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Riku Lindblom

The Impact of a Ticketing System on the Efficiency of Help Desk

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Riku Lindblom

The impact of a ticketing system on the efficiency of Help Desk

An efficient ticketing system is a critical part of the workflow for companies that provide IT services and solutions. This thesis aimed to investigate how the ticketing system of the commissioning company impacts the Help Desk’s efficiency and to find possible ways to improve the efficiency of the Help Desk. To achieve the objectives of thesis, the workflow, roles within the Help Desk, ticketing handling process, ticket types and different kinds of possible requests were analysed. ConnectWise Manage served as the ticketing management tool utilized by the commissioning company during the data collection phase. Its features were used to provide insight into what an effective ticketing system could benefit from, such as automation, ticket categorization and ticket boards.

With the collected data and by examining industrial standards, the potential weaknesses in the whole ticketing system were revealed.
Integrated call systems, improved automations, and user-friendly design of the interfaces emerge as effective possible ways to improve efficiency, lower the ticket resolution times and improve the overall customer service experience.

While the ticketing system is an important part of the Help Desk, in the end to reach its full potential the whole system requires integration, automation, and user-friendly design.

Keywords:

help desks, agent, efficiency, technical systems

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Tiketöintijärjestelmän vaikutus palvelupisteen tehokkuuteen

Tiketöintijärjestelmä on kriittinen osa yrityksissä, jotka tarjoavat IT-palveluita ja ratkaisuja. Opinnäytetyön tavoitteena oli tutkia, kuinka toimeksiantajayrityksen tiketöintijärjestelmä vaikuttaa palvelupisteen tehokkuuteen, ja löytää mahdollisia tapoja parantaa palvelupisteen tehokkuutta. Opinnäytetyön tavoitteiden saavuttamiseksi analysoitiin palvelupisteen rooleja, työskentelytapoja, tiketinkäsittelyprosessia, tikettityyppejä ja erilaisia mahdollisia pyyntöjä. ConnectWise Manage toimi toimeksiantajayrityksen käyttämänä tiketinhallintatyökaluna. Se antoi vihjeitä siitä, mitä ominaisuuksia tehokas tiketinhallinta voisi tarvita, kuten automaatiota, helppoa tikettien luokittelua ja tikettijonoja.

Kerätyn tiedon avulla ja tarkastelemalla alan standardeja paljastui tiketöintijärjestelmän mahdolliset heikkoudet. Tuloksissa selvisi, että tehokkaina keinoina parantaa tehokkuutta ja lyhentää työpyyntöjen ratkaisuaikoja, olivat integroidut puhelujärjestelmät, parannetut automaatiot ja käyttöliittymien käyttäjäystävällinen suunnittelu. Näiden keinojen avulla parantuisi tehokkuus ja koko asiakaspalvelukokemus.

Vaikka tiketinhallintatyökalu on tärkeä osa palvelupistettä, sen täyden potentiaalin saavuttamiseksi koko järjestelmä vaatii integraatioita, automaatioita ja käyttäjäystävällistä suunnittelua.
Asiasanat:

help deskit, agentit, suorituskyky, tekniset järjestelmät

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Glossary

IT	The science and activity of using computers and other electronic equipment to store and send information (Cambridge Dictionary 2024a.
Help Desk	A service provided by a company to help customers when they have problems with products they have bought, for example, computers, or to give them information (Cambridge Dictionary 2024b.)
IT Outsourcing	IT outsourcing is the use of external service providers to effectively deliver IT-enabled business processes, application service and infrastructure solutions for business outcomes (Gartner 2024.
UI	The way a computer gives information to a user or receives instructions from a user (Oxford Learner's Dictionaries 2024)
CW	ConnectWise Manage ticketing system, used as a tool to manage and process tickets (Belevska, B. 2023)
SLA	An agreement between a business providing a service and a customer, stating what is being provided, quality levels, etc. (Cambridge Dictionary 2024c)
FCR	First call resolution is the ability of an IT team to meet a customer's needs fully the first time they contact them. By measuring the rate of first call resolutions, IT teams

	can better understand how quickly they're helping customers (Atlassian 2024)
AI	The use or study of computer systems or machines that have some of the qualities that the human brain has, such as the ability to interpret and produce language in a way that seems human, recognize or create images, solve problems, and learn from data supplied to them (Cambridge Dictionary 2024d)
SMS	short message service: a system for sending text messages from one mobile phone to another (Cambridge Dictionary 2024e)
AHT	Average Handle Time or AHT is a metric used in contact centers to measure the average duration of one transaction (TTEC 2024)
FAQ	frequently asked question: a question in a list of questions and answers intended to help people understand a particular subject (Cambridge Dictionary 2024f)

