



## **Utilizing Jira automation tools as a part of value chain in incident management**

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## Abstract

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<b>Report/thesis title</b> Utilizing Jira automation tools as a part of value chain in incident management
<b>Number of pages and appendix pages</b> 45 + 6
<p>This thesis is written to analyse, how well Jira automations are utilized in Company X's second line technical support teams' daily work as a part of value chain in incident management. The thesis starts by analysing, how well Jira automations are utilized currently in the second line technical support teams' Kanban-projects.</p> <p>A survey of the utilization of the automations was conducted to team members of the second line technical support team to gather information in their point of view of the current state of utilizing Jira automations. In addition to the background information survey, the team members were interviewed to get a more in-depth idea of how well the current automations are utilized according to the team members.</p> <p>In addition to analysing the current automations and their utilization, some new automations were implemented to make the second line technical support teams' work more efficient and to improve the value of the team as a part of value chain in incident management. Analysis of the automations and implementation of new ones was also made as a comparison and analysis based on literature review of different case studies made on best practices of service desk implementations.</p>
<b>Keywords</b> Jira, automation, incident management, value chain

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# 1 Introduction

This master's thesis is a research, in which the focus is on how Jira automation tools could be utilized as part of a value chain in incident management. The objective of this thesis is to evaluate and reshape the current processes and automations as well as create new ones that could be utilized in the future as a part of incident management.

The topic of this thesis has been chosen because the current working ways regarding incident management in Company X need to be evaluated and improved if necessary. In this thesis, the current processes are evaluated, and research is conducted on how well the processes work as a part of value chain in incident management. Modification of the current Jira automations, as well as creation of new ways of working and utilizing Jira automations is implemented.

This thesis is commissioned by a company, referred as Company X, which provides HR and payroll related software solutions. The specific business unit that relates to this thesis is the Services unit, which provides for example customer service to the end users in different organisations. The end users of different organisations are referred as customers. The author of this thesis is occupied in the second line technical support team in Company X. The second line technical support team works as a part of the current incident management. The research objective of this thesis focuses on the second line technical support teams' daily work. The team members, as well as the company's Jira administrator, participated in the background information gathering and interviews used to gather data for this thesis.

The objective of the thesis is to evaluate the current working methods as well as how Jira automation is utilized, if it is utilized at all and how it could be utilized more in the future. This thesis introduces different ways of how Jira automations could be utilized and how they are currently utilized in other companies and how Company X could benefit from the best practices of other companies.

The evaluation of the current automations is done based on how much efficiency the automations bring to the daily work of the second line technical support team. Efficiency can be evaluated for example based on how much time is saved if the processes are automated instead of done manually. Another evaluation criteria is how much additional time the second line technical support team members have for the investigation and resolving customers service requests when the processes are done by automation.

As a result of this thesis, the Company X's current ways of Jira utilization are improved and new automations are introduced. Evaluation on how improving and implementing new automations increased the second line technical support teams' value as a part of value chain in incident management is done. This thesis also introduces future suggestions for Company X on how to improve the value of the second line technical support team as a part of value chain in incident management.

This thesis briefly introduces the ITIL framework and only from the point of view of value chain. The value chain is observed from the point of view of Service organisation, specifically customer service. Jira automation tools are introduced but any larger scale of research wasn't conducted for example in the way of comparing Jira to another service request system. This thesis focuses only on improving the current second line technical support teams' working methods. Jira automation utilization in first line support team's daily work is not covered.

## 2 Research questions and framework

There are two main research questions that this thesis answers. The questions are:

1. How is Jira automation currently utilized in second line technical support team's work?
2. What are the ways in which Jira automation could be utilized to add more value as part of value chain in incident management?

As the main objective of this thesis is to evaluate and improve the current working methods and Jira automation utilization, the research questions are answered by showing concrete changes in the current ways of working with Jira. Additional suggestions of future implementation of automations are also introduced.

### 2.1 Theoretical framework

The key terms that are introduced in the thesis are Jira, value chain and incident management. The thesis focuses around these three key terms. ITIL as a framework is also introduced briefly.

As Jira is Atlassian's commercial software product provided for companies, it is important to introduce and specify, how Jira is currently utilized in the second line technical support team of Company X. Introduction of this includes screenshots taken from the current project as well as explanation of what kind of automation and data the Company X is currently receiving and seeing in Jira.

Value chain and incident management are both concepts that are linked to ITIL. Thus, it is important to define on a high level what these concepts are and how they are currently visible in the second line technical support teams' daily work. This thesis explains briefly ITIL, value chain and its meaning in ITIL framework. Definition of incident management as well as evaluation on, what it means from the point of view of this thesis and its target organisation, Company X are done.

Another focus in the thesis is to conduct research on what works and doesn't work in the current incident management and what are the best practices of other companies within the incident management framework. The case studies are introduced and compared more in the chapter 4.3. Case studies conducted by for example, Ferreira & Da Silva (2008) and Palilingan & Batmetan (2018) are introduced. A case study conducted by Jäntti et al. (2012) on how to improve service desk system and processes is also introduced in the chapter 4.3. The case studies are used in comparing

the research results of the current ways of automation utilization in the company X's second line technical support team.

This thesis is roughly divided into four different stages. First the key terms and frameworks, as well as the objective of the thesis, are introduced and explained. After that the data which has been gathered for this thesis, is analysed. The literature review on what are the current best practices in other companies based on the case studies is conducted and the best practices are reflected on the current ways of working in the second line technical support team of Company X.

After the literature review and current state analysis, this thesis introduces implementation of concrete improvements and new methods into the second line technical support teams' work as a part of value chain in incident management. At the end of this thesis there is a conclusion chapter that summarises what has been done and learnt during the process. The last two chapters of this thesis include suggestions of new automation implementations that were impossible to implement in this thesis process but would be beneficial to be implemented in the future.



### **3 Research and development methods**

#### **3.1 Research approach**

This thesis is written as constructive research. As the objective of this thesis is to evaluate, modify and create new working methods and Jira automations, constructive research was chosen to be the research approach. According to Crnkovic (2010), constructive research aims to create a new solution to an existing problem. Crnkovic also emphasizes how constructive research has both practical and theoretical relevance. The focus of this thesis is on whether Jira automation is utilized as well as it could be. As a result, this thesis introduces and proposes new methods and ways of working as well as how the current methods and ways of working could be improved. Case studies and literature review are utilized to bring academic reference on whether the current ways are effective and done according to best practices or not.

#### **3.2 Research objective**

The objective of this thesis is to evaluate and add value to the second line technical support teams' daily work. The value, which is aimed to be added, can be evaluated by analysing the current ways of how Jira automations are utilized in the current second line technical team Jira Kanban-projects. The value, which is aimed to be added during this thesis, can be measured by identifying such daily procedures, which are currently made manually and changing them into automations. By changing the previous manual procedures into automations, the team members will have more time for the daily work, such as investigating customer problems. Having more time to resolve customer service requests will also bring more value to the customer since the response time to investigating and solving customer service requests will improve. Increase in automation has also a direct reductive impact on service request lead-times.

#### **3.3 Methods of data collection**

For the data collection to this thesis, a background survey, interviews, and workshops are utilized. A survey was conducted to determine how the second line technical support team currently feels about the utilization of Jira automation tools in their Kanban-projects. Interviews were done to gather information about how well the current working methods and Jira utilization are working according to the second line technical support team members. The interviews were done as constructed interviews to gather the most relevant information regarding on what is currently working

and what is not. The interviews were implemented using Microsoft Teams and they were recorded. The participants in the interviews were members of the second line technical support team. Workshops were conducted with an employee working as Jira administrator in Company X.

Choosing structured interviews over semi structured interviews gave a much more detailed data regarding the thesis objective. By giving the interview a clear content, the gathered data focused only on what is currently working well and what are the possible future needs of the team to increase the value of the team in being a part of value chain in incident management.

Workshops were held together with company X's Jira administrator. The workshops included mapping out the current state and finding the possible ways how the current Jira automation of second line technical support teams' Kanban-projects could be utilized more. The workshops were facilitated by the author of this thesis and documentation of the content of the workshop was implemented in the form of meeting notes. The meeting notes included the workshop agenda, what was decided in the workshops and what will be the next steps in the implementation process of possible new Jira automations.

### **3.4 Analysing the results**

As the data was gathered from only a small group of people, the data is qualitative over quantitative. It was important that the anonymity of the interviews is not compromised. Analysing the survey results as well as the interviews gave insight on what is working and what is not as well as what is currently being utilized and what would be necessary to be utilized in the future according to the current second line technical support team. The analysis of the results was also done in the point of view of the supervisor of the team.

## **4 Literature overview and terminology definition**

In this chapter the key terminology of this thesis is explained. The three most important concepts are Jira, value chain and incident management. The concept of ITIL is also briefly introduced. Different literature is utilized to explain these key concepts. Lastly an overview of few case studies is conducted to find the best practices of incident management that have already been implemented in other organisations.

### **4.1 Jira and Kanban-projects**

In this chapter the key terms Jira and Kanban-project are explained.

#### **4.1.1 What is Jira?**

Research conducted by Harcenko et al. (2010) implies that one of the compliances of the chosen service desk software tool paired together with the requirements of the company are important factors in choosing the right service desk software provider. Jira is an Atlassian tool which can be used for example to track a certain project's requests' lifecycle. According to the State of Agile (2021) report Jira was the number one software tool recommended by agile teams. Based on the report, Atlassian's Jira can be considered as a trustworthy and well-functioning service desk ticketing system.

