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Analysing End user Experiences in ITIL Incident Management

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**Analysing End user Experiences in ITIL Incident Management.
Case company**

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This thesis focuses on end user experiences in the handling of the incident management process in the case company, based on the incident process outlined in the Information Technology Infrastructure Library (ITIL). Incident management has been implemented in the company using an IT service suite, BMC Remedy, and following the ITIL service management framework, but some problems needed to be addressed due to the long processing time experienced which affect service delivery to the users. The main objectives were to find out why incident processing took so long and to determine the areas to be addressed at a later stage in order to have better service.

The theoretical part for the process includes a review of the implemented procedures in the company's incident management manual and the knowledge of the best IT service management practices outlined in the ITIL framework. The data was collected through a survey conducted in the company and analysed using the feedback and suggestions given by the users on the status of various factors that affect the time taken to get solutions for incidents.

The outcome of this thesis is based on the user feedback on three key areas that affect time taken on incidents identification, reporting and resolution namely the incident reporting quality, incident request orientation and incident request communication. The issues addressed would aim at reducing the duration of ticket resolution, and solve the challenges experienced by the users when reporting and receiving information on incidents resolution.

Keywords: Incident Management, ITIL, Service management

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1 Introduction

Background and purpose of the study

This thesis focuses on analysis of the business user's experiences during the process of reporting and receiving support on mainly ICT incidents while working. An IT service management suite - BMC Remedy software for reporting and resolving all types of issues and incidences experienced by the users working with various types of IT tools (Hardware or software) in the case company. For the purposes of this study an IT framework was used. The IT service management Framework ITIL (IT Infrastructure Library) for the processes in service management and specifically incident management. The BMC Remedy Platform service provides the organization with a platform to report various incidents and problems experienced by business users. The tool is aligned to support ITIL with its aligned incident management modules which allow the case company to streamline the use of different service tools available to the customer for incident and problem reporting and resolution and in turn make a more efficient incident management process.

1.1 Case Company Background

The case company for this study is an organization based in Helsinki Finland set up to manage and regulate all the chemical industries in Europe that use or manufacture different types of products that use chemicals or its by product. The organization helps companies to comply with the legislation, advances the safe use of chemicals, provides information on chemical and addresses chemicals of concern. This regulation is done for the benefit of human health and the environment, and also provide information to the public on these substances. To achieve their objectives, the organization uses a set different IT tools which would require support, where the companies can register the contents of their products for research and submit documents used in the decision making legislation stages.

1.2 Organizational Challenge

The current organizational challenge in the case company is the efficient use of the already implemented incident process. In the book *Service Management Heroes (2007)*, Stuart Rance states that incident management is the first IT service management that an IT organization adopts and many have a well-organized management process. This does not mean there is no opportunity to improve as there are always things to be done better and opportunities to learn from experiences. He further says that the best ITSM organizations are the ones that

recognize that improvements never finishes. Some improvements are needed for a more effective and robust management system. The time taken to resolve issues and problems related to the users keeps increasing with some going for months unresolved. The reasons for the current state of things are several.

The first reason is business users bypassing procedures. The configuration of the reporting system includes an Incident Management portal to handle and manage service requests and incidents. Business users sometimes feel the process too cumbersome to input all the fields related to an incident. They prefer to handle and sort the problem themselves or contact the service desk consultants directly through email, phone or going to their desk in person. This creates a bigger problem where the annual reports received by management do not show an updated status on the workflow of incidents experienced by users and solutions given for improvements. This also causes inaccurate database of the knowledge base for future reference of the same incidents experienced.

The second challenge in the organizational process is too many escalations as a result of not following the correct procedure in resolving requests. This can be described as a result of the first challenge experienced and created by the users themselves. This also causes a large incident backlog and thereby process workload. As a consequence of lack of clear definition and commitment in the SLA's it makes an impact in the efficiency of the incident process. If improved this would reduce the longer time it takes to processes resolutions.

1.3 Research Question and structure

The purpose of this thesis is to find where are the gaps and challenges to be addressed in the user experiences and in the time taken in the processing and resolving incidents. To achieve the research objective the study will aim to reply to the following research question: -

What are the user experiences in incident management in the case company to enable more efficient management process?

2 Theoretical Background and Knowledge Base

This section will present the theoretical background and the industry best practices related to the focus of incident management in this thesis. It will outline the ITIL framework in the incident process and the areas to focus on during a successful work flow.

2.1 ITIL Framework

IT Infrastructure Library (ITIL®) is a collection of best practices produced by UK Office of Government Commerce for IT service management (ITSM). The framework provides procedures and processes for the governance of IT services and focuses on the management and constant improvement of the quality of services delivered from both a business and customer perspective (ITIL, 2007). The official website states that ITIL describes procedures, tasks and checklists suggested for use in organizations for establishing a minimum level of competency for Service Management, so that the organization can plan, implement, demonstrate compliance and measure improvement (ITIL webpage, 2016). Many organizations have adopted this process based approach for service management.

2.1.1 ITIL and good practice in service management.

ITIL is used by many organizations worldwide to establish and improve the processes and capabilities in service management. ITIL offers a wide body of knowledge useful for achieving the ISO/IEC 20000 universal standard for organizations seeking to have their services audited (ITIL Service Operation, 2007).

