What shall we discuss today?

ITSM in practice - tools, roles, process

- How ITSM works
- Change management example
- ITSM tools

How ITSM works?

See example in

example problem in finance dpt - how ITSM should solve it ver 2020

Scenario

(from real example)

Medium sized bank decided to manage its infrastructure operations and application development by implementing IT Service Management.

They focused on three ITIL processes –

- **incident management,**
- **request fulfillment**
- **change management.**

First phase – ITIL framework adoption, employees training, RACI documentation including processes matrix and agreed KPIs.

Second phase – ITSM tool selection and implementation.

After first three months :

- Number of incidents has dropped down
- Service requests were handled well
- However the change management did not achieve expected success

A **RACI** chart is a simple matrix used to assign roles and responsibilities for each task, milestone or decision on a project. By clearly mapping out which roles are involved in each project task and at which level, you can eliminate confusion and answer the age-old project question, *Who's doing what?* RACI stands for *Responsible*, *Accountable*, *Consulted*, *Informed*. Each letter in the acronym represents a level of task responsibility.

KPI – the Key Performance Indicator

a **Change** is "the addition, modification or removal of any authorized, planned, or supported service or service component that could have an effect on IT services."

Fig A: Changes between January 2015 and March 2015

Fig B: Percentage of successful changes between January 2015 and March 2015

The number of emergency changes has increased during the last 3 months. At the same time the percentage of successfully closed changes remains still very low.

The ITIL® Glossary defines an emergency change as "A change that must be introduced as soon as possible – for example, to resolve a major incident or implement a security patch." E.g. emergency release "Normally contain corrections to a small number of known errors, or sometimes an enhancement to meet a high-priority business requirement." The source of this requirement whether it is from an incident or a service request is not specified.

ITIL® 2011 Service Transition Section 4.2.5.11 on Emergency Changes states that: "The emergency change procedure is reserved for changes intended to repair an error in an IT service that is negatively impacting the business to a high degree. Changes intended to introduce immediately required business improvements are handled as normal changes, assessed as having the highest urgency."
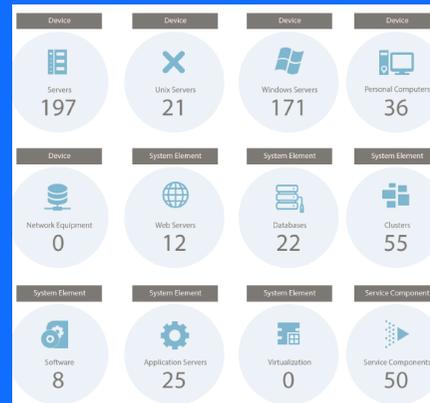
Cause

- List of critical business services
- The service tree structure build with embedded attributes for various devices
- Complete topology identification
- Import of technology tree with all devices attributes into the ITSM tool
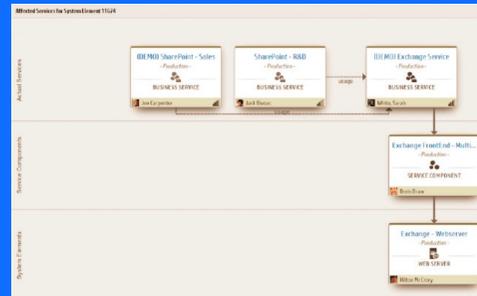
These are the basic steps ITSM recommended to perform first as necessary preconditions to solve the situation. .

ACTIONS

The Configuration Management System based on CMDB

Device	Device	Device	Device
Servers 197	Unix Servers 21	Windows Servers 171	Personal Computers 36

Device	System Element	System Element	System Element
Network Equipment 0	Web Servers 12	Databases 22	Clusters 55

System Element	System Element	System Element	Service Component
Software 8	Application Servers 25	Virtualization 0	Service Components 50

First step – to fix "visibility of the upstream and downstream relationship of components that were undergoing changes" by implementiung the Configuration Management System based on CMDB – Configuration Management Database.

As there was no visibility of the planned, scheduled and deployed changes, the team had to build a proper mechanism to publish the fwd schedule of changes and track the planned ones and their release dates.

- Change management Norms and Standards definition
- Different types of change definition
    - Standard and normal changes
    - Expedite or fast track changes
    - Emergency change vs expedited change
- Change calendar for better visibility

Emergency changes – **changes** that are required to restore service due to an incident or a **change** that needs to be implemented quickly in order to avoid one.