In Company X, the second line technical support team uses Kanban-project template to handle the service requests that are assigned to the team. Atlassian provides also other templates, which are used in different teams within Company X. Currently Kanban-project is chosen to be the template used in the second line technical support team since it helps to visualise the amount of work that is waiting to be processed as well as gives information of the urgency and about the different statuses that a specific service request can have.

#### **4.1.2 What is a Kanban-project?**

According to Klipp (2014), Kanban is a way of managing the flow of materials, information etc. in a process. Kanban is a tool with what you can learn and use to manage an optimal flow of work of a certain process. In this thesis Kanban-projects are Jira projects that the second line technical

support team uses to handle the service requests that are assigned to the team. The current Kanban-projects have five different statuses that individual service requests can have.

Another rule which Klipp (2014) introduces when using Kanban, is limiting the work in process. In the second line technical support teams' daily work this means having the status of a service request under investigation being in In progress-status. This status means that the investigation is ongoing, and working time is being put into the service request.

The last rule Klipp introduces is measuring and improving the flow. Measuring the flow can already be done in the current second line technical support teams' Kanban-projects and the aim of this thesis is to improve the flow by utilizing the Jira automations more.

There are four different Kanban-projects which are currently used in the second line technical support team. The four Kanban-projects are divided between products (public and private sector) as well as client and web-based products. The five statuses that are used in the projects are Backlog, In progress, Waiting for user support, Waiting internal and Done. An example of different statuses on a Kanban-project can be seen in Figure 1.

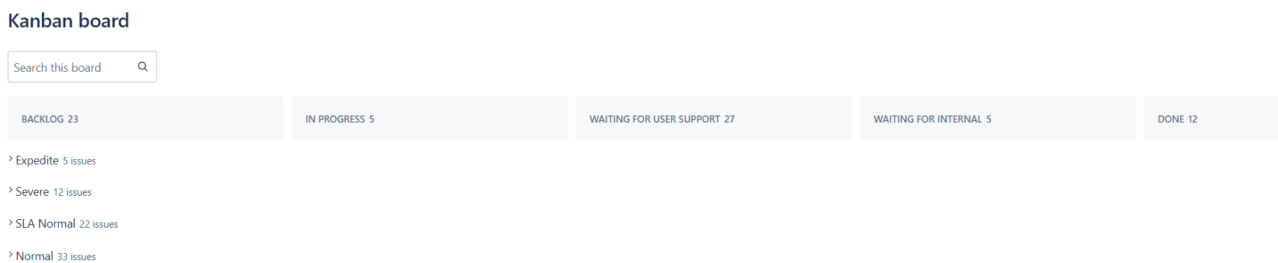


Figure 1. Example of different workflows and statuses on a Kanban-project

Backlog-status means that the service request is waiting to be taken under investigation. In progress-status means that investigation of that service request is ongoing. Waiting for user support-status means that there is a resolution to the problem of the customer or extra information is needed from the customer. If the service request is in this status, the first line support team handles the communication to the customer. Waiting internal-status means, that the service request is waiting for information from an internal stakeholder. Done-status means that the service request is resolved and customer has been informed of the resolution or the customer hasn't responded in the extra information inquiries and the service request has been closed without a concrete result.

### 4.1.3 What are automations?

According to McCallum (2023), automations are non-coded features that can be utilized to make different kind of procedures automatic. An automation is meant to be a cost- and time-effective way to do daily work. In this thesis, the automations, which can be implemented in Jira, are analysed. The purpose of the automations is to change something previously manually made into automatically done to save time from the second line technical support team members. In addition, automations aim to minimize the risk of manual errors. Saving time and making the work more efficient will increase the value of the second line technical support team since the customers will benefit from the time saved.

According to McCallum (2023), automation rules in Jira can be triggers, conditions and/or actions. Triggers activate the automation rule. For example, a trigger can be a component which is added to a service request. Once the component is added, the trigger is activated, and a procedure connected to the trigger will activate.

Conditions are such measures which refine the automation rules. A condition can for example be identifying a certain field and matching it with the condition. If the field matches, the condition is activated and will continue to stay activated until the condition is no longer matched.

An action is something that will happen when the automation rule is activated. An action might be for example automatically sending an email to the stakeholders linked into the service request after a certain time or when certain changes are made to the service request. An example of an action based automation rule can be seen in Figure 2.

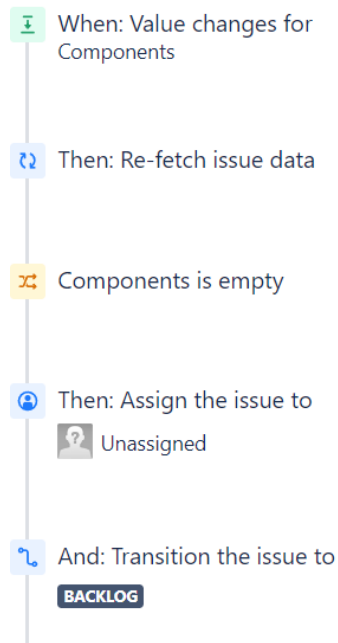


Figure 2. Example of an action based automation rule

In the Kanban-projects of the second line technical support team, conditions and actions are currently utilized. A link between the main service requests and the second line technical support teams' service request is created and for example the comments submitted to the main service request are cloned to the second line technical support teams' service request. The current automations are introduced more in chapter 6.

## **4.2 ITIL, value chain and incident management**

### **4.2.1 What is ITIL?**

ITIL stands short for The Information Technology Infrastructure Library. According to White & Garnier (2022) it is a framework for IT service management which outlines the best practices for delivering IT services. ITIL can be used in a company to achieve delivering the best customer service to the customers and clients by identifying the opportunities and modifying the processes until they are implemented according to best practices. According to White & Garnier the main aim of ITIL was to gather the best practices and give tools how to bring extra value utilizing them in companies.

Wegmann et al. (2008) point out that having service level agreements, SLA's, give specification of the responsibilities of different parties. In ITIL this means that the service provider, in this thesis' case Company X, must be able to provide service according to the agreed SLA. In the Company X's case, different customers have different kind of SLA's. For example, the SLA might state a certain first response time. This means that the first line support team needs to be able to give a first response to the customers service request within a certain time window. In the second line technical support teams' daily work, SLA's are visible in the order in which the service requests are handled by the team.

This thesis focuses on the best practices of the daily work of Company X's second line technical support team. As ITIL is not widely implemented in Company X, the focus of this thesis is to improve the current processes and identify such opportunities that can bring extra value to the second line technical support teams' daily work by utilizing Jira automation tools. As the second line technical support team is responsible of handling service request that occur because of incident management, it is important that the processes are implemented utilizing the best practices available.

### **4.2.2 What is value chain?**

In ITIL framework there are different service value streams, which together create a value chain. According to Perez (2022), the scope of service value chain is to run, grow and transform the business. Service value chain consists of different kind of value streams that together bring value into the service value chain. According to Schmidt (2020), different kind of actions which can be implemented in service value chain are for example plan, improve and deliver and support. This thesis

focuses on these three actions in the point of view of the second line technical support team being a part of one value stream in value chain.

Tapping & Shuker (2003) describe value streams as being like a flowing river. The river has no sharp ends, and it flows at its own phase. The aim of the second line technical support teams' work is to be as a flowing river: processes are smooth and effortless. This can be achieved by for example having well-functioning automations and self-initiated team members. In the point of view of the customer, well-functioning value stream and therefore value chain is a function, which works effortlessly and can respond to customer needs without unnecessary delay. In the point of view of this thesis, the customer support and therefore the second line technical support team is a value stream which is meant to be well-functioning.

In Company X, service value stream and value chain in the Services organisation starts when the customer contacts the service desk. The first line support team creates the first value stream: how and what kind of customer service does the customer get from the customer service. Customer value can be accumulated for example by keeping the first response time as short as possible and handling the request as efficiently as possible.

After the contact in the first line support team, the next value stream can be the second line technical support team or other teams in the Company X's organisation. How the second line technical support team succeeds in bringing value as part of a value stream in the service value chain, depends on how efficiently the service requests get resolved by the second line technical support team. First response, handling time and how the problem is resolved can be used as measures of how well the customer feels they are getting value for their time and efforts using Company X's products.

According to Cengiz (2010) customer satisfaction can be measured by the experience which the customer gets when contacting the organisation as well as what kind of personal benefit the customer gets from the interaction with the organisation. Cengiz also emphasises the expectations of the customer to be a factor in the customer satisfaction. Companies need to be able to respond to those expectations to keep the customers satisfied.

In Company X's point of view this means providing such customer service and products that are expected by the customers. This for example means high quality products and customer service. The satisfaction measurement in Company X is done by utilizing NPS (Net Promoter Score) and comparing it to scores of other IT companies. Comparing the results from previous timespan also gives insight on when the scores have started to change and what kind of changes have been made during those time periods.



### 4.2.3 What is incident management?

According to Gillis (2023) incident management is a part of IT service management (ITSM) and the aim of incident management is to restore the services back to normal as soon as possible. A good response from incident management ensures that the negative impact of a disturbance stays as little as possible for the customer and the business.

In the scope of this thesis, incident management is the process in which the customer must create a service request to the service desk. The reason for creating the service request is that the customer cannot solve their problem by themselves or by using the knowledge base that is provided by Company X.