The ITIL V3 service delivery strategy (ITIL V3, 2007) states that the ITIL library comprises of the following components: -

- The ITIL core: best practice guidance applicable to all types of organizations who provide services to a business.
- The ITIL Complementary Guidance: a complementary set of publications with guidance specific to industry sectors, organization types, operating models, and technology architectures.
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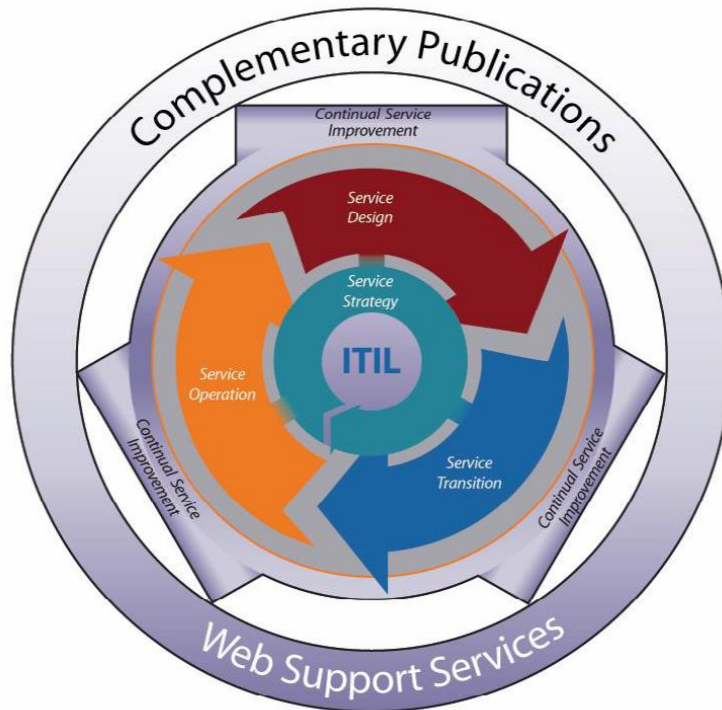


Figure 1: Overview of ITIL (ITIL V3, 2007)

As seen from Figure 1 above the ITIL overview (ITIL V3, 2007) consist of five publications. Each of these core provide the guidance necessary for an integrated approach. These include:

-

- Service Strategy for policies and Objectives.
- Service Design, Transition and Operation that represent change and transformation (including new services).
- Continual Service Improvement for learning and Development.

Figure 1 shows that the lifecycle of an IT service starts at the Service Strategy stage where all the business needs and requirements for a specific service are outlined and set, thereafter and then it transitions to the next stages through the Service Design, Transition, Operation and Continual Process Improvement. Different service levels will have specific stages and at every stage of a service's lifecycle has an inbuilt continual feedback system to guarantee that the service is able to provide business with the measurable value continuously (ITIL V3, 2007)

2.1.2 Incident Management

According to ITIL (ITIL V3, 2007) an 'incident' is defined as an unplanned interruption to an IT service or reduction in the quality of an IT service. It goes further to state that failure of a configuration item that has not yet affected service is also an incident. For example, failure of one disk from a mirror set. Incident Management therefore is the process for dealing with all incidents; which can include failures, questions or queries reported by the users via telephone call or automatically via event monitoring tools.

The manual also states the processes of dealing with these requests. Some terminologies to be aware of are: - Service Request- A request from the user for information or advice, or for a standard change or for access to an IT Service. For example to reset a password, or to provide standard IT services for a new user. Service requests are usually handled by a service desk and do not require an RFC (Request for Change) to be submitted.

2.1.3 Purpose of Incident Management

Businesses will experience several types of incidences from different service points. The primary goal of a proper management process is to restore to normal service operation as quickly as possible and minimize the adverse impact on business operations, thus ensuring that the best possible levels of service quality and availability are maintained (ITIL V3, 2007). By normal service operation the manual defines this as the service operation within the SLA limits set out in the contracts.

Stuart Rance (2007) suggest some ideas to have when defining the purpose of Incident management as:-

- To prioritise incidents appropriately in order to address the ones that are most important to the customer first.
 - To communicate well so that your customers understand what you are doing for them and when their incidents are likely to be resolved.
 - To recognize repeat incidents (that have already happened multiple times), or Incidents that you think might repeat in the future and log problems so that number and impact of future incidents can be reduced.
- To make efficient use of both customer resources and service provider resources.

2.1.4 Incident Management Procedure

Since its inception in the 80's, there have been several versions of the framework produced, however the core approach adopted by many companies' remains the same. The process used in this case study company as described in the ITIL manual (ITIL, 2007) can be divided into five major steps:

- Incident detection and recording.
- Classification and initial support.
- Incident diagnosis & resolution.
- Incident closure.
- Incident tracking, communication and escalation.

The ITIL framework states that this procedure is to provide the guidelines on how service requests and incidents regarding ICT services are detected, managed and resolved in the Information Systems Department. Furthermore, it states, this procedure covers also the management of special incidents i.e. incidents caused by IT service management to other functions and services not necessarily belonging to IT Department.

The figure (2) below is a graphical representation of the steps taken during the support and closure of an incident.

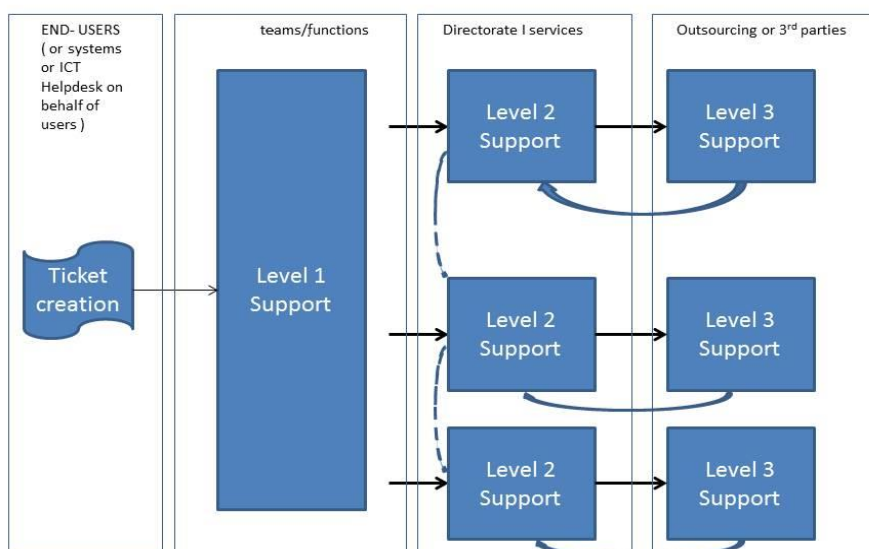


Figure 2: Incident Ticket support flow

2.2 BMC Remedy Management Platform

The BMC Remedy Platform service provides the organization with a platform for all incident reporting. The console has the following modules:

- Remedy Requester Console (RRC) - to submit service requests and report incident.
- Incident Management module - to handle and manage service requests and incidents;
- Email Console - to encode questions received from users;
- HelpNet Exchange (HelpEx) - to communicate and to discuss questions among support.