Expedited changes – **changes** that are required quickly due to a pressing need such as legal requirement or a business need but are not related to restoring service.

Standard changes are low-risk, pre-approved changes that happen frequently and have a quick turnaround time. Standard changes can be implemented quickly and help manage risks.

Examples of a standard change:
- Desktop or standalone equipment movement.
- A standard patch that is applied to the servers once a month during the agreed maintenance window.

What is a standard change?
When a normal change is successfully implemented a few times, the associated processes like planning, scheduling, and implementation are established and become predictable and controlled.
That is, the change becomes a routine task and therefore standard.
A few examples of normal changes:
• Upgrading the exchange server or any other hardware
• Setting up high availability or cluster for vital business functions (VBF)
• Roll out of a new release to address the reported issues

Expedite changes are raised due to a pressing need such as a legal or a business requirement.
These changes are not related to restoring a service.

The change advisory board (CAB) defined clear rules and regulations to qualify emergency and expedited changes and communicated these rules across the organization.

Key Performance Indicators definition as next and very important step to assimilate the efficiency and effectiveness of the ChM

- **Number and percentage of failed changes for standard, normal and emergency changes**
- **Number of incidents and service downtime caused by normal and emergency changes**
- **Number or percentage of unplanned or emergency changes**
- **Average time to implement changes**
- **Number and percentage of changes rejected by the CAB**
- **Number and percentage of unauthorized changes**

KPI's theory will be explained later during this session.

What next?

- **Change Advisory Board establishment**
- **RACI development**
- **Handling unauthorized changes procedure**
- **Communication Roll Out and Training**

10

During its discussion with stakeholders, the core team observed that about 20% of the changes were completed without authorization, mainly because the infrastructure team was under pressure to get the changes done quickly. As a result, many changes were done without a request for
change or going through the review and approval processes.

To deal with this situation, stage gatekeepers were appointed for infrastructure, application, and database teams to ensure that the steps were not skipped when a change is made. The stage keepers had a go-ready list that comprised the test results, approvals, signatures from all the concerned teams, and a back-out plan. In case of violation, the stage gatekeepers owned responsibility that affected their appraisal and performance measures.

Another reason for the unauthorized changes was because the application teams updated the CMDB or CMS after the roll out of the release.

The core team ensured that audits were performed every week to compare the current state of CMS with the associated RFC and any deviation was highlighted to the CI owner and service owner for immediate action. In turn, the service owner closed the loop and took firm action. This process went on for four to six weeks, and

the team made it a habit to follow the rule without exceptions.

Result after another 3 months
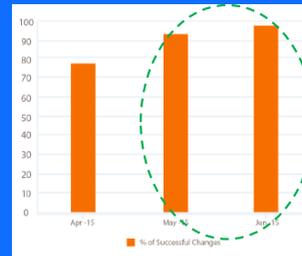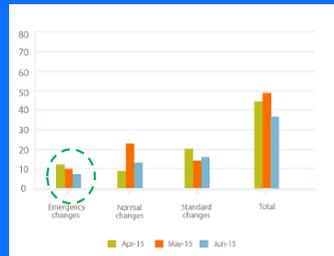
Lessons learned have to be prepared and recorded - CSI

- People trust and confidence to IT dpt services
- Policy enforcement buy-in
- KPI helps to manage and become effective and efficient
- CSI improvement
- Post-implementation review

12

• The bank's IT team understood that building a robust configuration management system with up-to-date information of all IT components is essential for a successful change and release management process.

• Forward schedule of changes, planned maintenance window, and release plans are critical to manage the volume and duration of changes and to ensure smooth deployment.

• Enforcing a policy requires practicality, diligence, and buy-in. The new policies were fewer in number but were important for the success of the change management process (for example: CAB, unauthorized changes, and PIR).

• Relevant and practical KPIs help teams become efficient and effective.

• Process and tools have to work in tandem and absence of one or the other will severely impact continual service improvement (CSI).

• Post-implementation review of key changes and implications provided valuable insight on potential areas to improve and control changes.

Information Technology Service Management

Tooling

An ITSM tool is a software used to deliver IT Services. It can be a standalone software or a suite of applications, consisting of multiple apps to perform various functions.