If the first line support team cannot solve the service request by themselves, they forward it to for example to the second line technical support team. This is when the incident management process starts in the second line technical support team. A part of incident management according to Gillis (2023) is to identify the severity of the incident, create work arounds for the situation until the incident is solved and document the incident for future purposes. The documentation of the second line technical support team is done in the service request system Jira. Customers are given the reason, why the incident has occurred, ways to fix it or if the problem is caused by a software error, a workaround is given, if possible.

Palilingan & Batmetan (2018) suggest that incident management should have documented activity details to be able to follow more easily how the status of a certain incident is evolving. In the second line technical support team, the current processes are documented using internal comments and by changing the status of the service request. Palilingan & Batmetan also suggest having an own incident process if an incident can be categorized as a major incident. In the second line technical support teams' daily work this means escalating the incident to the technical support owner who then escalates it further within the organisation if necessary. Palilingan & Batmetan also emphasize the importance of documenting the incidents for future purposes. In addition to internal documentation implemented within in Jira tickets, software error articles are written by the team and published for customers in the knowledge base. From these articles, customers can get additional information about the error workarounds and schedule estimates regarding the upcoming fix versions. An example of software error article can be seen in Figure 3.

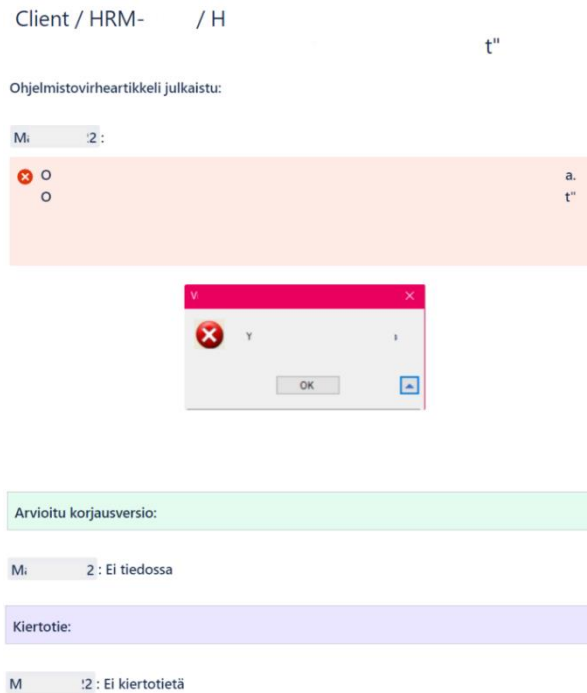


Figure 3. An example of software error article

### 4.3 Case studies of ITIL best practices in service desks and utilizing them in Company X

A case study of how well a certain service desk is functioning was conducted by Jäntti et al. (2012). The case study identified some missing key features that help in making a service desk a well-functioning unit. Jäntti et al. listed some major pinpoints, such as know your resources and forecast the problems beforehand, that help a company make their service desk a well-functioning unit. Utilizing the ITIL methodology also helps if it can be implemented throughout the service desk unit.

ITSM (IT service management) training throughout the different stakeholders was also found to be important in for example helping with the resistance to changes. According to the case study conducted by Jäntti et al., the resistance to change will decrease when the employees understand what the reasons behind changes are. If something is done in a certain way for years, some employees might find the changes difficult and unnecessary until they are properly explained and seen as an asset instead of for example making the work more difficult.

Another thing that Jäntti et al. (2012) discovered in the case study, was that there is room for renewing the incident prioritising and categorisation as well. This is something that could also be utilized in the second line technical support team's work. Customers have been instructed about

defining priority of service requests. Despite of this, customers still use wrong priority, usually too high priority. If the first line support team is not observant, the service request might also come with a wrong priority to the second line technical support team. By making sure that the customers and the first line support team are on the same page regarding what are critical service requests, the wrongly made escalations can decrease. If the priority is correct in the first place, balancing the workload and making sure that the service requests are handled in the right order will be easier.

Jääntti et al. (2012) pointed out based on their case study the importance of identifying the source of the problem. This is important with the second line technical support teams' work as well so that the service request will go to the right Kanban-project. Yet again making sure that the problem is identified properly, the handling of the service request will be more efficient, and priority of handling the service requests will stay correct.

Jääntti et al. also noted in their case study, that categorizing the service requests together based on the main reason of the problem would also be beneficial to the service desk and make their work more efficient. This is something that could also be considered in the second line technical support team's workflow. If the service requests would have different categories, in addition to whether the problem occurs in client or web version of the product, it could help in making the working more efficient. Investigating same category service request at the same time could save time as the investigation is already ongoing on the certain functionality of the problem. An example category could for example be personal data forms.

Another case study, which can be utilized in analysing Company X's second line technical support teams' current Kanban-projects, was conducted by Ferreira & da Silva (2008). In their case study they made similar findings with Jääntti et al. (2012). Identifying similar requests and categorising them into the same category made the work more efficient. Incident management was done more swiftly when the categories of the requests were correct, and the severity was identified correctly as well.

A point of view which came up in the case study of Ferreira & da Silva (2008) was the workflow and how it is reflected based on ITIL. This is something that should also be considered in the second line technical support teams' work. The current workflow hasn't been changed since the creation of the current second line technical support team. The current workflow is usable, but it has its flaws. By analysing and improving the workflow, the work could be more efficient. Automation could for example be utilized when changing the statuses of the service requests or with time tracking of the requests.

As an example of place for improvement, the service requests are currently in In progress-status even though the second line technical support team member might be waiting for the customer's own IT-personnel to solve a problem with a remote connection. This gives a false picture of the status of the service request since it is not really in progress in the second line technical support team. A new workflow status for this could be for example on hold. The same status could be utilized for example if there is some other major external blockade which prevents the investigation of the service request.

Based on the case study of Ferreira & da Silva (2008) additional information of the lifecycle of the service request handling could be beneficial in the current second line technical support team Kanban-projects. Documented and measurable information about the different stages of the service requests could be utilized when analysing specific service requests. Some data, which could be collected, could be for example missing information in the first contact, delay in the response from the customer and delay in forwarding the response from the second line technical support team by first line support team. This sort of extra information could give more specific information of the lifecycle of a specific service request and therefore help the second line technical support team become more efficient and valuable.

Knowledge base and knowledge distribution is also something that both Jäntti et al. (2012) and Ferreira & da Silva (2008) pointed out, based on their case studies, to be important in improving service desk services. This is something that Dostál & Skrbek (2021) also emphasize in their case study. Knowledge base building and knowledge distribution can also be automatized and it is something that is currently utilized in the Company X's customer portal and first line support team's work. Customers are given knowledge base article suggestions when service requests are created. Similar suggestions are also given to the first line support team when they start investigating the customer made service requests.

Since distributing knowledge and keeping a knowledge base decreases the risk of tacit information, the current knowledge base could be utilized more by the second line technical support team. The documentation of the knowledge can be done to the service requests but to the knowledge base as well. When documenting information to the knowledge base, it can be accessed by the customer as well. This kind of documentation is already done by creating software error articles for the customers, but resolution of different kind of problems in the service request could be also taken into consideration.

Arora & Bandora (2006) have conducted a case study for a company for improving their IT service desk. The findings and suggestions are congruent with the findings of Jäntti et al. (2012), Ferreira

& da Silva (2008) and Dostál & Skrbek (2021). Arora & Bandora suggested improving a knowledge base in their suggestions to improving the case company's service desk. A knowledge base can help the customer in solving the issue by themselves, so no incident is created to the service desk. This is something that is currently being utilized in Company X's service desk.

In addition to knowledge base, Arora & Bandora (2006) suggested that the customer self-service reporting system must benefit the customer. What this means is that the customer needs to be able to create the incident requests themselves to make the process effective. In Company X, the customers can create the service requests themselves if they are qualified to access the service portal. This restricts the creation of the service requests from the point of view of the customer. However, there are no similar restrictions, as the customers have, on who can create a new service request to the second line technical support team inside Company X. Despite this, there are some limitations to the process since a separate process flow has been made on the service request handling in second line technical support team.

## **5 Background information of currently used Jira automations and evaluation of results**

### **5.1 Survey of the current situation in technical support Jira Kanban-projects**

Gathering background information about the current utilization of Jira automation tools began by collecting data from the second line technical support team. A survey was conducted and distributed to the team. The survey was created using Microsoft Forms-application. The survey was answered anonymously so that nobody could be identified from the answers. A link to the survey was distributed to the team members on the 16<sup>th</sup> of April and answers were received until 21<sup>st</sup> of April.

The survey was decided to be distributed to get background information to the thesis from the current second line technical support team members. The current automations could be evaluated from the point of view of the team, the technical support owner (author of this thesis), as well as from the point of view of the best practices gathered from the case studies. The results are evaluated from the point of view of the current second line technical support team. As the objective of this thesis is to analyse and improve the automations utilized in the current second line technical support team, the point of view of the current team is beneficial to take into consideration.

In the survey, the team members were asked about the satisfaction rate of the current working ways and if they do recognize any automation's that are currently used in the projects. There was also a possibility to leave open comments and requests of what kind of automation's could be utilized in the future. The survey can be found in appendix 1. In this chapter the results of the survey are introduced and analysed.