The screenshot displays the MATERNA REQUEST SPECIFICATIONS console. The interface is divided into two main sections: COMPANY INFORMATION and REQUEST INFORMATION.

COMPANY INFORMATION

Incident Specific

Customer Information

Company* Customer
 Organization GÖTEBORGS
 Department GÖTEBORGS
 Last Name*+ HÄLLINDER
 First Name* ANDERS
 UUID
 Internet E-Mail anders@fyrvverk-enfabrik-en.se
 Phone Number*+ ###
 Customer Person ID PPL00000004107

Incident Service Type

Company*+ Customer
 Service Type* User Service Request

REQUEST INFORMATION

Summary* Re: INC000000006960, Enquiry to Helpdesk
 Notes Hello
 This is the way it looks on my computer!
 As you can see there is no text!
 / Anders

Operational Categorization

Tier 1+
 Tier 2
 Tier 3

Urgency* 3-Medium
 Impact* 4-Minor/Localized
 Weight* 10
 Priority* Medium

Product Categorization

Tier 1
 Tier 2
 Tier 3

Assignee & Owner Group assignment

Company
 Organization
 Group Name

Buttons: Continue, Cancel

Figure 3: Incident Request Console (Remedy manual, 2009)

The figure 3 above shows the Incident management Console with the incidents currently reported and are open (assigned, in progress, pending) according to the selection criteria defined in the different fields available: Show, Filter By and Role. Users are able to report and view who the incident has been assigned to and the state of their incident or further investigation or information is needed and act accordingly.

2.3 Incident Management Lifecycle

This section presents the procedure that all types of incidences are handled in the case company. As was mentioned earlier the company uses its own incident management system BMC Remedy for creation, tracking and resolving and archiving of issues. Company personnel that identify an incident or have a request related to an application will create a ticket in Remedy and assign it to contractor's personnel. Contractor's personnel involved in application management will also be able to create tickets and perform actions on them (like assignment resolution etc.) in Remedy so as every incident and its history is stored in the knowledge database in Remedy for future reference and activity log.

An important point to highlight here is that tickets created or managed at Remedy, trigger an outgoing e-mail to a functional mailbox, alerting both the user and support personnel of the creation of a ticket and further actions to be taken and updated during the whole lifecycle of an incident.

2.3.1 Incident Creation

As is shown in the figure 2 above and in the case company Incident Management manual (Incident service Request Manual, 2015) the creation of an incident will be performed in Remedy BMC application using the following steps:

(i) Business user submits a ticket related to application management. The ticket should be assigned to contractor's operator. Upon the assignment of an incident Remedy assigns to a specific group, a mail message of a predefined format (subject, body, attachment) will be sent to a specific functional mailbox.

(ii) The contractor's operator creates a ticket after identifying the incident (possibly from monitoring tools alerts) or after receiving relevant information from other Contractor's personnel.

Level 1 Support - Contractor Operator.

(i)The operator, utilizing contractor's knowledge base, resolves the incident and updates the ticket in Remedy as resolved.

(ii)Operator escalates the ticket to Technical Experts or Application Experts. Ticket remains open and pending.

(iii)Operator, after resolution by escalation engineers and examining relevant info, confirms resolution and updates the ticket in Remedy as resolved. (Incident service Request manual, 2015)

Level 2 Support- Technical Experts

(i)Technical or Application experts resolve the incident and update the ticket in Remedy.

(ii)Technical or Application experts escalate to Contractor Service Manager for assignment to 3rd party. Ticket remains open and pending.

(iii)Technical or Application experts escalate the ticket as a Change Request to Contractor Service Manager. Ticket remains open and pending.

Level 3 Support - Contract Service Manager

(i)Contractor Service Manager receives the escalated ticket and confirms that it should be forwarded as an incident to 3rd party contractor. Ticket remains open but not pending (assigned to 3rd party).

(ii)Contractor Service Manager receives the escalated ticket and confirms that it should be forwarded as a Change Request to an external party. The ticket will be processed according to relevant Change Management process and until finalization will remain open but not pending in Remedy (assigned to external party).

Level 4 - Update from 3rd party or other external party

1. At this stage seen as the last step in resolution of the ticket, the 3rd party or the external party either resolves or reassigns a ticket. This action should assign the ticket to the operator again (step 1). The ticket then either is updated as resolved (step 2.2) or escalated (as described in step 2.3).

2.3.2 Incident Management Roles

As is shown in (figure 2) above there are different roles and responsibilities during the management lifecycle of an incident. The main roles as defined in the Incident manual of the case company (User manual, 2005) are the Incident Manager, First line support, second line support and third line. The incident manager is responsible for the management of all the staff working under them, the first, second and third level support, monitoring the effectiveness of the incident management and making recommendations for improvement also managing of major incidents. As seen in the figure 2, the third line support have a higher technical skills than the first and work with third party suppliers to solve an incident and document the same.

2.3.3 Incident Prioritization

Categorizing of incident tickets in order of their urgency is a very important step in the overall incident resolution process. This will determine how the ticket is processed by the support tools and support staff. The company's incident management manual (user manual, 2005) further states that prioritization can normally be determined by taking into account both the urgency of the case (how quickly the business needs a resolution) and the level of impact it is causing. An indication of impact is often (but not always) the number of users being affected.

Before you can estimate business urgency you should be aware of which kind of severity levels is agreed with business units (user manual, 2005). The layout of the different severity levels based on the business implications will be discussed below.

