for the individual releases?

Has the scope of the customer tests (and methods of feedback) been defined and agreed with the customer?

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Project Acceptance & Sign-off Template

<table>
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</tr>
</thead>
<tbody>
<tr>
<td>Will you be required to produce an &quot;Operations Manual&quot; for the customer?</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
| Has a handover to the customer's support team been planned? This should cover topics such as:  
  • monitoring and maintenance  
  • package management  
  • use of Daycare |                   |       |          |
Have all customer-specific aspects been clearly documented for the authors?

Explain how the QA process integrates with the acceptance process.

Have clearly defined acceptance tests been agreed on and officially acknowledged by all parties?

Has the customer identified people (and processes) responsible for project sign-off and acceptance?

The information required for creating Daycare Tickets, and guidelines on what information to supply, has been collected and made available to the appropriate people.

Business Objectives Template

<table>
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</tr>
</thead>
<tbody>
<tr>
<td>Is it clear that a major objective is to have a satisfied customer?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Can the side effects of increasing the experience of team members be maximised?