1 Introduction

IT is always evolving and is becoming indispensable in all workplaces.This has created a need for IT services and the more employees there are in an organization, the more work there is. To stay organized with all the work requires companies IT departments to often utilize ticket management systems and these systems are tailored and chosen according to the company's needs.

The work at the Help Desk requires a great amount of documentation and it is important for the Help Desk staff to easily and quickly be able to find tickets, create them and to move them accordingly. It can be overlooked how much the ticketing system can affect the entire process and at the same time the productivity of the Help Desk.

This thesis examines the ticketing system of the commissioning company, which offers IT services and solutions and how it affects the Help Desk's efficiency. The goal was to find out how much time on average ticket handling takes, as well as weak points during the ticketing and to find ways to improve handling times. This was achieved by comparing the average ticket handle times to industry averages and by examining what technology is being used, how it could be useful and what impact it could have.

By identifying the weak points and evaluating the impact, a deeper understanding can be achieved. This information leads to identifying areas that can then be improved and when researching the available technology and best practices the effectiveness can improve significantly. Identifying the easiest and main improvements can help the whole field of help desk management and point out potential changes within the ticketing process and system in the commissioning company.

Since the ticket management systems and needs of companies vary so much this thesis focuses specifically on the Help Desk of the commissioner. While insights can be achieved and the information disclosed is generalized as things every Help Desk benefit from, it is not possible to directly compare the results.

In this thesis, Chapter 2 introduces the main functions of what the Help Desk does, what work roles are included in the team, how the workflow and ticketing process works and the most important metrics. Chapter 3 analyses request types, tools used in the Help Desk and work and ticket flow. Chapter 4 examines useful features that the ticketing system benefits from. Chapter 5 presents the data collected, examines industry standards, and compares the differences between the ticket handle times.

2 Help Desk work description

Help Desk in Tietokeskus Finland Oy is the first point of contact for the customer and contact is primarily established by calling and secondarily by emailing the Help Desk. It is available for internal users as a service as well. The main goal of the service is to assist the user with their questions, service requests or issues within allocated time.

Within the Help Desk there are set roles to ensure smooth service to the customer (Atlassian 2024):

- Help Desk manager who oversees the day-to-day operations.
- Help Desk team lead who supports the manager by coaching new Help Desk agents and keeps agents informed about important events.
- Help Desk agent who responds to the call, or the email made by the customer and assisting them directly. The goal is for the customer to have a swift resolution on the first contact and to escalate the ticket created if no solution can be provided within an allocated time.
- Help Desk senior agent who handles escalated tickets that require more time and are often more challenging. Senior agents also work as liaison for specific customer teams. Customer teams are specialized in specific customers often depending on location of the customers' company.

2.1 Ticket handling process

Customer contacts the Help Desk by email which then automatically creates the user a new ticket, or by phone and Help Desk agent creates the ticket for the user. The difference between the ticket types is that email tickets have a longer response time up to three days and the call is taken to process immediately. The ticket is processed and sorted and if it is solvable by Help Desk agent in the allocated time it will be completed and closed. If not, then it will be escalated to

the senior agents or to the customer team depending on multiple factors, for example difficulty, privileges required or whether it can be solved remotely. Customer teams have more up to date knowledge, experienced agents who have the most knowledge about their assigned clients' environments and the possibility of onsite support. Escalated tickets will not be returned to the Help Desk agents, but they will assist in communication with the customer (Illman, A. 2016).

Tickets are handled by the Help Desk with the principle of one incident or request per ticket. If another incident or request arises in the middle of the investigation, another ticket must be opened.

2.2 Service Level Agreement

Service Level Agreement (SLA) is the contract between the Help Desk provider and the customer. With it, the provider and customer agree on rules and goals that apply on all the incoming tickets, to ensure a consistent level of service. SLA can enforce what systems to use, response times, resolution times, criticality, and the description of criticality class. In addition, it states agreed allocated time for investigation, time limits and other metrics that the customer and service provider agree on. The contract is for the benefit of both the Help Desk and the customer so that service expectations meet the needs of the customer, and that the provider can provide agreed upon service. (Illman, A. 2016).