Severity Level	Business Implications
1	A system or service is not available or is working at a severely degraded capacity/performance for multiple users* -or- Event has a major impact to external client/customer.
2	System or service functionality has become limited or is working at marginally degraded capacity or performance for multiple users AND no acceptable bypass or workaround exists.
3	A single user is unable to use a system/service or a component of a system/service that is necessary for him/her to perform his/her primary work activities -or- A system or service has encountered a non-critical issue with minimal loss of functionality or is working at minimally degraded capacity or performance -or- A system or service is unavailable where another can be readily used (i.e. an individual printer)
4	General request for information -or- Report of event not impacting work efficiency -or- Service Requests such as: User Administration, Software installation/upgrade requests, Move/Add/Change requests, Group mailbox / distribution list administration, Information request

Table 1: Business Implications (user Manual, 2005)

Incidents may occur in various areas in the organization and it is of importance to be able to clearly define and layout the effects on the business an incident will have. Table 1 above shows area of the various implications an incident would have to the business and its level of severity in order for the management system be able to direct the correct support need to the correct areas.

2.4 Incident Impact Metrics

In order to have a dynamic process of managing incidences, metrics should be defined, gathered and analysed for each process to gauge the success of process implementation and to provide a basis for Continual Service Improvement. It should be noted that a metric is a standard measure and reported to help manage a process and to assess performance in a particular area (ITSM process repository, 2012).

Table 2 below is a breakdown of the incident impact as defined in the company incident management manual mainly depends on the number of users affected and the loss of service compared to the “Normal service operation”. It further outlines a number of other factors that can contribute to impact levels as:-

- The number of services affected.
- The level of financial losses.
- Effect of business reputation
- Regulatory or legislative breaches.

The target resolution times will correspond to the priority code from 1 hour for Critical to over 48 hours and planned time for the incidents that have low impact and can be stretched over a long period for a solution.

As is discussed in the section above, the impact of an incident would depend on a number of factors mainly depending on how the ‘normal’ operation time would be taken to restore the affected service or user. The table 2 below further shows the different sections.

		Impact		
		High	Medium	Low
Urgency	High	1	2	3
	Medium	2	3	4
	Low	3	4	5

Priority Code	Description	Target Resolution time
1	Critical	1 hour
2	High	8 hours
3	Medium	24 hours
4	Low	48 hours
5	Planning	Planned

Table 2: Incident Impact Metrics (Company manual, 2005)

As the main business challenge for the company is addressing challenges of the incident management process and the time taken to resolve the incidents, the list below shows the priority code in comparison to the target resolution times and description of the type of incident.

Numbers in the table correspond to incidents priorities as shown below:

- 1 = Urgent
- 2 = High
- 3 = Medium
- 4 & 5 = Low

Table 1 above pointed out the various types of business implications experienced when an incident occurs. This is an important step to clearly define what expectations are required of the IT teams supporting the occurrence of an incident before it occurs and its severity levels. However the impact area question as described in Table 3 below further explains the ‘where’-an incident occurs when defining the scope of an incident resolution.

Impact Area	
Organization	Entire Business organization, e.g. whole organization. An organization will have one or more locations.
Location	A site/campus where one or more buildings are located. Each building can host one or more departments.
Department	A group of users who have similar functions. E.g. Finance, HR, ICT and... etc.
One Individual	Incidents of single User regarding ICT Services can't be priority Level 1 or 2

Table 3: Impact Standard Classification (Company manual, 2005)

The breakdown of the connection between the type of incidents received, business impact, time taken to resolve an incident, the levels of escalation and knowledge database archiving are all captured in a monthly incident management report that show in figures all the incidents received, assigned, pending and resolved tickets with a resolution signed off by the service personnel and the users in the company. Figure 4 shows a sample report of the overall incidents received and recorded in the organizations BMC remedy console from the period of October - December 2016. A detailed report showing other variables can be later produced at the next stage in the reviewing steps.

Case Company Incidences sample Report.

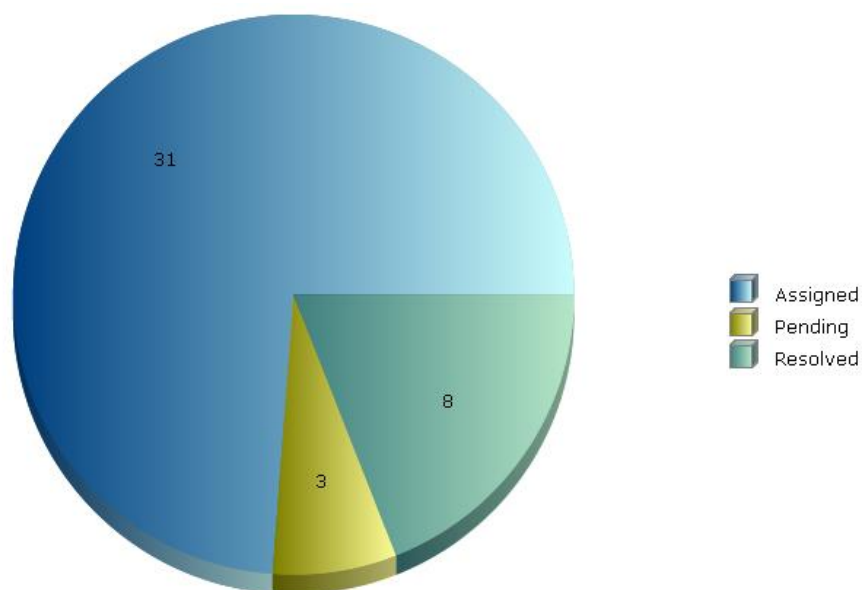


Figure 4: Remedy Incidents from Oct-Dec 2016 (Incidents Remedy Report, Dec 2016)

3 Research Process

This section overviews the data collection process and analysis that will formulate recommendations and conclusion. The phases to be used in the research are data collection, presentation of the data, description of results and interpretation of results.

The final outcome of this research will be areas to be addressed in the end user experiences in the overall incident management process with a view of understanding what are the users issues and how they could be further addressed.

