Change management

Change management is a systematic approach to dealing with the transition or transformation of an organization's goals, processes or technologies. The purpose of change management is to implement strategies for effecting change, controlling change and helping people to adapt to change. Such strategies include having a structured procedure for requesting a change, as well as mechanisms for responding to requests and following them up.
To be effective, the change management process must take into consideration how an adjustment or replacement will impact processes, systems, and employees within the organization. There must be a process for planning and testing change, a process for communicating change, a process for scheduling and implementing change, a process for documenting change and a process for evaluating its effects. Documentation is a critical component of change management, not only to maintain an audit trail should a rollback become necessary but also to ensure compliance with internal and external controls, including regulatory compliance.

This checklist can be used to create a simple change management plan.

Types of organizational change

Change management can be used to manage many types of organizational change. The three most common types are:

Developmental change - Any organizational change that improves on previously established processes and procedures.

Transitional change - Change that moves an organization away from its current state to a new state in order to solve a problem, such as mergers and acquisitions and automation.

Transformational change - Change that radically and fundamentally alters the culture and operation of an organization. In transformational change, the end result may not be known. For example, a company may pursue entirely different products or markets.

Importance and effects of change management

As a conceptual business framework for people, processes and the organization, change management increases the success of critical projects and initiatives and improves a company's ability to adapt quickly.

Business change is constant and inevitable, and when poorly managed has the potential to cause organizational stress as well as unnecessary, and costly re-work.

By standardizing the consistency and efficiency of assigned work, change management assures that the people asset of an organization is not overlooked. As changes to work occur, change management helps employees to understand their new roles and build a more process-driven culture.

Change management also encourages future company growth by allowing it to remain dynamic in the marketplace.

Popular models for managing change

Best practice models can provide guiding principles and help managers align the scope of proposed changes with available digital and nondigital tools. Popular models include:

ADKAR: The ADKAR model, created by Prosci founder Jeff Hiatt, consists of five sequential steps:

- **A**wareness of the need for change;
- **D**esire to participate in and support the change;
- **K**nowledge about how to change;
- **A**bility to implement change and behaviors; and
- **R**einforcement to sustain the change.

Bridges' Transition Model: Change consultant William Bridges' model focuses on how people adjust to change. The model features three stages: a stage

for *letting go*, a stage of *uncertainty and confusion* and a stage for *acceptance*. Bridges' model is sometimes compared to the Kübler-Ross five stages of grief (denial, anger, bargaining, depression and acceptance).

IT Infrastructure Library (ITIL): The U.K. Cabinet Office and Capita plc oversee a framework that includes detailed guidance for managing change in IT operations and infrastructure.

Kotter's 8-Step Process for Leading Change: Harvard University professor John Kotter's model has eight steps:

increasing the urgency for change;
creating a powerful coalition for change;
creating a vision for change, communicating the vision;
removing obstacles;
creating short-term wins;
building on them; and
anchoring the change in corporate culture.

Lewin's Change Management Model: Psychologist Kurt Lewin created a three-step framework that is also referred to as the Unfreeze-Change-Freeze (or Refreeze) model.

McKinsey 7S: Business consultants Robert H. Waterman Jr. and Tom Peters designed this model to holistically look at seven factors that affect change:

shared values;
strategy;
structure;
systems;
style;
staff; and

Popular change management tools

Digital and nondigital change management tools can help change management officers research, analyze, organize and implement changes. In a small company, the tools may simply consist of spreadsheets, Gantt charts and flowcharts. Larger organizations typically use software suites to maintain change logs digitally and provide stakeholders with an integrated, holistic view of change and its effects.

Popular change management software applications include:

ChangeGear Change Manager (SunView Software): change management support for DevOpsand ITIL automation, as well as business roles.

ChangeScout (Deloitte): cloud-based organizational change management application for evaluating sea changes, as well as incremental changes.

eChangeManager (Giva): a cloud-based, stand-alone IT change management application.
Freshservice (Freshworks)**: an online** ITIL change management solution featuring workflow customization capabilities and gamification features.
Remedy Change Management 9 (BMC Software): assistance for managers with planning, tracking and delivering successful changes that are compliant with ITIL and COBIT.

Change management certifications

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Change Management Institute (CMI): CMI offers Foundation, Specialist and Master certifications.
Prosci: The Change Management Certification validates the recipient is able to apply holistic change management methodologies and the ADKAR model to a project.
Association of Change Management Professionals (ACMP): ACMP offers a Certified Change Management Professional (CCMP) certification for best practices in change management.
Management and Strategy Institute (MSI): The Change Management Specialist (CMS) certification attests to the recipient's ability to design and manage change programs.
Cornell University's SC Johnson College of Business: The Change Leadership certification program was developed to authenticate a change agent'sability to carry out a change initiative. The certification requires four core courses and two leadership electives.