The team members were asked about their satisfaction of the current Jira Kanban-projects. Satisfaction was measured in the scale of one (1) to five (5), one being not at all satisfied and five being very satisfied. As seen in Figure 4. the average of satisfaction was 3,6. The most common answer was 4 but some answers of 3 were also submitted. Overall based on the submitted answers the team is satisfied with the current projects but clearly there is some room for improvement.

1. Asteikolla 1-5 (1: hyvin tyytymätön, 5: hyvin tyytyväinen), kuinka tyytyväinen olet nykyisiin teknisen tuen Kanban-projekteihin?

On the scale of 1 to 5 (1: very unsatisfied, 5: very satisfied), how satisfied are you of the current technical support Kanban-projects?

[More Details](#)

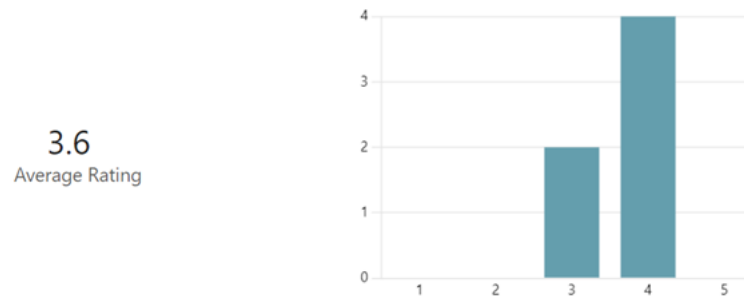


Figure 4. The satisfaction rate of current Kanban-projects

The next questions of the survey were asked to gather background information of how well the team is aware of the current Jira automations that are used in the current Kanban-projects. As seen in Figure 5. majority of the team recognized automations being used in the current Kanban-projects. The follow up question was based on the answer of the question number 2. If the submitted answer was yes, answering to what kind of automations do you recognise was mandatory. If the answer was no, passing the question of why you answered no was possible.

2. Tunnistatko Jira automaatioita, joita nykyisillä teknisen tuen Kanban-projekteilla käytetään?

Do you recognize the Jira automation's that are used in the current technical support Kanban-projects?

[More Details](#)

● Kyllä/Yes	5
● En/No	1

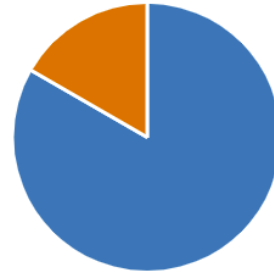


Figure 5. Recognition of currently used Jira automations



The recognised Jira automations were following:

1. Changes of status in the service requests based on the linked service requests
2. Comments being transferred automatically between the different linked service requests
3. Linking the software error ticket number between the service request and R&D ticket
4. Different colour changes when a component is used
5. Automation when a service request is closed

Based on these five answers the team has a good knowledge of the current automations that are used in the projects. The one respondent, who answered no, gave an open answer stating that they are not sure what is meant by the Jira automations or what kind of automations are currently used.

Question number 5 was about whether the automations bring extra value or extra efficiency to the daily work. As seen in Figure 6., five respondents answered yes but one answered no. If the answer was no or I do not know to this question, the next question asked for elaboration to the answer. The respondent, who answered I do not know, elaborated the answer by stating that they were not sure what was meant with automation and that they don't have clear knowledge of how the current automations work.

5. Koetko, että automaatiot ovat tuoneet lisäarvoa/lisätehokkuutta työskentelyysi?

Do you feel that the automation has brought extra value/extra efficiency to your work?

[More Details](#)

<span style="color: blue;">●</span> Kyllä/Yes	5
<span style="color: orange;">●</span> Ei/No	0
<span style="color: green;">●</span> En ole varma/I am not sure	1

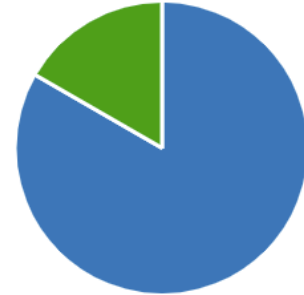


Figure 6. Measuring the extra value and extra efficiency of current automations to daily work

The next question asked whether the respondents felt that Jira automations were utilized enough in the current projects. As seen in Figure 7., two respondents answered yes, and four respondents answered I do not know. If the answer was no or I do not know, the next question asked to elaborate the previous answer. All the four respondents gave open answers to the question. Three respondents elaborated that their knowledge of the automations is not sufficient to be able to answer whether automations are utilized enough. Two respondents also answered that there is always room for improvement and if the automations bring extra value to the current work, they are worth it.

7. Hyödynnetäänkö mielestäsi Jira automaatioita tarpeeksi nykyisissä teknisen tuen projekteissa?

Are Jira automation's utilized enough in the current technical support projects?

[More Details](#)

<span style="color: blue;">●</span> Kyllä/Yes	2
<span style="color: orange;">●</span> Ei/No	0
<span style="color: green;">●</span> En ole varma/I am not sure	4



Figure 7. Utilization of Jira automations in the current projects

The last two questions were open comment questions. First was about what kind of automations the respondents would want to see used in the future. Most of the answers stated that it is difficult to ask or wish for automations when there is not enough knowledge about them. Based on the answers, the team would like to know more about the possibilities that we have regarding on Jira automations. It was also stated in the answers that such automations that bring extra value and efficiency are very welcome.

One respondent stated that there is no need for automations just for the sake of automations. The automations that are used and will be used need to have and bring value to the daily work. One respondent played with the idea of what sort of value would ChatGPT bring if utilized with Jira automations, for example searching for Jira service requests.

The last question was about giving free feedback on the currently used Jira Kanban-projects in technical support. Three answers were submitted to this section. One respondent asked for a walk through in a very basic level on the currently used Jira automations as well as the automations that could be utilized in the current technical support Jira Kanban-projects.

One respondent stated that instead of using the current Kanban-boards, they are using a specific dashboard-view to keep track on all the service requests, since using a dashboard is much easier for them. One respondent answered that Jira automations should be utilized especially if they help

bringing in extra value and efficiency, such as minimizing user related mistakes that cause loss of efficient working time.

Based on the survey, the technical support team is satisfied with the current Jira Kanban-projects but clearly there is room for improvement. Jira automations could be utilized to bring extra value and efficiency to the daily work by for example by bringing an automated closing automation so that resolved service request do not stay open unnecessarily.

## 5.2 Evaluation of results

Figure 8. visualises the different answers from the respondents of the survey. The focus in this evaluation is whether the respondents recognise different automations and if they feel that they are utilized enough in the current Kanban-projects as well as how satisfied the respondents are in the current Kanban-projects.

A	B	C	D	E
ID	Asteikolla 1-5 (1: hyvä)	Tunnistatko Jira automaatioita	Koetko, että automaatioita hyödynnetään	Hyödynnetäänkö mielestäsi
2	4	Kyllä/Yes	Kyllä/Yes	En ole varma/I am not sure
3	3	Kyllä/Yes	Kyllä/Yes	En ole varma/I am not sure
4	3	Kyllä/Yes	Kyllä/Yes	En ole varma/I am not sure
5	4	En/No	En ole varma/I am not sure	En ole varma/I am not sure
6	4	Kyllä/Yes	Kyllä/Yes	Kyllä/Yes
7	4	Kyllä/Yes	Kyllä/Yes	Kyllä/Yes

Figure 8. Evaluation of survey results

The data in Figure 8. can be analysed as following:

6. Column A: The ID of the respondent
7. Column B: On the scale of one (1) to five (5), how satisfied are you on the current Kanban-projects
8. Column C: Do you recognize the current Jira automations that are utilized
9. Column D: Do you feel that the automations bring extra value or efficiency into your work
10. Column E: Are automations utilized enough currently

As can be seen in Figure 8., the overall satisfaction is good. Four out of six responders felt that the satisfaction rate of the current projects is at four.

However, as can be seen in Figure 9., one of the respondents, who answered the satisfaction rate to be four, answered that they do not recognise automations and are not sure whether the automations bring extra value or efficiency in the work or not. What can be analysed from this is that the respondent is satisfied with the current working methods in the Kanban-project, but they require more information about the current automations that are utilized.

ID	Asteikolla 1-5 (1: hyvä)	Tunnistatko Jira auto	Koetko, että automaatiot o	Hyödynnetäänkö mielestäsi
2	4 Kyllä/Yes	Kyllä/Yes	Kyllä/Yes	En ole varma/I am not sure
3	3 Kyllä/Yes	Kyllä/Yes	Kyllä/Yes	En ole varma/I am not sure
4	3 Kyllä/Yes	Kyllä/Yes	Kyllä/Yes	En ole varma/I am not sure
5	4 En/No	En ole varma/I am not sure	En ole varma/I am not sure	En ole varma/I am not sure
6	4 Kyllä/Yes	Kyllä/Yes	Kyllä/Yes	Kyllä/Yes
7	4 Kyllä/Yes	Kyllä/Yes	Kyllä/Yes	Kyllä/Yes

Figure 9. Answer of one respondent to recognition and efficiency of automations

Another result which can be analysed based on the answers is that the majority of the respondents are unsure of whether the automations are utilized enough in the current Kanban-projects. As can be seen in Figure 10., four out of six respondents answered I am not sure in the question of is the automation utilized enough.