Help Desks' most important metrics in SLA are response time, level of service and customers systems. Response time is a set time after which the service request is expected to be processed and resolution provided. These two values are individually agreed upon. Level of service is connected to the importance and criticality of the system or issue. The higher the criticality the faster the response should be. The critical systems often require good documentation and if the provided documentation is lacking, the service provider can demand

proper documentation from the customer and delay the start of the service. Help Desk heavily relies on good documentation.

3 Work requests at Help Desk

When contacting Help Desk, the tickets are categorized accordingly. If the call is a request and no other problem has been identified, it is categorized as a service request. If problem is identified, the ticket turns into an incident.

The most common service requests are administrative work such as password resets or software related for example application guidance and application installations. More uncommon service requests are Cloud administrative work such as distribution list management or license management. Rare cases may have too big of a request for the time allocated for Help Desk that it is documented and pushed forward as escalation needed, turning into an escalated ticket.

The second most common type of tickets are incident tickets are often related to for example common office applications, business applications or problems accessing the work environment. More uncommon ones are then related to hardware, accessories, or licenses. In more rare cases the incident is affecting the whole infrastructure and is often escalated (SolarWinds 2024).

3.1 Escalated tickets

Escalation is common and important for the efficiency of Help Desk. When end-user contacts the Help Desk the work types can vary greatly from common and trivial to infrastructure wide problems with business-critical software’s. This creates a chaotic environment making the work unpredictable. Good and broad documentation is one of the core pillars of Help Desk. Good documentation helps the agent to fix the problems if capable but also helps to determinate is escalation needed.

When the ticket is escalated it is sorted and assigned to specialists who are knowledgeable about the customers environment. It is to be expected that all the tickets will be handled on this second layer of escalation. Often, they can

take more time to resolve, but eventually will be resolved. Depending on the company and their processes the number of escalation layers can vary. Core principle is that depending on the escalation level the specialist's expertise also increases. Escalating downwards is not endorsed. This practice could end up in a loop and causing tickets to be circulating in the system without anyone completing the ticket.

3.2 Channel differences

Tickets are received through two different channels, email or by call. Often it is not enough to have just one channel for efficient communication and transparency how the ticket is progressing and is the ticket still open. Calling is more straightforward and can lead to better communication for the ease of exchanging information by having the ability to converse real time. This allows the agent to collect all the necessary information and increases the chances of first contact resolution (FCR).

Call tickets are utilized the most by users looking for help with more simple and acute issues. Simple issues are often more common service requests or incidents and FCR for these is often hovering around 75%. The industry standard for Help Desks ranges between 70% to 79%. Tickets that do not get solved often require more information, thus requiring the agent to be in contact another time. This is when communication often switches to more hybrid between calls and emails (Kristi Runyan 2024).

Email has its own strengths as a channel especially when it comes down to coordination with another customer IT or where more people are involved. Everyone can simultaneously read the email and the conversation is easily readable so if another person is required to continue the work, they can easily start with the information gathered. Another big strength is that tickets through email do not require you to stay on the phone and allows the request or problem to be solved by the customer IT. It also allows to better organize times when you would be available for a call or remote connection sessions (Itarian 2024).

When it comes to different channels and the methods of communication email is more important one for its versability and often being the base for the ticketing systems. Having only phone as a channel could work but it requires specific conditions. Most effective is to have both channels as an option thus ensuring effective communication and coordination to have most efficient service possible (Andriotis, N. 2018).