3.1 Data collection and handling.

During the first three months September -November 2016 working as an intern in the organization the project writer got to know the working policies and departments of the organization and use of the reporting tools with a view of investigating where there were problems and loopholes needed to be addressed. During the beginning of the fifth month January 2017 the thesis writer had specified the research questions and scope of the project and a departmental user satisfactory survey together with collection methods conducted together with coordination of the IT service management team that resulted in valuable data to be used for evaluation in the project and results for further addressing.

3.2 Research Methods

The main method of research used was user interviews through phone calls, emails or face to face and a customer survey questionnaire conducted.

The first stage during the research process was to define the nature of the problem and determine the scope of how the research will be conducted. This involved meetings every week prior to the major survey rollout with the other team members from the remedy management group to discuss the progress of the research and update each other on area we were having difficulties or assistance needed. The writer achieved this by studying previous company surveys done on other customer satisfaction aspects, observation of the whole process and some form of interviews to the users to understand their main challenges in incident management process and what needed to be addressed from the user perspective. The purpose of this was to have define clear roles and responsibilities in the team in order not to overstep the scope of the research.

The second stage in the research involves deciding on the practicalities of the study. This stage together with the team from the remedy support team described the main targets which involved who the research the target group would be comprised of, what will be done during the research, when the research will take place and where the study will be done. The IT service support team which comprised of 2 members together with the writer were to conduct the main survey and present the data for analysis, some of the interviews were done through phone calls and face to face where the users were not available to answer the survey.

4 Description of survey

In this chapter of the thesis, the data collected using the method discussed in previous chapters will be discussed and analysed with recommendations thereafter from the given responses and recommendations received from the users.

To get an overall perspective of the research, based on the user's experiences and highlight the areas that the users felt need to be addressed for a better service delivery to the user, the questions were divided with a focus on the main areas that affect the time taken to report, resolve and close incidents.

To identify where in the problem resolution stage a lot of time is taken there was a breakdown of main factors that would directly affect a user in terms of receiving solutions of incidents. This breakdown into three categories was done in order to further get a users' perspective to specific areas that could be further developed at a later stage if needed, the first stage was to analyse the user experiences in the process.

4.1 The survey

The survey structure was a total of six questions divided in the main topic areas that users would have challenges, mainly, Incidents request Quality, Incidents request orientation and incidents request communication.

The first two questions looked through the general information regarding users tools required to easily report incidents and also answer weather they received a response to their requests. The respondents were given six choices to respond to this i.e. I strongly agree, I agree, I somewhat agree, I somewhat disagree, I disagree and I strongly disagree. The respondents were also given a free text box "How can incident request service be improved" (see Appendix 1) to be encourage the users give their views and give practical suggestions.

The next two questions dealt with user orientation to have an understanding on the training users receive when starting and also during the course of work e.g. after six months an update to the program is done, how does that affect users? also on where to get information related to their work and how incidents should be reported and followed up. The respondents were also give the same options are the first two questions and followed by a free text “How can incident resolution be improved.....” in order to have a good bank of proposals from the users themselves how they perceive things would be done better.

Questions about the incident request communication was important to give the user’s overall feedback as regards to the communication and information on the requests received and further requests for clarification from the users.

4.2 Analysis and Results

The data collected from the interview questionnaires was analysed using Excel and the final table also presented in the form of data table (see Appendix 5). The results will be further evaluated in the chapters below and according to the different areas of user experiences formulated from the experiences received and interviewers discussed.

4.2.1 Incident Request Quality

It is worth to note here that the survey did not specifically single out one software BMC Remedy because as was previously mentioned in earlier chapters, the users in the organization use different types of IT tools, but Remedy is the one for reporting incidents and problems. The team chose to make the question on a general tone so that the users may in fact not single out a specific area but give a holistic view of what they are experiencing when they need support.

According to the data received on the tools needed to adequately report incidents quality it was clear to note that respondents mostly agreed they have all the essentials required. Figure 5 shows the results 22 of the users answered agree they have the IT services they need to report any form of incident experienced. As regards to response on the incidents received about 26 users strongly agree their incidents are resolved promptly and on time It was also worth noting no one strongly disagrees on resolved incidents. The results show that a 74.24% favorable response is quite high and the users are somewhat satisfied with the incident management quality received when in need.

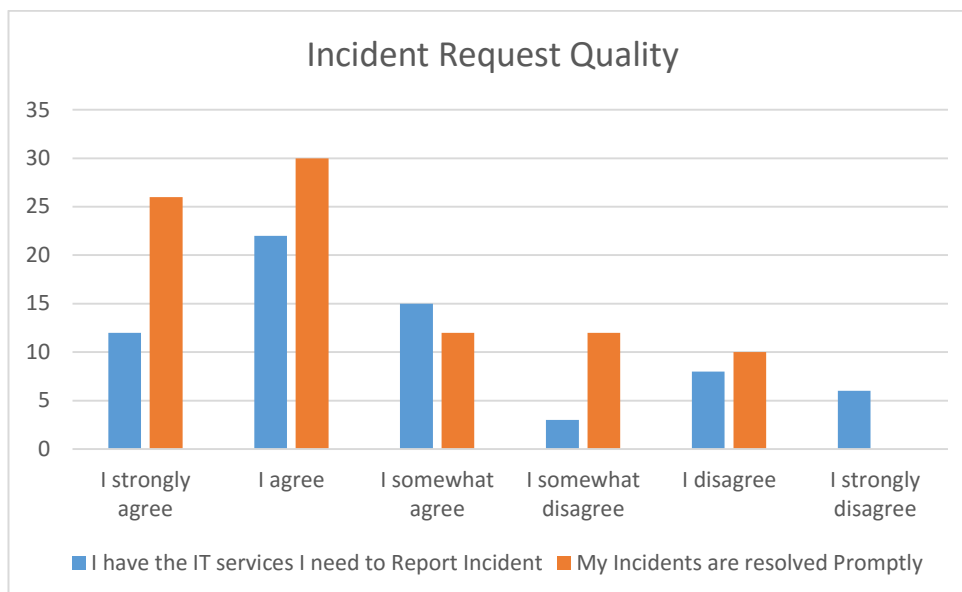


Figure 5:Chart Showing Incident Quality

4.2.2 Incident Request Orientation

This is a useful measure on the manner which incidents are handled by the service teams. The overall favourable percentage was also high compared to the other sections at 63.79% with 22 colleagues strongly agreeing they feel the IT service teams are committed to serve them the best way they could. Only 2 strongly disagree to this. However receiving adequate information when requests cannot be solved on time shows this needs to be improved with only 2 users agreeing to this.