ID	Asteikolla 1-5 (1: hyvä)	Tunnistatko Jira auto	Koetko, että automaatiot o	Hyödynnetäänkö mielestäsi
2	4 Kyllä/Yes	Kyllä/Yes	Kyllä/Yes	En ole varma/I am not sure
3	3 Kyllä/Yes	Kyllä/Yes	Kyllä/Yes	En ole varma/I am not sure
4	3 Kyllä/Yes	Kyllä/Yes	Kyllä/Yes	En ole varma/I am not sure
5	4 En/No	En ole varma/I am not sure	En ole varma/I am not sure	En ole varma/I am not sure
6	4 Kyllä/Yes	Kyllä/Yes	Kyllä/Yes	Kyllä/Yes
7	4 Kyllä/Yes	Kyllä/Yes	Kyllä/Yes	Kyllä/Yes

Figure 10. Majority answers to column E

In conclusion, the majority of the team is satisfied with the current Kanban-projects but there is room for improvement. More information about the current automations as well as information about what kind of possibilities the automations could bring is needed. The results of this evaluation are good points in considering improving the current Kanban-projects in the future.

## 6 Currently used Jira automations in second line technical support

Currently there are some automations utilized in the second line technical support team's Jira Kanban-projects. These automations are explained and evaluated based on how they benefit the team member in their daily life. Some of the automations have been utilized in the projects from the beginning and some automations have been added in the past year.

Some of the automations can be seen within the service request and from the preview of the service request. An example of the preview can be seen in Figure 11. The preview of the service requests holds in the following information:

1. Title of the service request
2. Identification number of the service request
3. Linked service request(s)
4. Priority of the service request
5. Amount of time the service request has been in the second line technical support team's Kanban-project
6. Type of the service request

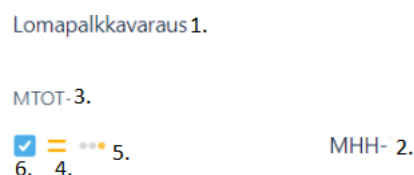


Figure 11. An example of a preview of a service request

### 6.1 Comment cloning

Comment cloning is an automation in which the comments are cloned between the main service request and the second line technical support team's service request. The comment cloning begins after the main service request and the second line technical support team's service request are linked together using Jira automation. The comment cloning ensures that the comments are automatically seen in both service requests and that the assignees of the service requests do not have

to do manual work moving the comments between the two service requests. In addition to comment cloning, the attached pictures that are submitted in both service requests are cloned as well.

This automation has been used from the beginning of the projects. The benefit of the automation is reducing the manual work of the assignees of the service requests. As the service request is moved for investigation for the second line technical support team, the assignee of the second line technical support team can see also if the customer submits a comment to the main service request. The comments and pictures are cloned between the service request in real time. This ensures that all possible information can be seen in both service requests at the same time. An example of comment cloning can be seen in Figure 12.

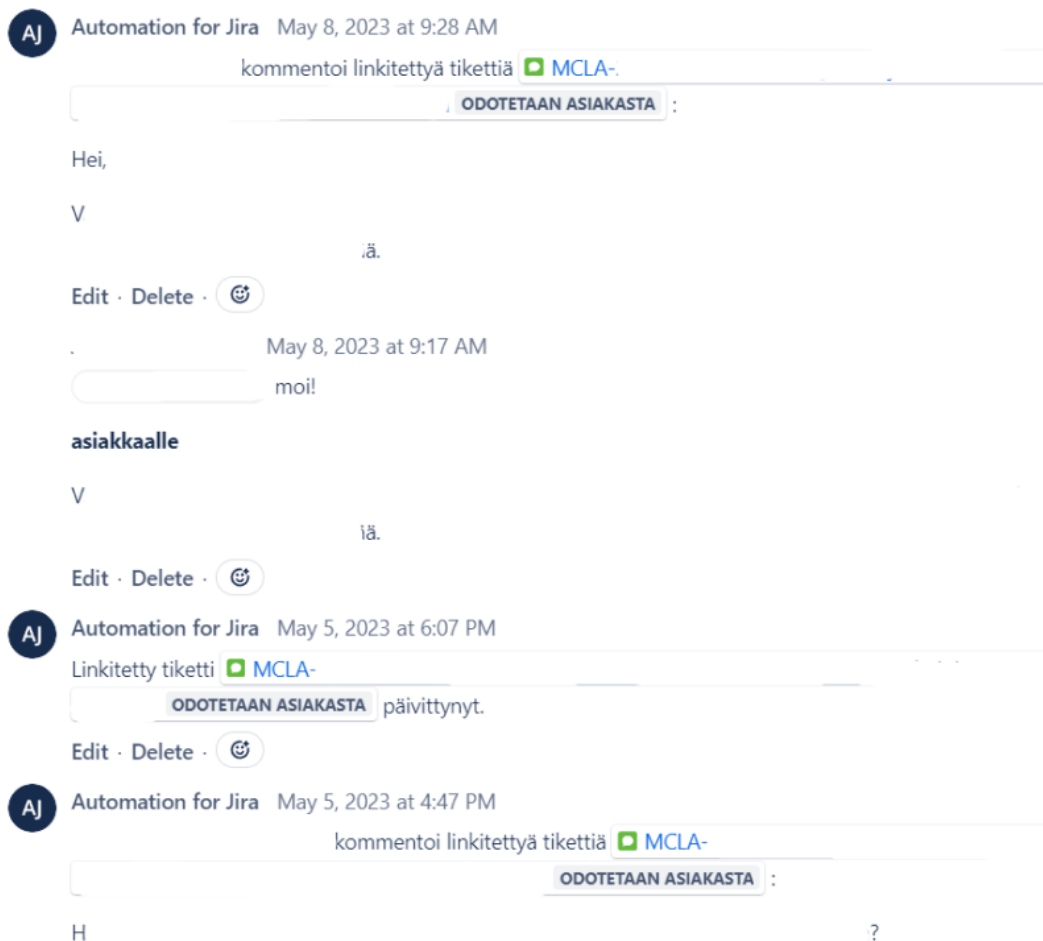


Figure 12. Example of comment cloning in second line technical support team's service request

The comments and pictures which are submitted in the second line technical support team's service request are handled as internal comments. This means that the customer won't be able to see them. This ensures that there can be comment exchange between the first line support team and second line technical support team in the service request without the customer having access to it.

## 6.2 SovA-component and its workflow

Another automation which is currently utilized in the Kanban-projects is specifying which service requests will be or have been investigated by the second line technical support team application specialist. The automation works by utilizing components in the service request. Once the component SovA has been added to the component-field of the service request, the service request will get a blue marking and the workflow of "Testattu" (tested) will be visible on the preview of the service request. The workflow will be visible also when the service request is opened. In addition of triggering the automation with the SovA-component, the workflow "Testattu" can also be manually added into the workflow field and the same automation will be triggered to the preview of the service request. An example of this automation can be seen in Figures 13. and 14. With this SovA-component, the service request handled by application specialist can be also categorized and compared in statistics more easily.

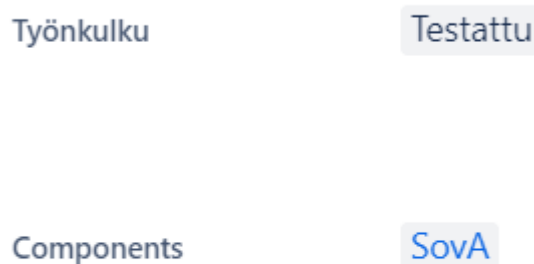


Figure 13. An example of the component which triggers the condition of "Testattu"-workflow inside the service request



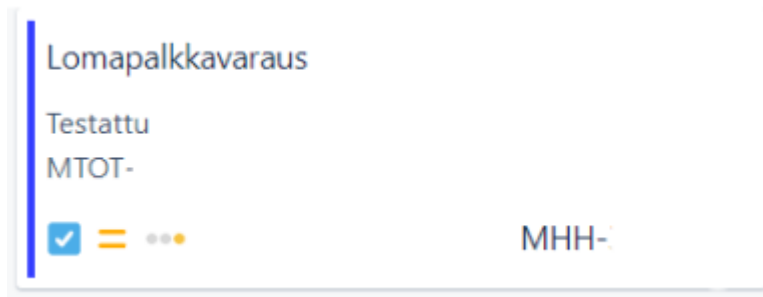


Figure 14. An example of a service request that can be identified as being handled by an application specialist

### 6.3 Workflow of separately invoiced service requests

Separately invoiced service requests utilize Jira automation as well. The automation works with condition. The condition can be triggered in two ways. Way one is adding the specifier (tarkenne) called Laskutettava työ (separately invoiced work) and the automation will add the workflow (työnkulku) Laskutettava (separately invoiced) automatically. The condition can be also triggered by choosing “Laskutettava” straight from the workflow-field. If the service request has a workflow of “Laskutettava”, the service request will get a green marking and the workflow of “Laskutettava” will be visible on the preview of the service request. The workflow can also be seen when the service request is opened. Example of this automation can be seen in Figures 15. and 16.