13

ITSM provides a process framework for managing every aspect of IT operations, but it can also enable organizations to implement **tools** that help to automate workflows in ways that drive efficiency. **ITSM software** solutions help to streamline IT management by automating key processes. ITSM tools help infrastructure and operations (I&O) organizations manage the consumption of IT services, the infrastructure that supports the IT services, and the IT organization's responsibility in delivering business value with these services. These are most heavily used by IT service desks and IT service delivery functions to support the tasks and workflows for processes including incident, request, problem, change, service level, knowledge, and configuration management.
To define ITSM tools, Gartner states: *"ITSM tools facilitate the tasks and workflows associated with the management and delivery of quality IT services."* Since modern IT services are often tremendously complex, modern ITSM tools provide over 600 unique functionality points to support them.

The "best" ITSM software will include the following features, at minimum:

- **IT service model ready:** Use existing models of best practices to guide your processes with built in IT service models.
- **Ticketing**: Track solutions and assign work based on specialties or technical experience and observe trends in scope of work.
- **Problem and incident management:** Find solutions to decrease downtime and prevent incidents before they happen.
- **Asset management:** Track and manage physical devices and add-ons throughout their lifecycle.
- **License management:** View license requirements and manage updates, and be informed on upcoming changes or renewals.
- **Service cost tracking:** How to track the related service cost and provide the management reports

Why Use ITSM Tools?
There are five main reasons why organisations implement ITSM tools:

1) To provide structure
For a busy IT service, structure and consistency is everything. They simply can't allow each helpd
Put simply, a well-implemented ITSM tool enables an IT service to enforce its ITSM systems and p
   1. The organisation can ensure its IT systems and services are consistent and in line with
   2. Customers — both internal and external — know exactly what level of service they w

2) Record management and evidence
An effective IT service must be able to identify and learn from its mistakes. This is **only** possible i
This has obvious applications for managed service providers, who must be able to evidence perf

3) Automation
A large proportion of the work completed by a typical IT service is repetitive. For example, when
   - Setting up a new user account
   - Setting up a new email account
   - Ordering and delivering a mobile phone
   - Ordering and delivering a laptop
   - Prompting the user to complete mandatory training
Depending on the size and function of the organisation, there could easily be a dozen or more a
Imagine that the manual tasks associated with a new starter take 45 minutes to complete. Now,
By automating these processes — which a powerful ITSM tool can easily do — an IT service can
And new starters are just one area where ITSM automation can play a significant role. Others inc
   - Creating, updating, and closing tickets.   14

- Process documentation.
- Sending email notifications and prompts.

Carefully-implemented automation can save busy IT services thousands of hours each year while avoiding the very real risk of human errors.

4) Performance

History abounds with powerful quotes about the futility of standing still. Simply, if you stop trying to move forwards, you don't stay static — you fall backwards.

Confucius said: *"It does not matter how slowly you go so long as you do not stop."*

Abraham Lincoln said: *"I walk slowly, but I never walk backwards."*

Dwight D. Eisenhower put it more plainly: *"Unless we progress, we regress."*

This is why Continual Service Improvement has been a major component of ITIL for so many years. If an IT service doesn't dedicate itself to continuous improvement, it will inevitably stagnate and become less effective over time.

By keeping track of all IT activities and providing readily-accessible reporting, ITSM tools make it easy to identify areas for improvement. An IT service can use such a tool to ensure SLAs are hit consistently and implement new systems and controls when they aren't.

Without this information, it is extremely difficult to identify where improvements are needed, making continual service improvement all but impossible.

5) ROI and cost savings

Nearly every organisation that implements an ITSM tool hopes to realise a financial ROI through direct cost savings. An MSP may also plan to realise ROI by expanding to support more customers, or by improving the efficiency (and consequently *profitability*) of its operations with existing customers.

In general, ITSM ROI comes from four main areas:

1. Efficiency gains, e.g., from improving or automating manual processes.
2. Reduced workload, e.g., by implementing user self-service options.
3. Governance improvements, e.g., reminders to avoid overpaying or retaining unnecessary contracts.
4. Continuous improvement, e.g., reducing the average time taken to resolve incidents.