Figure 5 below shows the data where there was a significant difference in those that have a strong opinion if they receive adequate explanation and information when on the status of the problem experienced. There was not a single employee who strongly agrees to this, hence the need for the department to find a balance between the two different responses.

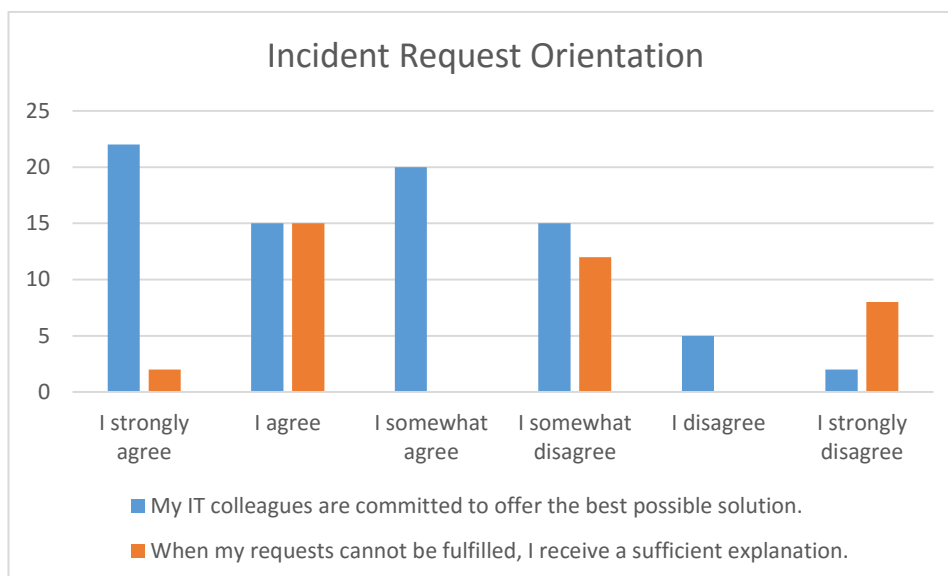


Figure 6: Chart Showing Incident request Orientation

4.2.3 Incident Request Communication

Figure 7 shows the flow of communication during the resolution process. The respondents giving the open-ended opinions shown in Appendix 2-4, show a good number of users are of the view the levels of communication could be improved further reducing time taken to resolve issues because the users are fully aware and are involved in the resolutions.

The graph below indicates that about 13 respondents strongly agree that the levels of communication from the ICT teams is good and with every incident reported this is clearly worked on and solved with good communication through the process. This gives the respondents confidence that they would be able to further be productive in their roles from the support received. There was a drop in the number of positive respondents who strong disagree totaling 5 respondents from the overall that they do not get status updates on the reported problems which could show some laxity in some IT colleagues on this.

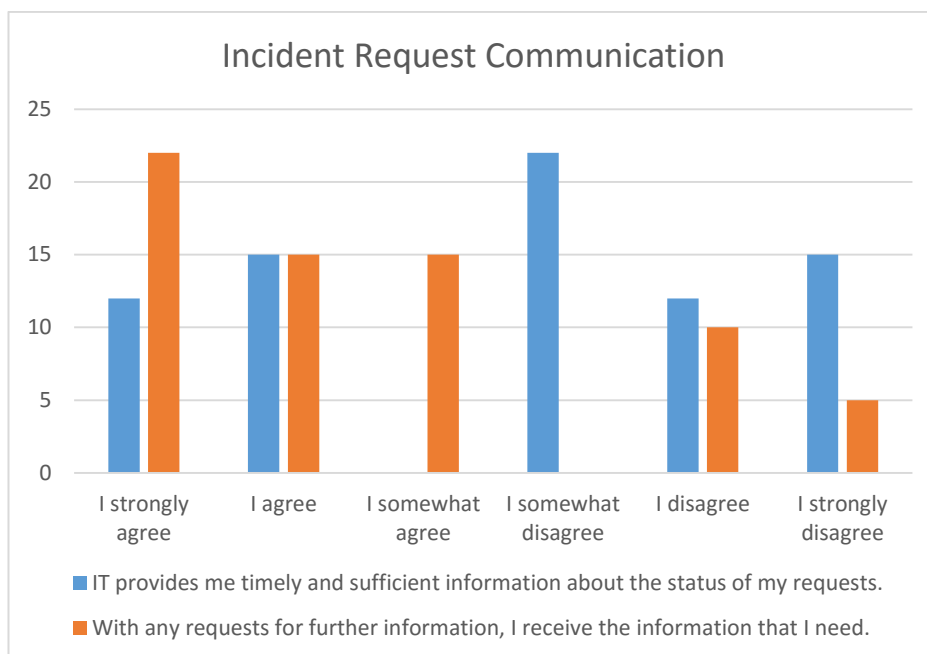


Figure 7: Chart Showing Incident Request Communication

5 User Feedback and Opinions

Generally time take to resolve issues rely on different factors in the whole process. User feedback and suggestions (see Appendix 2,3,4) is an important step to further address areas in process that would require to be changed however the scope of this thesis was to highlight user experiences for future improvements. In this section the summary of all the comments and proposal on given by the users will be given with the raw data and views available in the Appendixes. As mentioned in previous sections, the objective of this project was to analyse the user experiences and highlight areas affecting incident resolution that have been identified and outlined by users for further development and changes.

User suggestions on what in their view is affecting the time taken to resolve incident and the overall incident management, identification, escalation and resolution could be addressed to make a better system as a future goal of the organization.