3.3 ConnectWise Manage -ticket management tool

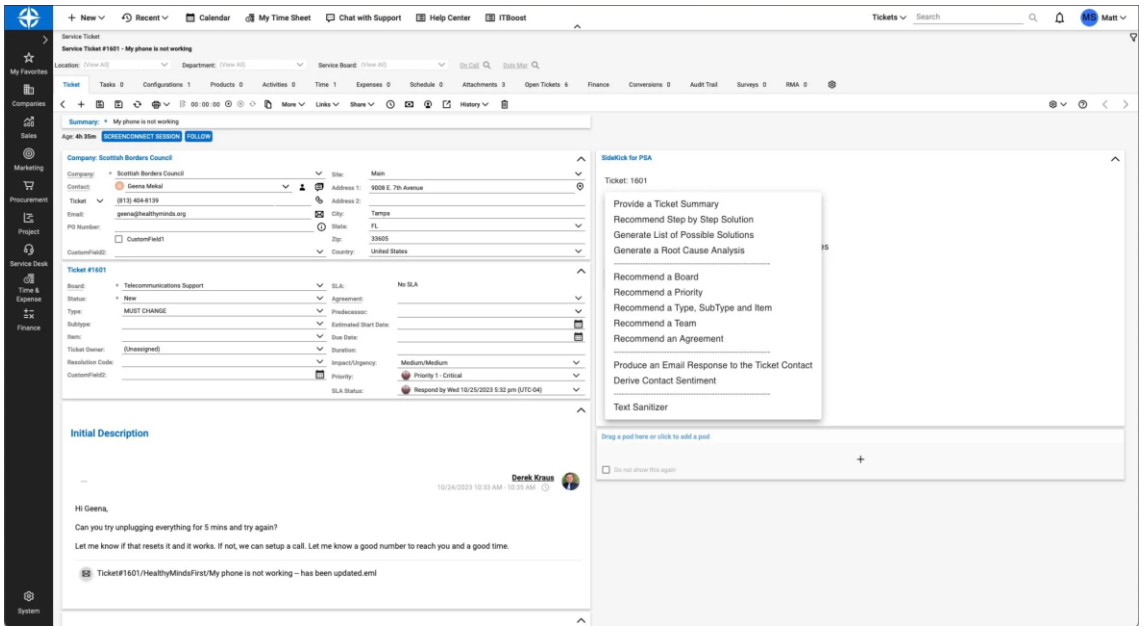
ConnectWise (CW) was used to collect ticketing data and time spent on writing and creating a ticket for the sake of identifying elements that could lead to efficiency improvements. CW has many features, and it is possible to modify to your companies needs through various means. In its core it utilizes email communication and doesn’t have a supported phone system at the time.

3.4 Help Desk

When creating a ticket, the system has various fields that you need to fill. It has summary, board, status, type, subtype, item, and agreement. Each field is important for various reasons and not always filled to help solving the ticket.

Using a template provided to all Help Desk agents at the commissioning company, agent who received the call will fill it and that way the ticket gets its preliminary information such as into which phone line user called, contact information, what the request was, how many are affected, when did it start, potential error messages, device information, other relevant information, what has already been done and what could be done next. Most important of these for solving the ticket in order are what has been done, error messages, how many are affected and contact information. Filling all this information can take some time and most of it can be automated by having an integration with calling system.

CW can either converse with the user or internally. This makes it possible to first converse with other agents internally about possible solutions, add work notes and comment what could be done next, thus sending only relevant information to the user.



Picture 1. Default ConnectWise ticketing view (Belevska, B. 2023)

3.5 Time record for worked time

CW has different core features such as agreements and pricings for different jobs as well as analytics and reporting. This makes it possible and mandatory for the agent to make sure they set correct agreements for the job done. It is also important to log correct times. This is useful in analytics when looking at each individual and their work times.

This can be done afterwards however it can tap into the efficiency of the Help Desk in more way than one. It is challenging to keep note how much time you have worked on each individual case, especially by having to often juggle multiple cases at once. By having work time tracked by each individual work note or comment it slows down the ticketing process (Belevska, B. 2023).

4 Useful features in a ticketing system

With so many ticketing systems in the market, it might be difficult to find the one that fits all the needs of a company. There are few features that are universally good and essential for effective and efficient workflow, for example (TeamSupport 2022).

Ticket automation is crucial and ever growing with the new AI technology growing and evolving. Automation helps the agents and users to get tickets resolved by for example reminding the user about the ticket, automatically sending emails about the ticket's status, assigning, and moving tickets to the correct spaces depending on the status of the ticket.

Ticket tags and templates so that you can apply what the ticket is for example is it a service ticket or incident, project, or change. Depending on the ticket it will have different needs and use cases which can help to identify what kind of ticket is in question.

Ticket status helps with automation and ticket management. When a ticket is on hold, work in progress or even resolved, it gives instant information with a glance saving the time of having to open each individual ticket.