To accurately determine ROI, you must first know what your current costs are. This is often difficult if you don't already have an ITSM tool, and is something you'll have to overcome when creating a business case for implementing your preferred tool. If you're struggling to identify your current costs, ask your ITSM vendor to provide case studies and documentation to support your business case.
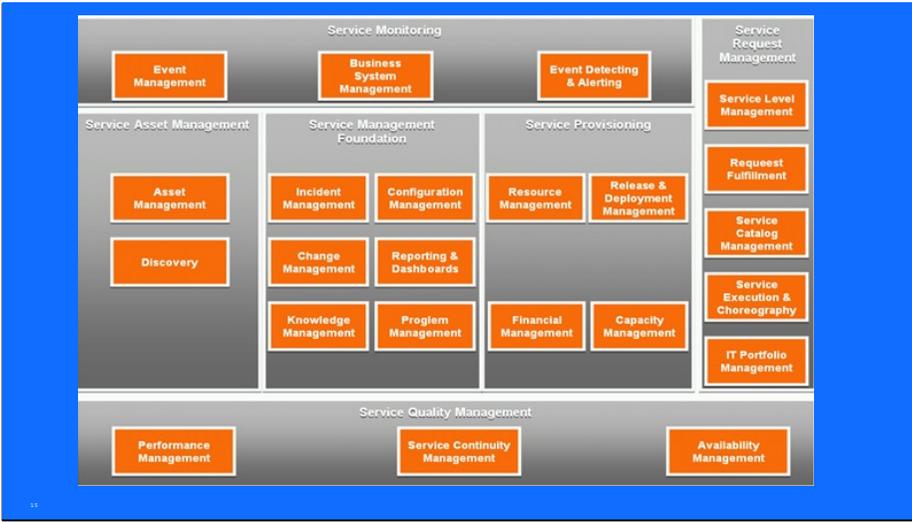
This is the block scheme of the ITSM tool fiunctionality. In most of the cases it reflects the ITSM framework usually ITIL as the base to allow seamless implementation.

ITSM tool is not implemented as the standalone solution and it is in most of the cases integrated with other IT Operations Management tools. Also 2 or more ITSM tools are often integrated together on different levels.
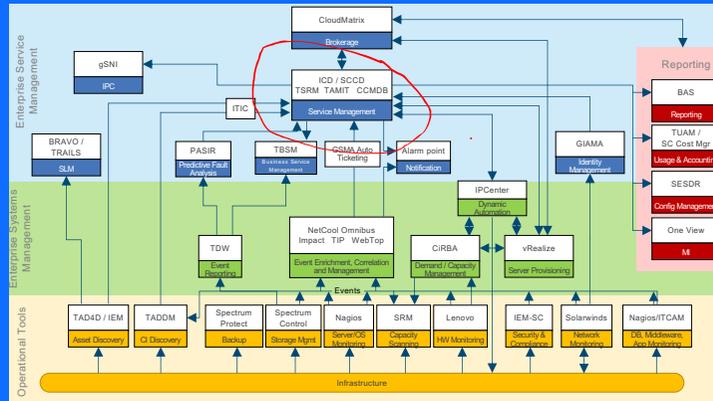
Latest trends integrates the ITSM tool with the business management flows and tools.
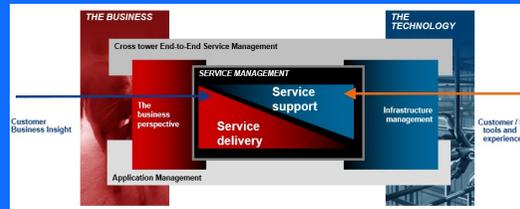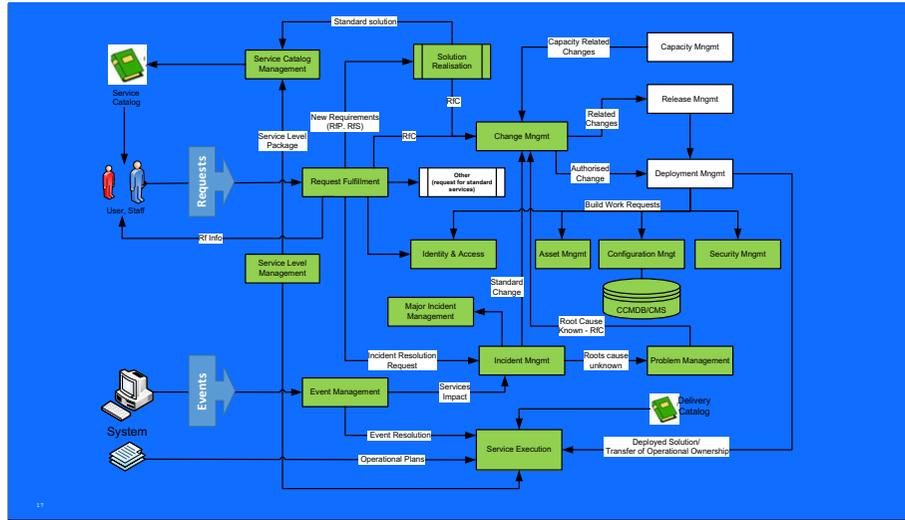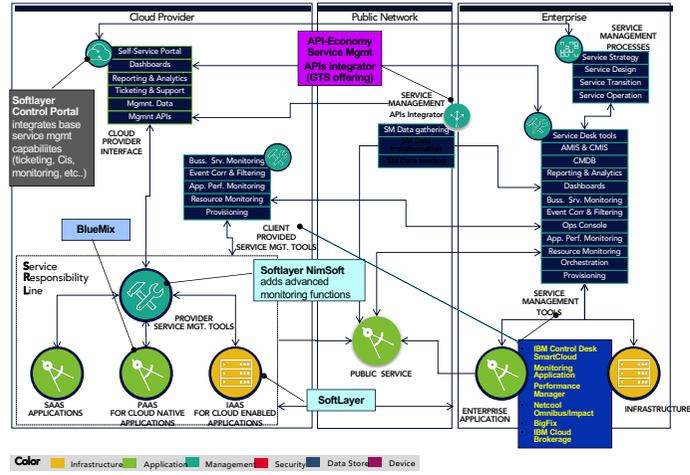
ITSM tool functionality does not need to cover all 100% framework processes/functions. Here is the example how some of processes are covered by the new tool (green) and some vere left in old solution (white). The important here is to assure reliable and correct linkage between those two solutions.