A section of the questionnaire had a free open ended text section where the users would give their ideas and suggestions (see Appendix 1) on how the process can be further improved. The user's responses and ideas are presented in the Appendix 2, 3 and 4.

5.1 Incident request feedback

The purpose of this area of questionnaire was to have an overview of what the users' opinion on the use of reporting tools and other services available for incident reporting. For the Remedy programme, the results and opinions given perceive that the requester console in the incident management module tools is cumbersome and difficult to use. The use of remedy to file non conformities of issues largely contributed to a less favourable perception because of the fact that all the incidents have to be reported through the console for action to be taken thereby increasing the time taken to report and resolve incidents and resolutions given. The overall workaround suggested was to streamline all the services to one.

As seen in the attachment to this report several ideas for development were also given (see Appendix 2), e.g. a number of enhancements and a new platform be deployed with an easier to use console for reporting of incidents. Other enhancements given are the removal of the step that shows the actions under analysis shown in the portal.

5.2 Incident Orientation feedback.

User orientation to the workplace is an area that many departments do not take seriously. Users who are not properly trained will get problems during working and not know how to handle and report them. The purpose of this question was to ascertain whether the long waiting time experienced by users are a result of lack of adequate user orientation and training in the departments on process to identify, report and follow-up on problems.

Most of the responses given show a perception of the lack of adequate training on the use of for example remedy as a reporting tool (Appendix 3) with the enhancements making it more difficult to follow.

As a consequence the ideas proposed is to have several quarterly updated trainings on the user of the incident reporting tool especially to new colleagues in the department thereby increase the overall effectiveness of the whole process to both the users and support teams.

5.3 Incident Communication feedback.

In this part of questionnaire recipients were asked to give ideas and suggestion on the improvement of incident requests communication to the users. The purpose of this open ended

question was to establish whether IT teams give the users all the required information as regards tickets raised and the status of their tickets and where there are lapses in the whole process thereby making the time taken to resolve incidents longer than the required standards. Various feedback and comments given as reported in (Appendix 4) would be used to formulate a work plan to improve the overall communication to the users in relation to incidents raised.

The general perception of the time taken in the resolution of incidents range from the cumbersomeness of the Remedy program design being web based and not user friendly, the lack of adequate communication given on the status of incidents raised by users and hence most of the ideas to be addressed is to have regular training on how users and service teams communicate effectively and also use of the management tool of incidents.

6 Discussions and Conclusion

This section summarises the results of the study and also makes further proposal for further discussion on how they can be implemented in the current process at a later date.

A point to remember is that the main focus of the thesis was to evaluate and analyse what are the experiences the users have using the incident processes.

6.1 Summary of the study

Incident management is often the first IT service management (ITSM) process that an organization adopts and is crucial to the smooth flow of all the departments. The best ITSM organizations are the ones that recognize that improvements never finishes and are constantly changing and evolving (Rance, 2007).

The use of Remedy management suite in the case company the business users received IT solutions promptly, however with the growth of the company, more resources were required to support increasing user demands hence the situation of longer times taken to resolve the issues.

The study focused on the main reasons why there were problems related to long processing times and work backlog. The thesis accounts on the factors that affect incident management process to the quality of incidence response, orientation of the users and communication from the support teams and users. The theoretical study includes the review on best practices IT service management ITIL on incident management and how it has been implemented in the

company with positive and negative responses with areas that require to be addressed. The data was gathered from a survey conducted in the case company and the main users feedback received from the categorized areas that affect the users during the reporting of incidents.

The main challenges experienced by the users seem to stem from the IT service teams spending more time diagnosing the problem instead of resolving the incident. Proposals as seen in Appendixes 2,3,4 were made on how to address the area specific to the teams. User training, user manuals and constant development on how to use, change, update, check status of the incidents is also a major concern to the organization customers, user knowledge would enable self-service of the products and ensure many of the simple tasks are handled by the users themselves thereby reducing redundant tickets. Clear IT roles and responsibilities if addressed is another area that users feel they would benefit from. In the case of an incident happening the users do not have clear instructions on who to report to. This causes a user to send multiple requests for assistance since no feedback is received from the relevant teams if they have received an improper request and who it should be directed to. It is often said better to over communicate and give more than required feedback, this way the customers have an up to date and if possible real time information on the current situation and if more is required both from the support teams or the users, action taken accordingly.

The outcome of this study is the user perceptions on the three areas mentioned to be addressed further and the user's feedback ideas on what required for a better system of resolving incidents and focus in order to have a robust and streamlined incident management process. The main focus and overall target is for the support team to fully appreciate the importance of not focusing on the strict processes as addressed in ITIL when it comes to customer satisfaction, but to be able to make important decisions on the support of incident management that will overall make the users satisfied and in essence increase effective and an efficient organization.

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1. What is your level of agreement with the following statements?

Incident Request Quality

1. I have the services I need to report an Incident
2. My incidents are resolved promptly

[choices: I strongly agree, I agree, I somewhat agree, I somewhat disagree, I disagree, I strongly disagree]

In addition, a free text box “How can Incident Request Service be improved?”

Incident Request orientation

1. My IT colleagues aim to provide me the best possible solution available for my request
2. When my requests cannot be fulfilled, I receive a sufficient explanation

[choices: I strongly agree, I agree, I agree to some extent, I disagree to some extent, I disagree, I strongly disagree, not applicable]

In addition, a free text “How can Incident Resolution be improved”

Incident Request Communication

1. IT provides me timely and sufficient information about the status of my incidents.
2. With any requests for further information on my incidents I receive the information that I need.

[choices: I strongly agree, I agree, I agree to some extent, I disagree to some extent, I disagree, I strongly disagree, not applicable]

In addition, a free text “How can Communication on Incidents be improved?”