How change management works

To understand how change management works, it’s best to apply the concepts and tools to a specific area of business. Below, are examples of how change management works for project management, software development and IT infrastructure.

Change management for project management

Change management is an important part of project management. The project manager must examine change requests and determine the effect a change will have on the project as a whole. The person or team in charge of change control must evaluate the effect a change in one area of the project can have on other areas, including:

Scope: Change requests must be evaluated to determine how they will affect the project scope.
Schedule: Change requests must be assessed to determine how they will alter the project schedule.
Costs: Change requests must be evaluated to determine how they will affect project costs. Labor is typically the largest expense on a project, so overages on completing project tasks can quickly drive changes to the project costs.
Quality: Change requests must be evaluated to determine how they will affect the quality of the completed project. Changes to the project schedule, in particular, can affect quality as the workforce may generate defects in work that is rushed.
Human resources: Change requests must be evaluated to determine if additional or specialized labor is required. When the project schedule changes, the project manager may lose key resources to other assignments.
Communications: Approved change requests must be communicated to the appropriate stakeholders at the appropriate time.
Risk: Change requests must be evaluated to determine what risks they pose. Even minor changes can have a domino effect on the project and introduce logistical, financial or security risks.
Procurement: Changes to the project may affect procurement efforts for materials and contract labor.
Stakeholders: Changes to the project can affect who is a stakeholder, in addition to the stakeholders' synergy, excitement and support of the project.
When an incremental change has been approved, the project manager will document the change in one of four standard change control systems to ensure all thoughts and insight have been captured with the change request. (Changes that are not entered through a control system are labeled defects.) When a change request is declined, this is also documented and kept as part of the project archives.

Change management for software development

In software project management, change management strategies and tools help developers manage changes to code and its associated documentation. Agile software development environments actually encourage changes for requirements and/or the user interface (UI). Change is not addressed in the middle of an iteration, however; they are scheduled as stories or features for future iterations.

Contributor(s): Vicki-lynn Brunskill, Mary K. Pratt

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Handling change management for digital transformation projects

What's hard about change management for digital transformation projects? A Capgemini expert explains why the scope of change is daunting and gives advice.

Change management process

An expert discusses change management and digital transformation.

Version control software tools assist with documentation and prevent more than one person from making changes to code at the same time. Such tools have capabilities to track changes and back out changes when necessary.

Change management for IT infrastructure

Change management tools are also used to track changes made to an IT department's hardware infrastructure. As with other types of change management, standardized methods and procedures ensure every change made to the infrastructure is assessed, approved, documented, implemented and reviewed in a systematic manner.

When changes are made to hardware settings, it may also be referred to as configuration management (CM). Technicians use configuration management tools to review the entire collection of related systems and verify the effects a change made to one system has on other systems.

Change management challenges
Companies developing a change management program from the ground up often face daunting challenges. In addition to a thorough understanding of company culture, the change management process requires an accurate accounting of the systems, applications and employees to be affected by a change. Additional change management challenges include:

Resource management - Managing the physical, financial, human, informational and intangible assets/resources that contribute to an organization's strategic plan becomes increasingly difficult when implementing change.

Resistance - The executives and employees who are most affected by a change may resist it. Since change may result in unwanted extra work, ongoing resistance is common. Transparency, training, planning and patience can help quell resistance and improve overall morale.

Communication - Companies often fail to consistently communicate change initiatives or include its employees in the process. Change-related communication requires an adequate number of messages, the involvement of enough stakeholders to get the message out and multiple communication channels.

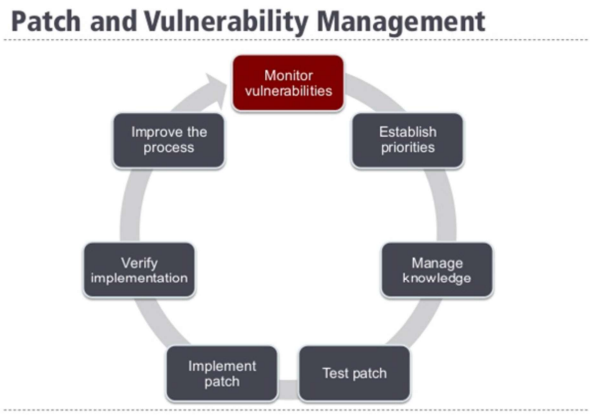
New technology - The application of new technologies can disrupt an employee's entire workflow. Failure to plan ahead will stall change. Companies may avoid this by creating a network of early learners who can champion the new technology.