Individual ticket queues help with organizing the ticket mass by allowing each agent, each company and each team have their own ticket queues where you can sort and pick tickets to work on. By having the ability to sort helps you stay on top of the tickets you are responsible for.

4.1 Features that improve Help Desks efficiency

Ticket automation is a big feature with lots of options in the future, especially if ticketing system is combined with calling system. This could lead to the ticket automatically being created, search for ongoing tickets and possibly add contact to the contact list of the ticketing system. Manually having to do all of this can lead to miscommunication, duplicate tickets, and loss of time on both parties.

Overall having automation helps with common everyday tasks such as moving the tickets, user messaging and staying on top on which status each ticket is.

Ticket history and search capability that is possible with different ticket tags help when searching previous tickets for a similar problem. Previous tickets often have solutions or clues what the user's problem might be. Having an effective and easy way to look for that important data will result in having more tickets resolved faster. Often companies have documentation and guides written down, but the resolved tickets are just as valuable as well written documentation (Sahay, K 2024)Sahay, K 2024.

Clear and easy to use user interface (UI) is also crucial for both the customer and agent. Many ticketing systems can be filled with so many features but finding them and using them can be difficult. This is why having clear UI that is easy to read and navigate helps to utilize the ticketing system more efficiently and faster.

Ticket templates for common simple repetitive requests. This feature will allow simple requests for example, password resets or common application guidance that often only take few minutes to be done even faster. With a template you can then just create it, apply the info without having the need of manually entering all the information. The shorter the worktime and easier the problem, the more emphasis the effectiveness and efficiency of a ticketing system will have (Transcosmos 2017).

4.2 Integrated call system

Ticketing system that has integrated call system or vice versa helps with many issues that Help Desk can encounter. Without integration the users call and if lines are busy leave a call-back request. This could be automatically turned into a ticket with a voicemail that could be written down onto the ticket with the help of AI. There could also be different menus to navigate on the phone, what the issue is to help with categorize it. This would reduce the call volume and the stress on the phonelines.

By using the menus to route and enter reasons for their calls can also help with simple requests that require simple guides and giving assistance straight away. This is also important since it encourages the user to try to fix the problem first and that way training them to be more self-service oriented. Self-service with AI is increasing, and chat bots are popular in many fields of customer support. Integrated call system could help with having more targeted assistance straight away without having to create universal chatbot that would work for all customers.

SMS, chat, and email could all then be integrated into one support system. This would allow many different channels and with all of them integrated together allows a faster, better experience for the user and the agent. The lack of knowledge and information gathering is the most time-consuming part of the call (Yonatan, R. 2024).

5 Data collection

For the sake of finding out how much time it takes in a call from start to finish and how much of that time is used for creating the ticket and writing down the info. The data collection was done while working at Tietokeskus Help Desk. Knowledge of the ticketing and call system was full-time use for 9 months with over 1500 tickets processed during that time. From these tickets 122 were timed by using a stopwatch. Data collection was done into a table on Microsoft Excel. Stopwatch used was phones stopwatch. The data sought after was to find out the average handle time meaning how long a single ticket is being handled by a single agent and how big of a portion goes into ticketing and documentation.

The data collection period was two weeks. Stopwatch was started when the call began and stopped after the ticket was finished. Documentation and ticketing were done separately by first writing all the data on ticket information template and then transferred to the ticketing system. For each different phase a lap time marker was pushed. In addition to these times, data whether the ticket was new or that the ticket was an outlier case was also taken into consideration. Whether the ticket was new or outlier, they still do slightly affect the final mean values.

5.1 Documentation information

The time that was considered documentation included regular works such as writing down the information of the user and filling the Help Desks data collection template, updating the customer documentation, creating a new contact for the user, saving, and taking pictures for documentation. Template that was provided and filled answered to the following: which phone line user called, contact information, what the request was, how many are affected, when did the issues start, potential error messages, device information, other relevant information to the ticket, what has already been done by the agent and what could be done next.

Updating the customer documentation was done into Confluence on the specific customer page from which company the user was from. The documentations were quite short and just quick additions or corrections.

Saving pictures for documentation did not take long. The longer time on them affected on applying the pictures on to the ticket, which did not affect documentation time. Pictures were taken by using Windows own feature screen capture.

