Effective Implementation of Problem Management in ITIL Service Management

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Abstract : *This Research paper is going to talk about the fundamentals and various factors about the Problem management Vs change Management under ITIL Based service delivery management like the Problem tickets are triggered from multiple incidents or from major incident. So in order to fix the defined problem we need to append the infrastructure/technology with the help of Change Management Process. But in real scenario what is happening is different.*

I. Introduction

ITIL is the most widely adopted approach for IT Service Management in the world. It provides a practical, no-nonsense framework for identifying, planning, delivering and supporting IT services to the business.

ITIL has been adopted by thousands of organizations worldwide, such as NASA, the UK National Health Service (NHS), HSBC bank and Disney™. ITIL is also supported by quality services from a wide range of providers including

examination institutes, accredited training providers and consultancies, software and tool vendors and well known service providers such as IBM, Telephonic, HP and British telecom (BT).

The two most commonly used disciplines in ITIL SERVICE MANAGEMENT are Service Support and Service Delivery.

Service Support comprises of:

Service Desk
Incident Management
Problem Management
Configuration Management
Change Management
Release Management

II. What is Problem Management

A problem is a "condition identified from multiple incidents exhibiting common symptoms, or from a single

significant incident, indicative of a single error, for which the cause is unknown."

The goal of Problem Management is to minimize the adverse impact of incidents and problems on the business caused by errors within the IT Infrastructure, and to prevent reoccurrence of incidents related to these errors.
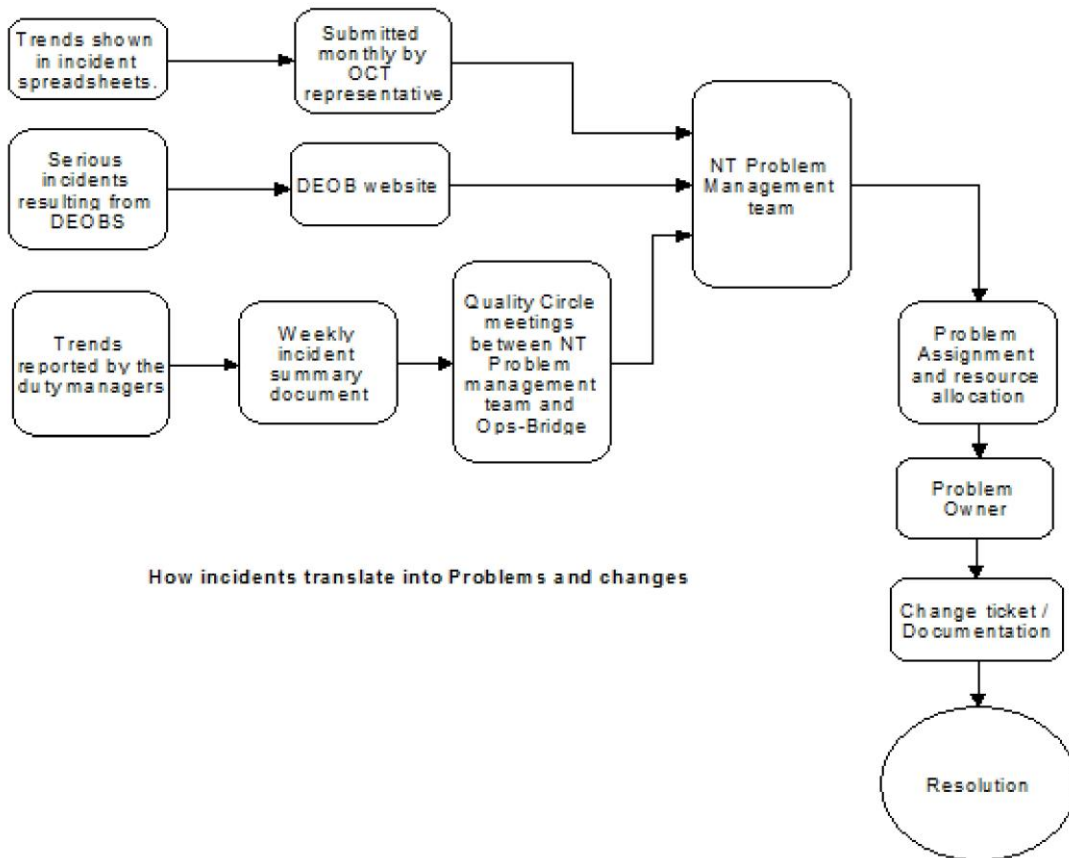
Incident Vs Problem:

Incident Management is the basis for defining Problems and information from Problem Management is made available for Incident Matching.