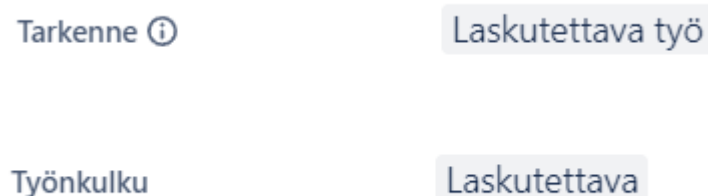


Figure 15. An example of the workflow which triggers the condition of separately invoiced service requests

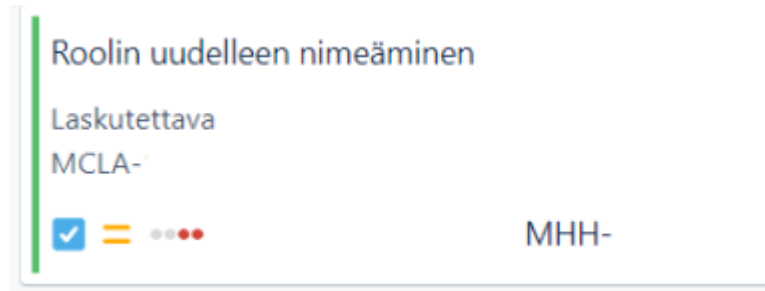


Figure 16. An example of a service request which can be identified as separately invoiced service request

#### 6.4 Linked service requests

An automation, which shows the linked service requests of a certain service request, is also utilized in the current Kanban-projects. The linking of service requests can be seen inside of the service request and in the preview of the service request as well. The visibility in the preview of the service request makes it efficient to see which service requests are linked and which of them are resolved. The resolved service requests are crossed through. An example of this automation can be seen in Figure 17.

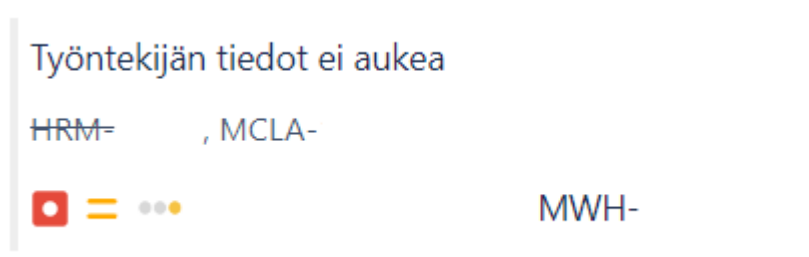


Figure 17. An example of linked service request, one of which has been resolved

#### 6.5 Software error ticket identification number

An automation, linking a software error ticket identification number, into the second line technical support team's service request has also been utilized. When the second line technical support team identifies a software error, it is reported to the R&D. An automation, which clones a template for the software error ticket, is utilized. Once the software error ticket it cloned and submitted, the

component “UusiBugi” is added to the second line technical support team’s service request. This triggers the condition of a software error to be used in the service request.

The automation changes the type of the service request from a task (tehtävä) to an error (virhe) and adds a new field into the service request. The new field is a field for the software error ticket identification number (Buginumero). The software error ticket will also be seen in the linked service requests. An example of this automation can be seen in Figures 18. and 19.

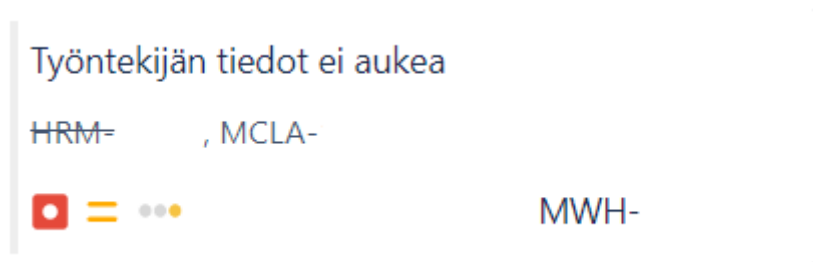


Figure 18. The type of the service request is changed into error (virhe), which is indicated with a red square with a white dot

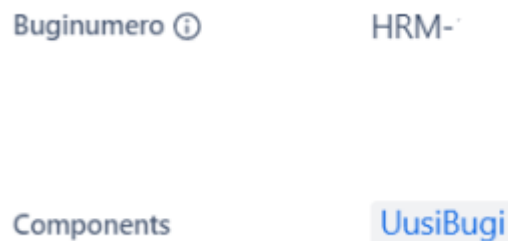


Figure 19. The component “UusiBugi” triggers the condition of the software error ticket identification number, which is visible in the “Buginumero”-field

## 6.6 Automated deletion of service requests

According to GDPR regulations (EUR-Lex, 2016), customers have the right to be forgotten. GDPR also states, that data storing should be done only on necessity bases. Based on these regulations,

service requests which are over two years old are deleted from Jira in Company X. Deleting unnecessary data is also something which is automated on the current second line technical support team's Kanban-projects. The automation works so, that there is a condition stating that if the service request has been in Done-status for over two years, "cleaning" automation is executed and it removes all service requests which fill that condition. An email is sent to assignees and followers of the service request, when the specific issue has been deleted. An example of this kind of email can be seen in Figure 20.

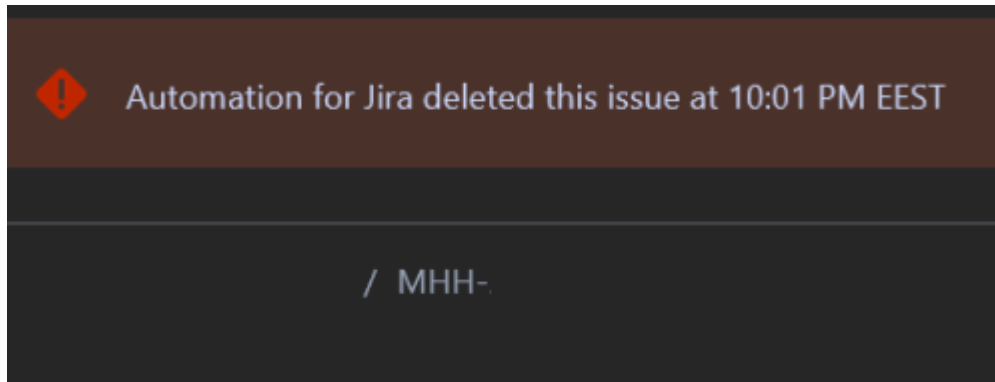


Figure 20. Example of automated deletion of service requests

## **7 Workshops and interviews**

This chapter includes analysis and reflection regarding the conducted interviews and workshops.

### **7.1 Workshop 13<sup>th</sup> of April**

The first workshop was arranged on the 13<sup>th</sup> of April. In this workshop the Jira administrator of Company X was given an overall look into the scope of the thesis. In the workshop some changes were already done to the current Jira Kanban-boards. The next steps and schedule as well as the deadline of the thesis were discussed and planned.

A new automation, which creates an automatic reminder when the main service request is resolved, was created to all the second line technical support team projects. Aim of this new automation, is to optimize the resolving rate of service request. The second line technical support teams' projects are being reported forward based on for example resolved vs. created rate. When a resolved service request is left open, the rate is being negatively affected by it. Having an automatic reminder to resolve the service request when the main service request is resolved, can help the rate to stay up to date and help in keeping the lead-times in an optimal level.

In the workshop, the Jira administrator provided a list of current Jira automation's that have already been created. Research of how these automations could be utilized in the technical support team projects began immediately. It was also discussed that an automation between Jira and Microsoft Teams could be established. The wanted effect of this automation is to have a message sent to a certain Teams-channel when a critical service request is created to the project backlog. This automation wasn't yet created, only talked about.

### **7.2 Workshop 9<sup>th</sup> of May**

Another workshop was conducted with Company X's Jira administrator. The workshop included going through the automation implemented after the workshop on the 13<sup>th</sup> of April. The automation is triggered when the main service request is closed. A reminder will be created to the second line technical support team's service request. The assignee of the second line technical support team member will get an email or Jira reminder of the reminder as well, depending what kind of notification settings the assignee has on their own profile. An example of this automation can be seen in

Figure 21. It was concluded that the new automation is working effortlessly, and the team has started to utilize it in the daily work. The rate of closing the resolved service request has improved.

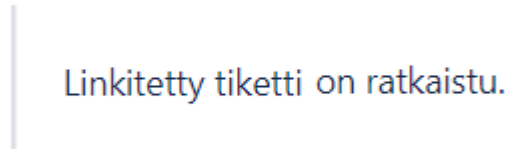


Figure 21. An example of a reminder which is created to the second line technical support team's service request

Some new automations were implemented during and after the workshop on the 9<sup>th</sup> of May. An automation which is triggered by a critical service request was implemented. When a critical service request is created to the second line technical support team's Kanban-projects, an alert will be sent to the second line technical support team's Teams-channel. An example of this can be seen in Figure 22. The purpose of this automation is to improve the reaction time to the critical service requests by sending automatic alert when a critical service request has been made to the projects. The implementation and testing of this automation was started on the 9<sup>th</sup> of May.

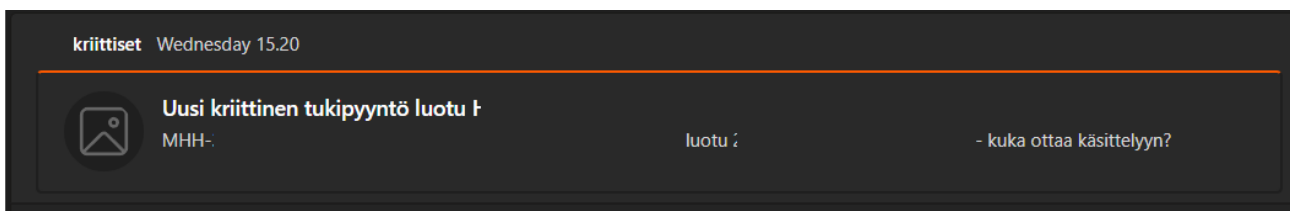


Figure 22. An example of Teams-channel alert of a critical service request

A new automation triggered by the SovA-component was also implemented after the workshop. When the SovA-component is removed from the second line technical support team's service request, the service request will automatically change status to Backlog, and the assignee is removed from the service request.