5.2 Time data collected from using ConnectWise Management as ticketing system

Data was collected and consist of variety of different types of tickets and all of them were received by call. All the calls were at random times, random day and were all received by random and not chosen from the callback requests. Before starting to record this there are certain expectations when it comes to completion times and the maximum times spent per service request. On a normal somewhat busy day, you the expected time for a call is around 10-20 minutes but should not exceed 30 minutes.

When looking through the data it supported the boundaries and expectations. The full start to finish on the handle time was on average 16 minutes (Figure 1). This falls in line with the expected completion time of a service request which is 15 minutes. The documentation and ticketing part were on average 4:43 minutes (Figure 1). For average time spent only for documentation and ticketing seems longer than expected.

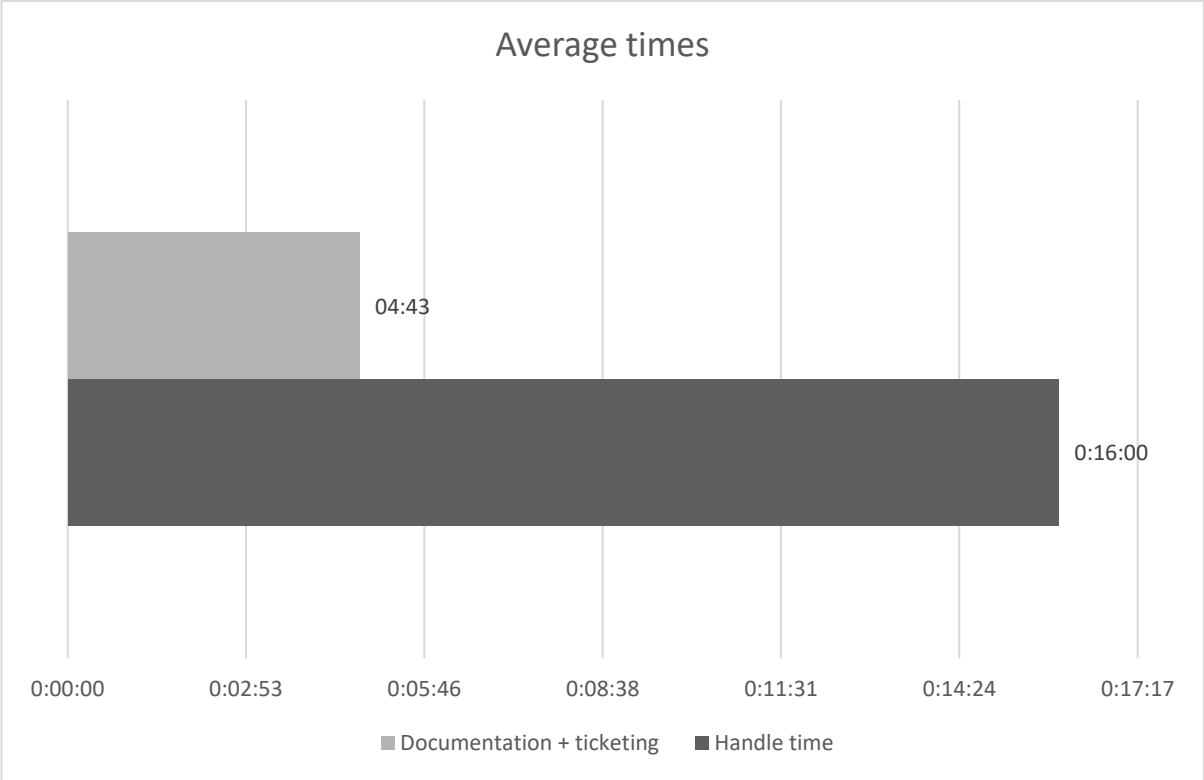


Figure 1. Average ticketing times compared to full ticket handle time.

Average handle times in the industry shows that on average tickets are handled for 8,6 minutes, which is almost half shorter than the data shows. The minimum and maximum times do follow similar trend as the data. On industry standard minimum is 3,2 minutes (Figure 2) and data collected has the shortest handle time clocking at 5 minutes. Longest time on industry standard is 27,8 minutes (Figure 2) which is a big difference to the data collected. Data has longest handled time clocking at 1 hour 14 minutes (Figure 4). Though the data also has a long documentation time which leads to believe it was a longer job that required a lot of looking into. Also, since it passed the 30 minutes max it leads to believe the day was relatively quiet and there was extra time to spend to resolve the ticket.