While Incident Management focuses on quick resolution of incidents, Problem Management analyses the root cause of the incidents.

The differences between Incident & Problem Management are:

Objectives are different Different skills/expertise required
Time is less of an issue within Problem Management Activities carried out are different

How incidents translate into Problems and changes

Improving the organization's knowledge by contributing known error data to the service desk / incident management / configuration management, etc.

Problem management Benefits:

Improved IT Service quality (by removing structural errors pro-actively)
Reduction in the number of incidents
Providing permanent solutions thereby resolved problems stay resolved

III.Problem management Classification and approaches

The work of problem management produces the following outcomes:

- **Records of known errors and available workarounds** - These records are kept in the configuration management database (CMDB), and they provide information to the service desk and other ITSM processes.
- **Requests for change (RFCs)** - RFCs describe changes needed to remove a known error. Problem management does not approve or perform the change. RFCs are sent to another ITSM process, change management.
- **Changed records in the CMDB** - Information about a known error and any affected CIs is forwarded to the configuration management process, the IT service management process that maintains the CMDB.

Problem management includes the following two types of approaches to address problems:

Reactive problem management:

Reactive problem management seeks to cure the symptoms of problems. The reactive approach responds to reports of incidents that have already occurred. Reactive problem management can be viewed as two activities
Problem control activities - The major problem control activities are:
Identification and recording - Problem management receives information about reported incidents from the incident management process and the service desk. Members of the problem management team analyze this information, looking for similarities in the symptoms of reported incidents. They look for records of previously identified problems that can explain the symptoms. If none can be found, a record describing a new problem is created.
Classification - This control activity identifies the importance of new problems and designates resources for addressing them.

Problems are classified by category, such as hardware, software, or other types. Then they can be assigned to the corresponding support personnel. Problems are also classified by priority ranking. Problems with higher priority rankings are addressed before problems with lower priority rankings.

Investigation and diagnosis - Problem management teams look for the root cause of problems. If the cause is determined, problem management recommends a workaround or a temporary fix for the problem.

Identify cause of problem and devise a workaround - In the automated service management system, the status of the problem is changed to that of a known error.

Proactive problem management:

Proactive problem management is being triggered from the following components
Incident Trend - This is the process of examining problem and incident reports to discover what types of problems are happening more frequently. Trend analysis of existing problems and incidents can reveal where similar problems may occur in other places within the infrastructure. It can also show that repeated failures have not been adequately resolved and are likely to continue to happen.
Preventative action - This process applies the same techniques used in reactive problem management to a select few potential problems with a high degree of business impact. Targeting preventative action may include creating RFCs, training users and service desk team members, or recommending procedural changes within the IT department.

# IV. What is the relationship between problem Vs Change

So as we discussed above the incidents are resolved by work around by resolution groups and multiple incidents are leading to the problem ticket as it gives frequent ouages.Even this could be triggered from availability report and from trend analysis. Even the problem can be initiated for any process change and or for any improvements on technology/Process.

As mentioned below once we obtain the problem ticket and then it has to go through an investigation which can help us to identify the root cause which can give clue towards resolution which can help us with permanent resolution.

Even the problem solution can be obtained from KEDB which is the database for multiple issues, this will give quick help for the problems. if the info is not available in KEDB once identify the resolution for the issue KEDB needs to be updated for future reference. So the resolution for the problem ticket has to be done only via proper change record with all the relevant information, we may involve multiple teams if needed.

So this will help us to manage and maintain the record which can help easily for new members or for other teams. Sometimes it will be much helpful when the audit happens on the IT infrastructure and also it will force the resolution group to identify the root cause and resolution. None of the problem