Integrated Service management Tooling - example

Architecture overview - Example i.

Architecture overview

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Example ii.

Bi-directional ticketing integration using import sets and the ECC queue

Magic Quadrant

Figure 1: Magic Quadrant for IT Service Management Platforms

Source: Gartner (October 2022)
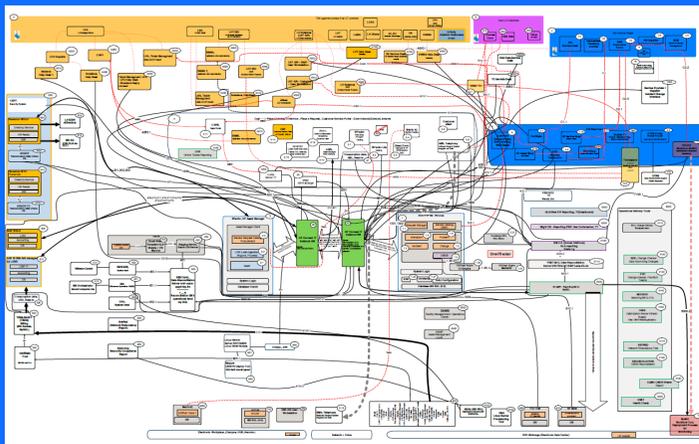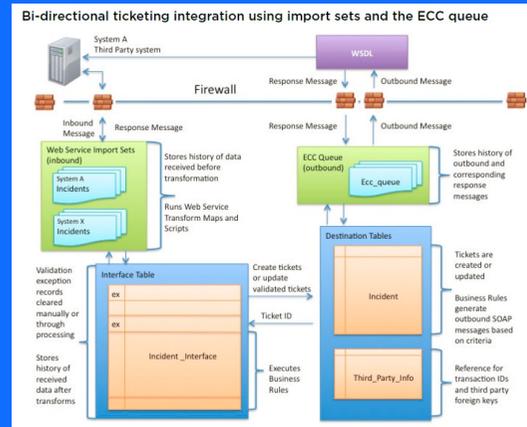
This is the diagram from one of the leading global research and advisory company. It relates to the capabilities of the ITSM tools and it's vendors.