Multiple points of view - In change management, success factors differ for everyone based on their role in the organization. This creates a challenge in terms of managing multiple priorities simultaneously.

Scheduling issues - Deciding whether a change program will be long or short-term, and clearly defining milestone deadlines is complicated. Some organizations believe that shorter change programs are most effective. Others prefer a more gradual approach, as it may reduce resistance and errors.

Reference https://searchcio.techtarget.com/definition/change-management

Patch and Vulnerability Management



Vulnerability management is a pro-active approach to managing network security. It includes processes for:

Checking for vulnerabilities: This process should include regular network scanning, firewall logging, penetration testing or use of an automated tool like a vulnerability scanner.

Identifying vulnerabilities: This involves analyzing network scans and pen test results, firewall logs or vulnerability scan results to find anomalies that suggest a malware attack or other malicious event has taken advantage of a security vulnerability, or could possibly do so.

Verifying vulnerabilities: This process includes ascertaining whether the identified vulnerabilities could actually be exploited on servers, applications, networks or other systems. This also includes classifying the severity of a

vulnerability and the level of risk it presents to the organization.

Mitigating vulnerabilities: This is the process of figuring out how to prevent vulnerabilities from being exploited before a patch is available, or in the event that there is no patch. It can involve taking the affected part of the system off-line (if it's non-critical), or various other work-arounds.

Patching vulnerabilities: This is the process of getting patches -- usually from the vendors of the affected software or hardware -- and applying them to all the affected areas in a timely way. This is sometimes an automated process, done with patch management tools. This step also includes patch testing,

Reference https://whatis.techtarget.com/definition/vulnerability-and-patch-management

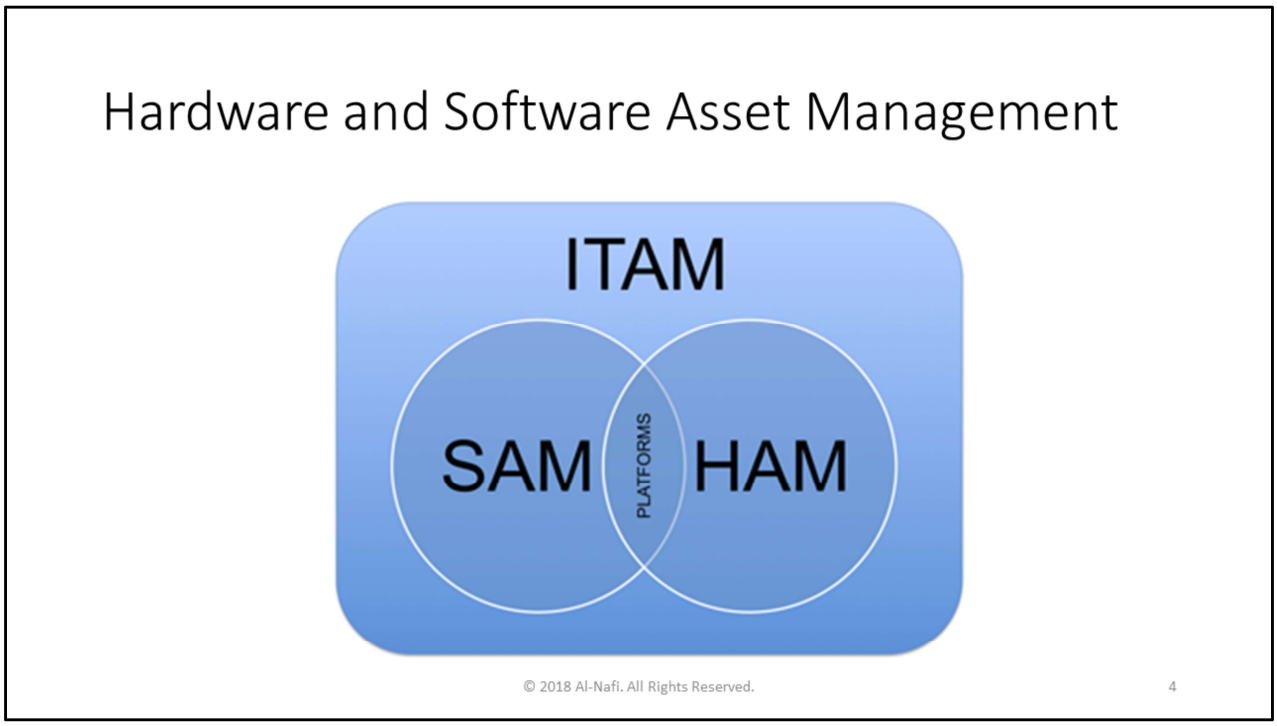
Media Management

Everyone knows that you need to make backups and test them, right? But have you considered the security issues of backup media after you've performed your nightly duty?
Backup media requires specialized and focused security controls. Just think about it, a single backup media can easily contain over 100G Bytes of confidential, secret, sensitive, proprietary and/or private data that can be concealed in a jacket pocket or a briefcase. While it may be difficult to near impossible for someone to swipe one of your network servers, it is merely a matter of shoplifting and concealment to walk out of your facilities with a backup media.