The objective of this automation is to minimize the risk of service request staying in a wrong status, usually In progress-status, after the application specialist has stopped investigating the issue and the investigation needs to be moved to the systems specialist within the team. An example of this can be seen in Figure 23. The implementation and testing of this automation was started on the 9<sup>th</sup> of May.

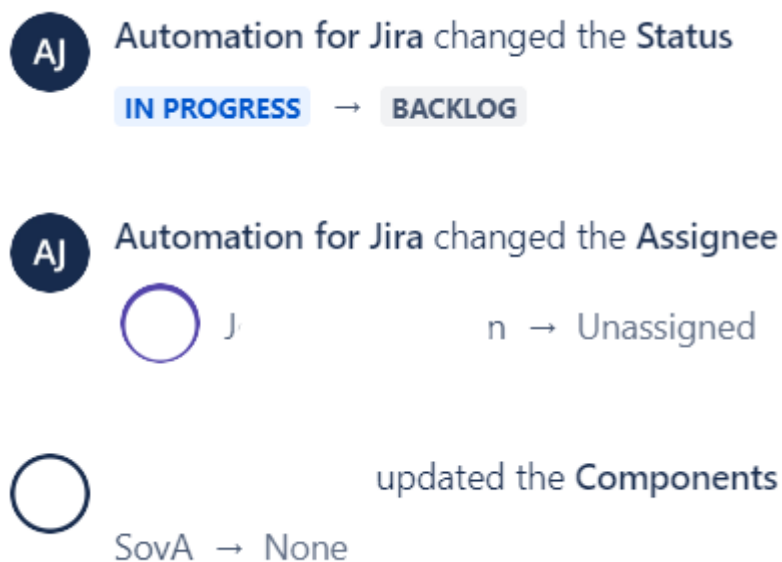


Figure 23. An example of how the automation works when SoVa-component is removed from the service request

A new workflow was also discussed and decided to be implemented to the projects. The new workflow is meant to be used when the second line technical support team is waiting for the customers IT to respond. This workflow and automation were implemented to give the service request lifecycle one more possible state. The automation of moving the service request into In progress-status when the customer replies was implemented to this workflow as well. This new workflow can also be utilized when reporting handling times of specific service requests. When the service request is in this status (Waiting for IT), it is implicated that the second line technical support team is not actively working on the service request. The existing workflows including the new added service request status can be seen in Figure 24.

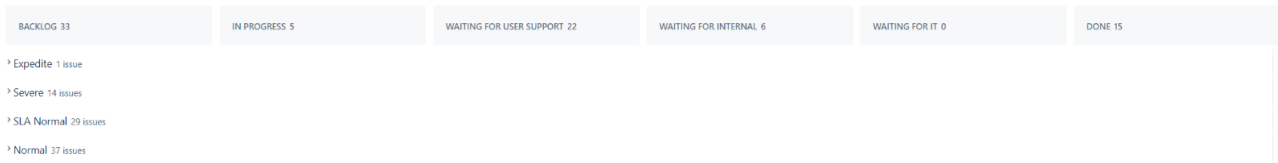


Figure 24. Current workflow and service request statuses of second line technical support team Kanban-projects

The last new automation which was implemented in the workshop was connecting knowledge base into the second line technical support team’s service requests. The aim of this automation is to be able to distribute knowledge more efficiently. The linking of knowledge base and the service request makes information searching more efficient. The automation can make suggestions of the articles which could be linked or utilized in the investigation of the service request. An example of this can be seen in Figure 25.

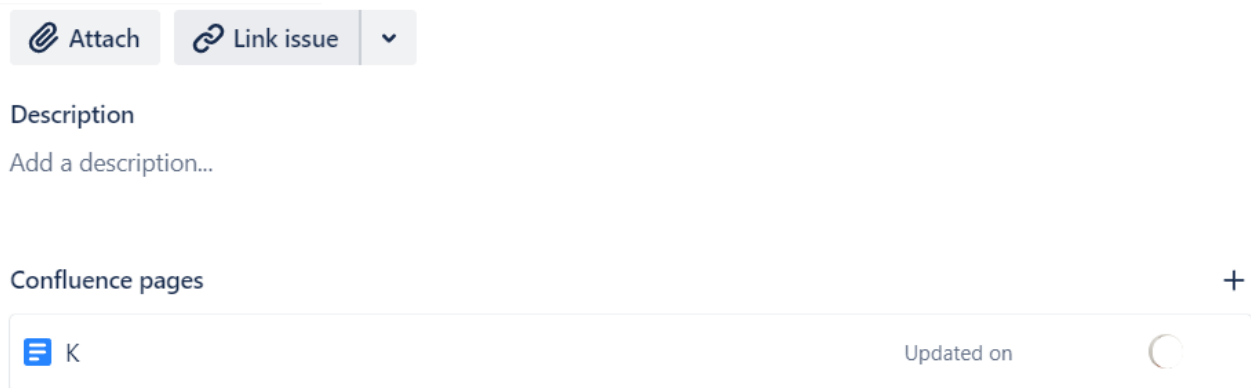


Figure 25. New automated linking between second line technical support team service requests and knowledge base

### 7.3 Interviews with the second line technical support team employees

The interviews were conducted between 2<sup>nd</sup> and 11<sup>th</sup> of May. The purpose of the interviews was to gather additional information from the second line technical support team. The survey gave a good overview of the current situation from the teams’ point of view. Structured interviews were



conducted to gather some additional information about the knowledge of the current automations and teams' thoughts and hopes about future automations.

The interviews were conducted using Microsoft Teams and they were recorded. The interview questions can be seen in appendix 2. The interview consisted of five interview questions to which the interviewee had the possibility to answer on their own behalf. The data gathered in the structured interviews is also important considering mapping out the future needs of automation in the second line technical support team.

The interviews started with the questions of whether the interviewee recognises automations or not. This question was chosen to be asked to ensure that the interviewees have enough knowledge of the current automations. The current automations were briefly gone through after which the interview continued to map out the efficiency and extra value which the automations might bring to the current work of the second line technical support team.

Based on the answers, interviewees overall feeling about the automations were good. The interviewees felt that the current automations bring efficiency to the work by eliminating manual work and making it easier to move the service requests through the whole lifecycle of the service request. The interviewees felt that the automations that have been already used are working effortlessly and make the daily work easier. The new automations which were introduced after the workshops were felt to be beneficial and the testing of them has commenced.

The interviewees emphasised on the benefit of the new automation which creates a Teams-alert of critical service requests. This automation was considered good and efficient, since it makes following the critical service requests possible even while team members are investigating other service request. The alerts can be received to Teams and to email, so with the new automation, there are more ways of getting the alert of critical service requests. In the point of view of the team's supervisor, the automatic alert saves time since the supervisor doesn't have to constantly manually check on the possible new critical service requests.

While being interviewed about the value that the automations could bring to the second line technical support team, the interviewees felt that if there wouldn't be any automations, the effort that would go into manual labour would take up a lot of time. For example, manually moving comments and pictures would take a lot of time. The time would then be away from investigating customer problems and the customers would need to wait longer periods of time for their service requests to be handled and resolved. By creating automations to avoid time consuming manual work, the saved time can be put into investigating and resolving more service requests. This brings extra value to the customers since they get their answers and service requests resolved faster.

The interviewees were also given the opportunity to talk about future suggestions for automations in the second line technical support team Kanban-projects. The suggestions, which are possible to implement in Jira, are introduced in the next chapter.

## 8 Changes to the Jira Kanban-projects and suggestions for future

In this chapter the changes that were implemented to utilize Jira automation tools better as a part of value chain in incident management are gone through. The implemented changes are evaluated based on how well they bring value to the daily work of the second line technical support team. In addition to going through what has been implemented during the thesis project, some suggestions for the future are made. The suggestions are based mainly on needs and interview results that come up from the second line technical support team members or the supervisor of the team.

### 8.1 Changes to the current Jira Kanban-projects

The changes that were implemented during this thesis project were creation of new automations to the second line technical support team's Kanban-projects. The new automations were:

- Automatic alert on the second line technical support team's service request when the main service request is resolved
- When SovA-component is removed, an automation is triggered and the assignee of the service request is removed and the service request is returned to Backlog-status
- Automatic alert of critical service requests is created to Teams-channel
- Knowledge base article can be linked to second line technical support team's service requests
- An extra workflow, Waiting for IT, was added

Some of the new automations bring concrete value to the daily work of the second line technical support team members. Some of the automations can be evaluated and seen as value when reporting for example the handling times of the service requests. The automations, which can be evaluated from the point of view of reporting, are the automatic alert when the main service request is resolved and the extra workflow which was added. The alert has increased the resolving rate of service requests in second line technical support team. The new workflow (Waiting for IT) can be now reported as a customer delay when analysing service request handling times.

The other created automations are bringing direct benefit for the team members in their daily work. Creating an automation to changing the assignee and status of the service requests reduces

manual work. This automation is triggered by removing the SovA-component from the service request. In addition to reducing manual work, this automation decreases the risk of the service request being left in the wrong status, In progress-status instead of Backlog-status, and an assignee being left to the service request when in reality the service request is waiting for a new assignee.