ITSM Tools example – Service Now

Business Service Management Map shows how proposed change impacts related CIs

Proposing a standard change with approved procedures and information pre-fille

ServiceNow offers one ITSM product, ServiceNow IT Service Management, targeted at organizations with various levels of I&O maturity.

Strengths

■ ServiceNow has global reach with local sales and support organizations and strong recognition. It dominates customer shortlists, and its ITSM tool revenue market share has grown to more than triple that of its closest competitor.
■ Although many of its competitors rely on third-party partnerships for AI and machine learning, ServiceNow has made several platform-level acquisitions (for example, DxContinuum, Qlue and Parlo) to add native functionality and successfully sells AI and ML functionality as add-ons to its
ITSM product.
■ As a result of ServiceNow's dominant market position, its platform has helped build a strong partner ecosystem, including professional services and integrations.

Cautions

■ ServiceNow has restricted support to the current and previous versions of the

product, which requires customers to perform an upgrade at least once every year. This can strain customers with limited resources to support their ITSM implementations.

■ Interactions with Gartner clients indicate that organizations with low I&O maturity struggle to demonstrate sufficient value from their ServiceNow investments. Functionality to track improvement initiatives that drive maturity requires an ITSM Professional license, which comes at a significantly higher cost.

■ Gartner clients report that frequent changes in licensing policies and bundling make product renewals challenging.

ITSM Tools example – BMC Remedy
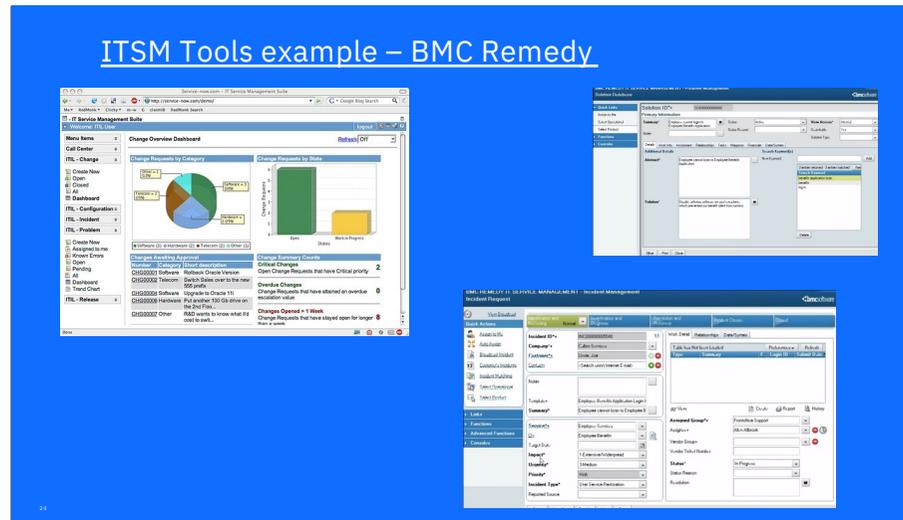
One of the leading ITSM tools in the market from company BMC.

Strengths

■ BMC has a broad ITOM software portfolio, making it a viable partner for mature I&O organizations that need to extend their ITSM tools.
■ BMC's containerized BMC Helix ITSM product offers a broad set of deployment and licensing options, including SaaS, co-sell partnerships with public cloud providers (Amazon Web Services [AWS] and Azure), and on-premises, giving customers flexibility in how and where their instance is deployed.
■ Gartner's Critical Capabilities research determined that BMC scored highest for the advanced I&O maturity use case, indicating it is strongly suited to meet the requirements of high-maturity I&O organizations.

Cautions

■ BMC's rebranding of its Remedy product into the Helix family has yet to resonate with customers who still associate the product with legacy experiences.

■ BMC Helix ITSM bundling and pricing options require customers to purchase add-ons to get advanced capabilities such as location tracking, virtual chat and some service catalog features. This increases the true cost of the solution, as BMC requires customers to purchase Digital
Workplace Advanced.
■ BMC has reduced investment in its FootPrints and Track-IT products, but is still offering them to customers.