Backup media should first and foremost be clearly and distinctly labeled. Not just with labels defining the content stored on them but with the classification level of the data. Once labeled, it should retain that label for the lifetime of the media. Never ever re-use media from a higher classification level to store data at a lower classification level. Remember that it is nearly always possible to recover data even after it has been deleted and overwritten on magnetic

storage devices and media. Media should be treated with the same -- or greater -- security precaution warranted by the classification of data it holds. Once media is classified, it must remain under the proper security controls for its classification for the lifetime of that media. That means from the moment the media is written until it is securely destroyed. The activities and events of media should be logged: its travels/movements, storage locations and chain of possession should be written down and verified. Media should be transported securely from the onsite backup devices to the offsite secure storage location.

If you can adopt the mindset that backup media are pocket-sized portable versions of your organization's data assets, you'll be able to adequately plan and implement security controls, precautions and deterrents. If you fail to place importance on backup media management and handling, then you are effectively handing your IT infrastructure over to anyone who wants access. Secure media management should be addressed in your security policy and the exact procedures to perform should be defined in your standards, guidelines and procedures documentation.



What is IT Asset Management?

In the previous chapter we explored the concept of 'An Asset' – something of value that the company owns which has associated benefits and risks.

'IT Assets' are things of value owned or managed by IT.

These IT Assets may be software, hardware, systems or services. It follows that IT Asset Management (ITAM) is the practice of managing these IT Assets throughout their life in the business for maximum value and minimal risk.

Definitions and Overlap

The diagram (right) shows how ITAM, SAM and HAM intersect.

IT Asset Management (ITAM)

Software Asset Management (SAM)

Hardware Asset Management (HAM)

As we can see in the diagram SAM and HAM are subcomponent parts of the broader discipline of ITAM.

The terms SAM and ITAM tend to be used interchangeably in the industry – they are not discreet disciplines but have significant overlap and dependencies.

The key dependency between managing hardware and software is the platform. The amount of money paid for software can vary dramatically based on the hardware used to run it. It could be firmware on a switch, the number of processors on a server or the operating system of a desktop.

Managing hardware and software are inextricably linked. For example if you want to manage your Windows operating system estate you need to know how many hardware devices you own, or if you want to manage processor based server licensing metrics you need to know the hardware configuration of the server, and so on.

Similarly job titles are usually split between hardware and software. A Software Asset Manager and Hardware Asset Manager might report to the IT Asset Manager.

Implementing a good SAM practice will undoubtedly have positive repercussions on the management of other assets but will fall short of full ITAM. For example the retirement and disposal of hardware is not typically a SAM function.

Why SAM gets the limelight

SAM tends to get more exposure and emphasis within the field of ITAM because:

Software typically constitutes more IT budget than hardware and therefore represents more value to manage.

Software is riskier (It is often complicated and intangible, It typically contains more contractual booby traps than hardware)

The most compelling and costly business drivers in ITAM relate to software

Managing Intangible Things

Software can be complicated, expensive and ephemeral, unlike hardware that collects dust, takes up space and can serve as a doorstop or paperweight when not in use.

Managing intangible things is not an easy business – try explaining to a non-IT person in your business how your budget was spent on laptops compared to something intangible like Client Access Licenses (A licensing concept with no physical evidence – The right of user to access technology on a server) – one is significantly more easier to explain that the other.

Similarly, when a member of staff leaves the business and visits the IT department to return their IT equipment, their laptop and associated cables and gadgets are physical inventory left on the desk whereas the software they return is often digital, virtual, sometimes invisible and commonly more expensive than the hardware. On the basis that you can’t control what you

don’t know exists – software represents significant risk and has potential for enormous waste if not managed correctly.

Management of hardware should not be overlooked. IT hardware in a business is usually inextricably linked to corporate data. So there is often a compelling driver to manage hardware effectively if only so that corporate data does not leak off the premises.
At the time of writing it has just been reported that the Information Commissioners Office (ICO) in the UK has fined the NHS £200K for selling old hardware containing patient records on eBay. A third party offered to dispose of the equipment for free resulting in patient records showing up in the hands of eBay buyers.

Reference https://www.itassetmanagement.net/2013/08/23/managing-software-asset/