tickets can be closed without mapping with proper change record.
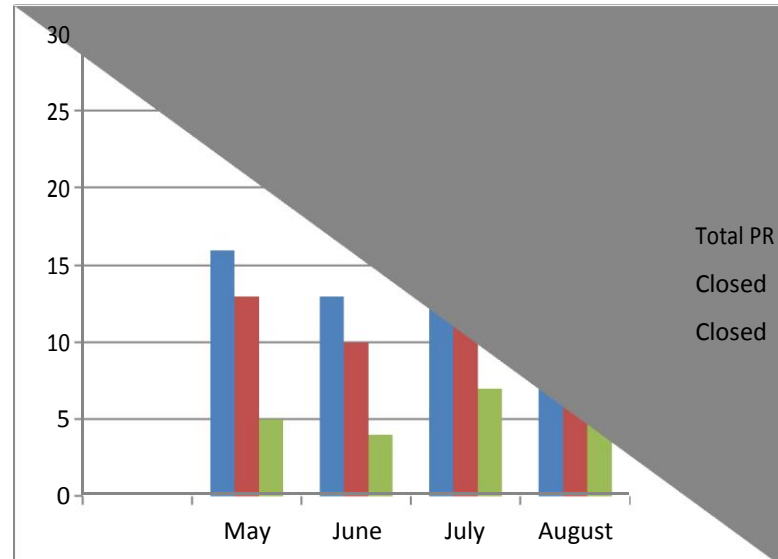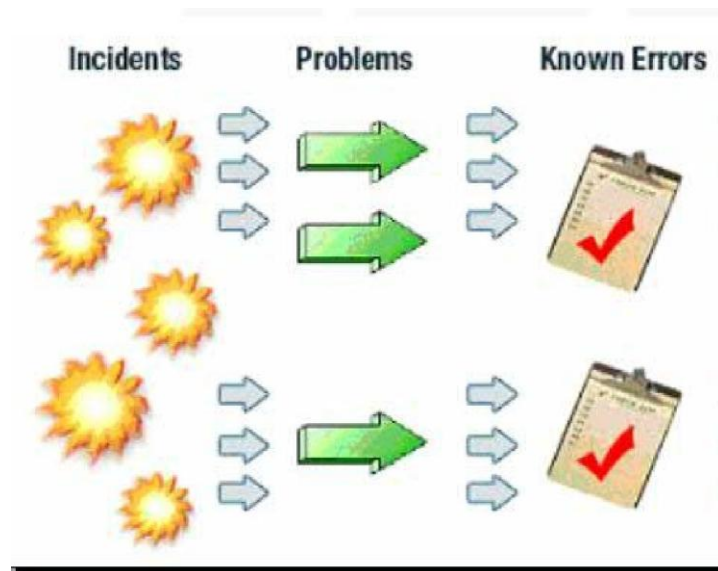
As see we in the diagram above we could see even less than 50% of the problem tickets are closed with problem change records.even though the ITIL process implemented on the projects and we do not see the effective implementation which can lead to prefect result to companies/service Providers.

V. What is happening in industry?-An analyze in real scenario @ World top IT company

In order to get the information from the people who is working on the industry I have interacted with the system administrators and system specialist who has sufficient experience in IT industry with ITIL knowledge. I have gone through multiple problem records through the ticketing tools and seen most of the PRs are closed without problem tickets & few tickets are closed without identifying the cause to the issues and closed without mapping any change records. Below are the details from one of major client operated from Bangalore

VI.Benefits of Every Problem related to change record

Record Management:
If the resolution happens through the change management process it will recorded in the tool and going through multiple team and approvers so that the things are being recorded properly.

Audit Management:
As Change management has all the relevant information about an issue, investigation details, resolution and approval information it will help at the time of IT audit and also manage/maintain ISO certifications for the company.

Perfect Resolution:
By using the mentioned method none of the problem records can be closed without resolution as the Change record is mandatory for all problems.

Roll back:
While implementing the resolution always we can t expect 100% success rate, In rare case there is a chance for change failure also. As we have complete information on change record it is very easy for us to revert back the changes at the earliest.

Future reference
All the problem resolution and change info will be updated in
KEDB and this will help for future reference.

VII. Conclusion

Without any doubt, the IT Companies and also service
providers will be benefited in multiple ways as mentioned
above. So the effective problem needs to be practiced in
IT industry.

VIII. Books Referred

HP Library ITIL books
Boots UK best practices Documents
British Library Books, Chennai
ITIL books from Best Management Practice
The Introduction to the ITIL Service Lifecycle Book
(Official Introduction) by Office of Government
Commerce Foundations of ITIL V3 by Inform-IT
http://www.bestpracticebookstore.com/books/itil-v3-
books.html
http://cdn-
static.zdnet.com/i/z5/ads/whitpapers/Axios_Systems/2008_q1/
V2_to_V3_Is_it_worth_it_UK.pdf
http://www.shef.ac.uk/cics/change/policy
http://www.careerjet.co.uk/itil-change-management-
jobs/scotland-61.html
http://www.ucisa.ac.uk/~/media/Files/members/activities/ITIL
/servicetransition/chanage_management/ITIL_an%20example
%20emergency%20CM%20procedure%20pdf
http://www.itilcommunity.com/modules.php?name=Forums&
file=viewtopic&t=3047&start=0&postdays=0&postorder=asc
&highlight=

IX.Acknowledgment