ITSM Tool example – 4me
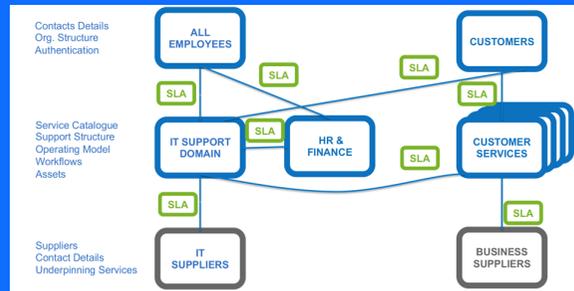
Jira is a flexible issue tracking tool that helps teams plan, manage, and report on their work. There are different versions of **Jira** depending on your usage needs. What are some **benefits** of using **Jira**? **Jira** is highly configurable and flexible to allow for usage in a wide variety of environment and processes.

Originally, **Jira** was designed as a bug and issue tracker. But today, **Jira** has evolved into a powerful work management tool for all kinds of use cases, from requirements and test case management to agile software development.

Jira software is **popular** in the agile world due to its well-managed workflow mapping and issue tracking ability. To support agile development cycle it has Scrum and Kanban boards along with various reports. ... In short, a perfect tool to manage your agile project at one place with lots of features and add-ons.

Latest ITSM tools trends

- Enhanced IT support
- Expanded ITSM Automatipon
- Added IT Chatbot Support
- Increased Use of Knowledge Management
- Increased AI Adoption
- ITSM on-the-go (mobile apps)
- Business workflow integration

26

Enhanced IT support

A major benefit of an ITSM solution is enhancing access to IT Support. The future of ITSM and IT operations will bring the expansion of IT support, and the framework of ITIL will enhance the ability to provide consistent support. ITSM will become the default way to reach the IT department over traditional methods, like email or phone calls, and the move to self-service integration will bring forth a greater shift-left initiative, allowing IT to provide more in-depth support for the problems that cannot be resolved with self-help. Ultimately, this will bring forth better and more thorough IT experience utilizing the same number of people and resources.

Expanded ITSM Automation

Just as enhanced IT support will be brought through ITSM, increased use of automation will be adopted, which leads to a more successful shift-left initiative and ultimately an increased deflection of tickets.

Automation is made from a set of repeatable steps that can be done without human intervention. This can be workflow automation, automatic password resets, or even automated updates within an organization. Overall, automation works to deflect tickets, resulting in the reduction of service desk call volume by as much as 30% and can majorly impact service desk metrics for the better – all of which helps lower costs and increase productivity.

Added IT Chatbot Support

Chatbots are not only the future of ITSM, but the future of communication in general. In fact, Gartner predicted that **"by 2020, the average person will have more conversations with bots than with their spouse."** That sounds crazy, right? And yes, maybe it was a little bit far-fetched (especially since many of us have been at home with a spouse during Covid-19 lockdowns). But, with major growth and change in artificial intelligence (AI) technology, chatbots are now able to lend support like never before.

Working with a knowledge management database, chatbots can now access data and knowledge articles, create tickets within the ITSM system, and help users find the right support. Plus, chatbots programmed with a Natural Language Processing (NLP) layer can understand a wider range of people from a variety of regions, making it perfect to support remote workers across the world as they interact with IT support. Additionally, an NLP engine customized to personalize interactions with employees can further brand culture for a better experience and increased user adoption.

Increased Use of Knowledge Management

Knowledge management is the process of creating, sharing, using, and managing the knowledge and information of an organization. It refers to a multidisciplinary approach to achieving organizational objections by making best use of knowledge. Being able to engage users through a contextualized knowledge approach will play a key role not only in the creation of knowledge, but also in its use.

This can be achieved through a knowledge management solution or self-service portals that allows you to go beyond the knowledge article and offer an engaging knowledge experience that will reach anyone within your organization. There are so many benefits to knowledge management including increased efficiency with reduced costs, a superior employee experience, reduced duplication, and so much more. For this reason, knowledge management will only continue to grow in the future.

Increased AI Adoption

AI applications in the consumer world are becoming more common and adoption continues to rise in the B2B space. IT and business leaders are talking more about AI technologies but have challenges when it comes to developing and implementing the right AI applications for ITSM tools. This is why we should look at specific AI technologies than supplement ITSM rather than AI as a whole.

For example, conversational AI, which powers messaging applications like chatbots, can automate intelligent conversations between your customers and virtual support agents. The development of AI technology will also lead to better knowledge insights in the form of recommendations and predictive analytics. The coming months will bring a wave of AI adoption with more emphasis on personalization and accessing unique bits of knowledge specific to each user.