APPENDIX 2

INCIDENT REQUEST FEEDBACK

- Improve user-perceived performance, e.g. related to incident creation. Harmonize information management on request console.
- Provide the internal service units also the tools they need to request.
- Make available a clear inventory of the IT tools managed and what they can do, who is the product manager, etc.
- The service depends on the people the task is assigned to. It is not possible to generalise it. Some services (standard workplace, SharePoint) have a very good and fast service level, some others are rather slow. It should be clear to all what is the internal deadline to report and incident.
- The incident ticket requests and resolutions could be addressed faster.
- I find the IT requests tools not very efficient. Usually system is "not responding" in general, please make them work.
- Providing more training and raising the awareness by communicating in a more efficient way the scope and implications of how my requests are handled.
- The root cause for different problems of using IT tools to send a request should be investigated and solved.
- Sometimes I have missed the possibility to change the urgency/priority of tickets after they are sent. This criteria is not possible to change after.
- I need a consistently reliable incident request working console so I can work on other matters as I await my resolution.
- Well first of all I spend about 1 hour a day waiting for IT tools to make a service request. There should be a way of escalation in such cases.
- Remedy service team seems too keen on closing incident tickets without making sure that they have solved the issue completely.
- Please have Clearer and fewer services to be able report issues quickly.
- Too much time taken and emphasis on measuring how requests are solved - they are there to provide a service. This causes huge delays to us.

APPENDIX 3

INCIDENT ORIENTATION FEEDBACK

- Please have specialised training on customer care customer relationship the customer orientation is good way to show the reporting problems console.
- Develop user manuals for new tools on the reporting console more articles, posters, trainings and similar communication campaigns.
- IT should try to squeeze all the possible benefit from existing applications, and wide orientation and training to all the department users for on incident reporting.
- Having to use remedy for basic IT helpdesk questions is time consuming. Maybe the benefit is for statistics or that it is needed because now all of our IT services are outsourced but surely much more efficient if easy fixes could be dealt with via quick phone calls/emails.
- Same as above, the IT remedy console is a bit arcane and looks like it was made for IT geniuses but not real people. New colleagues are not able to use console.
- You get only help if you call the IT Helpdesk. I do not feel I receive help when I send an incident Remedy ticket especially as a new user.
- More and better communication to the staff - not only informing of the success but also information should flow on the problems and issues that the unit is facing whilst resolving incidents.
- The users should be asked more what they need and want instead of IT trying to invent it for them. Proper introduction to the system is needed.
- There should be enough staff in ICT. Dedicated roles for customer service and orientation of new users for easier access to solution or otherwise lowering the workload so that time can be dedicated to customer service.
- It does not really help when IT colleagues explain why something does not work but the underlying causes are never addressed. Please sort underlying problem.
- Make the Remedy dash-board available for all staff as a good start during training. I was never properly introduced to the system.
- To put a signs with phone numbers in copy rooms whom/which team to contact when I cannot use my remedy incident console.
- I feel that with some IT staff members it is impossible to speak the same language and since I am not an IT specialist I would appreciate if they could try to speak my "non IT language", some of the IT staff members I actually really good understanding even though if I do not know to use the correct terms or understand the logic behind the IT programmes.
- Improve overall IT strategy; quit focusing on new developments in areas where the cost is higher than the gain; Some IT colleagues (service support) are not customer-friendly.

APPENDIX 4

INCIDENT COMMUNICATION FEEDBACK

- When there is an unexpected incident, IT takes a long time to respond to an urgent request made or communicate what is happening.
- Sometimes incident tickets are left hanging (even after first contact) and there's no information on ticket at all, so makes one wonder if anyone is doing something about it. Communicate please!
- Multiple occasions when a ticket has been ignored or closed without actual resolution. If the request is unclear, please ask for clarification. If you cannot handle the request, please tell me so as soon as possible. We don't issue tickets for fun, we usually have external customer waiting. And once I received new phone that was more broken than the old one.
- In some cases the initial answer ICT was actually wrong. They said it could not be done though it was actually possible. Also, there were cases where I asked for information and got wrong information - with no indication that the received did not match what I had asked for. Check responses well!
- By introducing their name when picking up the phone.
- Even if sometimes the request cannot be fulfilled (e.g. because an application is not available, or policies prohibit specific features), the ICT Help Desk is informative and friendly
- Better communication. Cross-functional organization and project teams.
- I get a reply to my remedy request that we don't know at the moment how to fix your problem. And the ticket stays open until it is closed without any further explanation. Is there no way to escalate a problem to somebody who is a specialist e.g. in word and inform me about this?
- Usually IT colleagues call very quickly when a remedy ticket is introduced in the system and they explain things very well so it makes up for the confusing IT portal. (Maybe HR could be inspired by the practice!)
- More information on on-going remedy tickets and a knowledge bank for common problems are needed.
- As all the communication is web based there is no possibility to inform staff if the remedy ticket has been received - how about to work out alternative communication ways to ensure that the information flows quickly.
- Only related to hard core IT nerds: demonstrate more passion to communicate with humans, exit the voluntarily constructed silos and stop being depressed about things they cannot change in their IT lives at organization e.g. yes, things have been outsourced.
- When you make a request via remedy, the status shows "assigned", but that can be the situation for days, and you don't know if someone is actually working on the request or not. The problems are usually solved by making a follow-up phone call, but I would appreciate some kind of progress or status updates.

APPENDIX 5

SURVEY RESULTS

	I strongly agree	I agree	I somewhat agree	I somewhat disagree	I disagree	I strongly disagree	% Favourable
Incident Request Quality							
I have the IT services I need to Report Incident	12	22	15	3	8	6	74.24
My Incidents are resolved Promptly	26	30	12	12	10	0	75.56
Overall	38	52	27	15	18	6	75.00
Incident Request Orientation							
My IT colleagues are committed to offer the best possible solution.	22	15	20	15	5	2	72.15
When my requests cannot be fulfilled, I receive a sufficient explanation.	2	15		12		8	45.95
Overall	24	30	20	27	5	10	63.79
Incident Request Communication							
IT provides me timely and sufficient information about the status of my requests.	12	15		22	12	15	35.53
With any requests for further information, I receive the information that I need.	22	15	15		10	5	77.61
Overall	34	30	15	22	22	20	55.24