The automatic alert of critical service request to Teams-channel helps ensure that the critical service requests are acknowledged and reacted to accordingly. Having an automatic alert helps the second line technical support team react to the service request. Without the alert, the team members need to actively keep an eye on the backlog for new critical service requests. This automated alert also frees time from the supervisor of the team, since they don't need to keep an active eye on the backlog. Since the alert is created to Teams-channel, every member of the second line technical support team can customise the way they get the notification of the alert. In addition to getting an alert to the Teams-channel, an automatic email can be sent from the alert.

The last added automation is the linking of knowledge base to the second line technical support teams service request. Adding this automation of linking knowledge base articles helps spreading knowledge and linking different service request together under the same topic. Linking knowledge base increases the efficiency of finding information in Company X's Jira environment. As different service requests and articles can be linked together, the knowledge base will be built more efficiently under the same topics. Building this kind of knowledge base will also benefit the customers since the customer has access to the knowledge base with some restrictions.

## **8.2 Suggestions for future Jira automation implementations**

Based on the data gathered from the workshops and interviews, some suggestions for future Jira automation implementations are made. Some of the new automations are already agreed to be implemented in the current second line technical support team Kanban-projects, but the implementation couldn't be created during this thesis project.

An additional automation triggered by the SovA-component will be implemented. Since the SovA-component is utilized in defining which of the service request will go to the application specialist, an automation which will assign the service request directly to the right person will be implemented. This will save time since the automation will be triggered only when adding the component in question. An additional development to this automation could be that an automation could identify some key words in the service request and based on those key words, the SovA-component could be

added automatically, and different automations would be triggered by that. Automating the service request assigning will reduce the risk of assigning the service request to a wrong person.

Key word recognition was also suggested in the interviews when talking about uniting some Kanban-projects together. The interviewees from the second line technical support team suggested that some of the projects could be united since the investigation of the service request is currently done by the same team. Identifying some key words and adding for example components based on them would benefit the team by identifying specific service requests from the Backlog. This automation would work similarly to how the application specialist service requests (SovA-component + "Testattu"-workflow) and separately invoiced service requests ("Laskutettu"-workflow) currently work. And colour code adding automation could also be utilized here.

Another additional automation development that was suggested by the second line technical support team was extending the automatic alert from just critical service request to severe and SLA service requests as well. This would improve the response time to the severe and SLA service requests since it would reduce the manual work needed to be done with keeping an eye on the Backlog of the Kanban-projects. The problem with this additional development in the automation is how to implement it without compromising the response time to the critical service requests.

Linking knowledge base to the service requests was, based on the answers of the second line technical support team, a well-received improvement. Additional development to this automation would be linking the software error articles from the knowledge base to the software error tickets. This would not only benefit the second line technical support team but as well the R&D department of Company X. As the customers are receiving software error identification numbers, linking the articles to the software error tickets would decrease the possibility of mistakenly leaving out a software error, which has been fixed, from the version letter.

The last automation, which could be suggested to be implemented into the second line technical support team Kanban-projects is creating a completely new automation to the third line support team. In this context, the third line support team is basically R&D employees. Currently when the second line technical support team is unable to solve a service request, the investigation of the request is transferred to R&D department by the first line support team. This is currently working but it weakens the knowledge distribution between the third line and second line technical support teams. Creating a completely new automation would be beneficial since the discussion between the two teams would be direct without the first line support team being in the middle. Having direct discussion between the second and third line could also decrease the risk of important information being left out when the investigation is moved by a third party, in current case the first line support

team. Discussions about implementation of this automation will continue beyond this thesis. Implementing this type of three-layered service desk model aligns well with the ITIL framework.

## 9 Conclusions

This thesis has evaluated the current Jira automations which are utilized in the second line technical support team Kanban-projects. Analysis on the efficiency and added value has been made from the point of view of the team and their supervisor. The currently utilized automations can be considered as well utilized and they bring additional value to the teams' daily work. The automations decrease manual work and make the teams daily work more efficient.

Measuring the efficiency of the current automations was done by analysing how much manual work was reduced and how functional the automations are considered by the team. Based on the background information and the interviews, the team members feel that the current automation and the new automations work effortlessly and bring extra efficiency as well as value to the daily work.

The research questions were answered in this thesis. The answer to research question 1, "How is Jira automation currently utilized in second line technical support teams' work", was answered by analysing the survey, interviews and doing analysis on the currently implemented automations. The analysis was that the automations work effortlessly, and they reduce manual work which would take otherwise time from the investigation of customer's service requests.

Automations are utilized but as this thesis discovered, there was room for improvement in the utilization. Multiple new automations were implemented during the thesis process. These new automations were also analysed and concluded of bringing extra value and efficiency to the second line technical support teams' daily work. The implementation of new automations answers to the second research question, "What are the ways Jira automation could be utilized to make more value as part of value chain in incident management".

For example, the alerts of critical service requests bring extra value since they increase the possibility to react to the critical service request. Getting automatic alerts instead of just needing to keep an eye on the Backlog makes responding to critical service requests easier. This benefits the customer as well since they get faster response to their incidents.

This thesis brought concrete improvements, and the pre-existing automations were evaluated and improved. New ways of working were introduced by implementing new automations. In addition to automations triggered by certain conditions, a new workflow was also implemented to the second line technical support team Kanban-projects. The new workflow/status, Waiting for IT, can be utilized for example in reporting the lifecycle of a specific service request. The new workflow also helps to identify long resolving times affected by connection problems that are caused by the customer environment.

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## Appendices

**Appendix 1. Survey of mapping out the current Jira automation tools conducted to the technical support team.**

# Jira automaatiotyökalujen nykytilan kartoitus/Mapping out current Jira automation tools

Kyselyllä on tarkoitus kartoittaa Jira automaatiotyökalujen hyödyntämisen nykytila teknisen tuen tiimin näkökulmasta.

Teknisen tuen projekteilla tarkoitetaan nykyisiä Kanban-projekteja tunnisteilla MHH, MWH, MPH ja MWP.

The aim of the survey is to map out the current state of utilizing Jira automation tools from the point of view of technical support team.

The projects, referred as technical support projects, are the current Kanban-projects with the identification of MHH, MWH, MPH and MWP.

\* Required

1. Asteikolla 1-5 (1: hyvin tyytymätön, 5: hyvin tyytyväinen), kuinka tyytyväinen olet nykyisiin teknisen tuen Kanban-projekteihin?

On the scale of 1 to 5 (1: very unsatisfied, 5: very satisfied), how satisfied are you of the curretn technical support Kanban-projectes? \*

1

2

3

4

5

2. Tunnistatko Jira automaatioita, joita nykyisillä teknisen tuen Kanban-projekteilla käytetään?

Do you recognize the Jira automations which are used in the current technical support Kanban-projects? \*

Kyllä/Yes

En/No

3. Jos vastasit edelliseen kysymykseen Kyllä, minkälaisia Jira automaatioita tunnistat käytettävän nykyisillä teknisen tuen projekteilla?

If you answered Yes to the previous question, what kind of Jira automations do you recognize being used in the current technical support projects? \*

4. Jos vastasit edelliseen kysymykseen En, perustelisitko vastaukseksi:

If you answered No to the previous question, please elaborate your answer:

5. Koetko, että automaatiot ovat tuoneet lisäarvoa/lisätehokkuutta työskentelyysi?

Do you feel that the automation has brought extra value/extra efficiency to your work? \*

Q Kyllä/Yes

Q Ei/No

Q En ole varma/I am not sure

6. Jos vastasit edelliseen kysymykseen Ei tai En ole varma, perustelisitko vastauksesi:

If you answered No or I am not sure to the previous question, please elaborate your answer: \*

7. Hyödynnetäänkö mielestäsi Jira automaatiotyökaluja tarpeeksi nykyisissä teknisen tuen projekteissa?

Are Jira automation tools utilized enough in the current technical support projects? \*

Q Kyllä/Yes

Q Ei/No

Q En ole varma/I am not sure

8. Jos vastasit edelliseen kysymykseen Ei tai En ole varma, perustelisitko vastauksesi:

If you answered No or I am not sure to the previous question, please elaborate your answer:

9. Minkälaisia Jira automaatioita toivoisit tulevaisuudessa käytettävän nykyisillä teknisen tuen projekteilla?

What kind of Jira automations do you wish to be utilized in the future in the current technical support projects? \*

10. Vapaa palaute liittyen teknisen tuen Kanban-projekteihin:

Free feedback related to technical support Kanban-projects:

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## **Appendix 2. Thesis interview template**

### **Opinnäytetyön Haastattelupohja / Thesis interview template**

#### **Osallistujat/Attendees**

Moderaattori/Moderator: Senja Tistelgrén

Haastateltava/Interviewee: Technical support team member xx

#### **Kysymykset/Questions**

1. Ovatko Jira-automaatiot tuttuja sinulle? / Are Jira automations familiar to you?
2. Minkälaisista lisäarvoista koet automaatioiden tuovan työhösi? / What kind of extra value do you feel the automations bring to your daily work?
3. Kuinka sujuvasti koet nykyautomaatioiden käytön? / How proficiently do you feel the current automations are utilized?
4. Minkälaisista automaatioista toivoisit työhösi, jotta se olisi tehokkaampaa? / What kind of automations do you wish to have to make your work more efficient?
5. Muita havaintoja nykyprojekteista? / Do you have any other observations of the current projects?