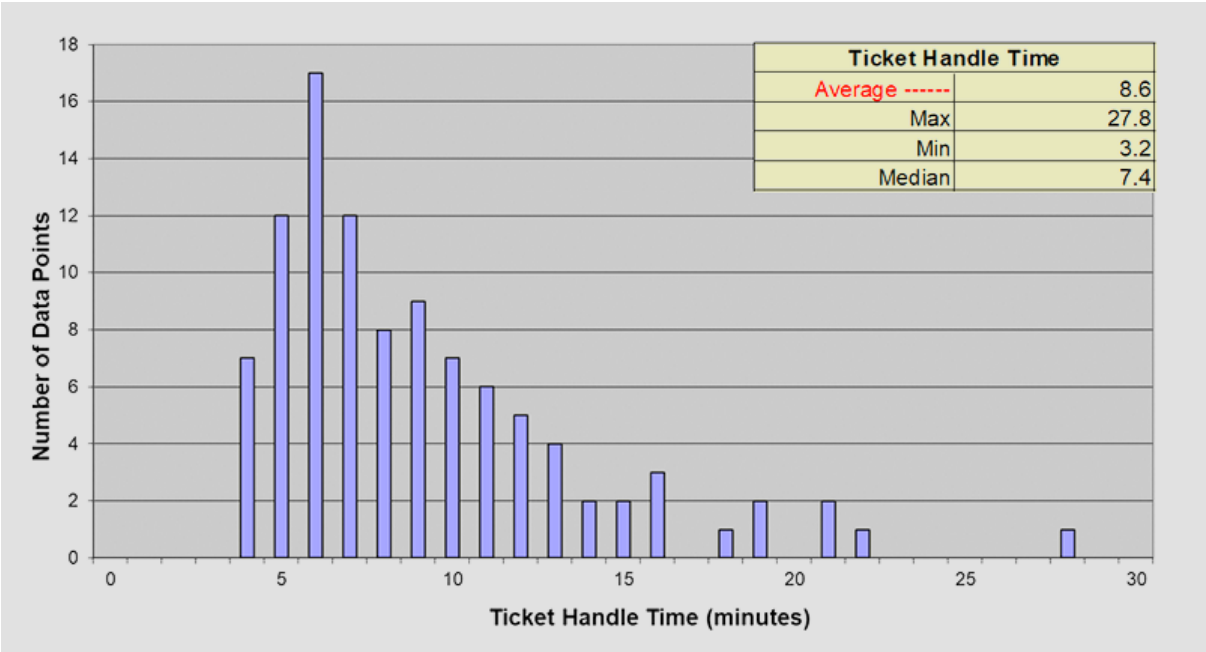


Figure 2. Benchmarking data for ticket handle time (Rumburg, J. 2019.)

5.3 Documentation and ticketing time data

For documentation and ticketing the average time spent working on each together was about 4:43 minutes (Figure 3). Individually the average on documenting was 2:26 minutes (Figure 3) and on ticketing it was 2 minutes (Figure 3). Roughly 25 percent of the handle time was spent purely on writing down information and applying that information onto a ticket. All of these after-call tasks take considerable amount of time than it is supposed to. According to industry average it was only about 45 seconds (Balto 2022).

The big difference between ticketing time and documentation was that when it comes to documentation, there can be instances where there is no need for any documentation, thus some of the data points had 0 seconds as documentation time (Figure 3). However ticketing time was never 0 seconds and lowest it was 30 seconds. This is already close to the industry average for after-call work.

Looking at the data it shows that mean of the documentation and ticketing was 4:59 minutes with upper mean of 8:46 minutes and lower mean of 1:48 minutes (Figure 3). This does reflect the unpredictability of what kind of problems users

might encounter and how it affects the time spent on each task. Tietokeskus Help Desk is more complex environment that is also affecting the wide range of minutes spent.

The mean can be affected by outliers especially in smaller sample size. With a sample size of 122 and having only a few outliers shouldn't affect the mean by meaningful amount. During the data gathering, uncommon and out of the norm cases happened as well. These can be found on the graph and most notable ones was the case where total documentation and ticketing time took 14:08 minutes and the other one took 12:39 minutes (Figure 3). The former required a lot of documentation and average amount of ticketing time, latter required a lot of ticketing time. These cases correctly are marked outside of the mean.

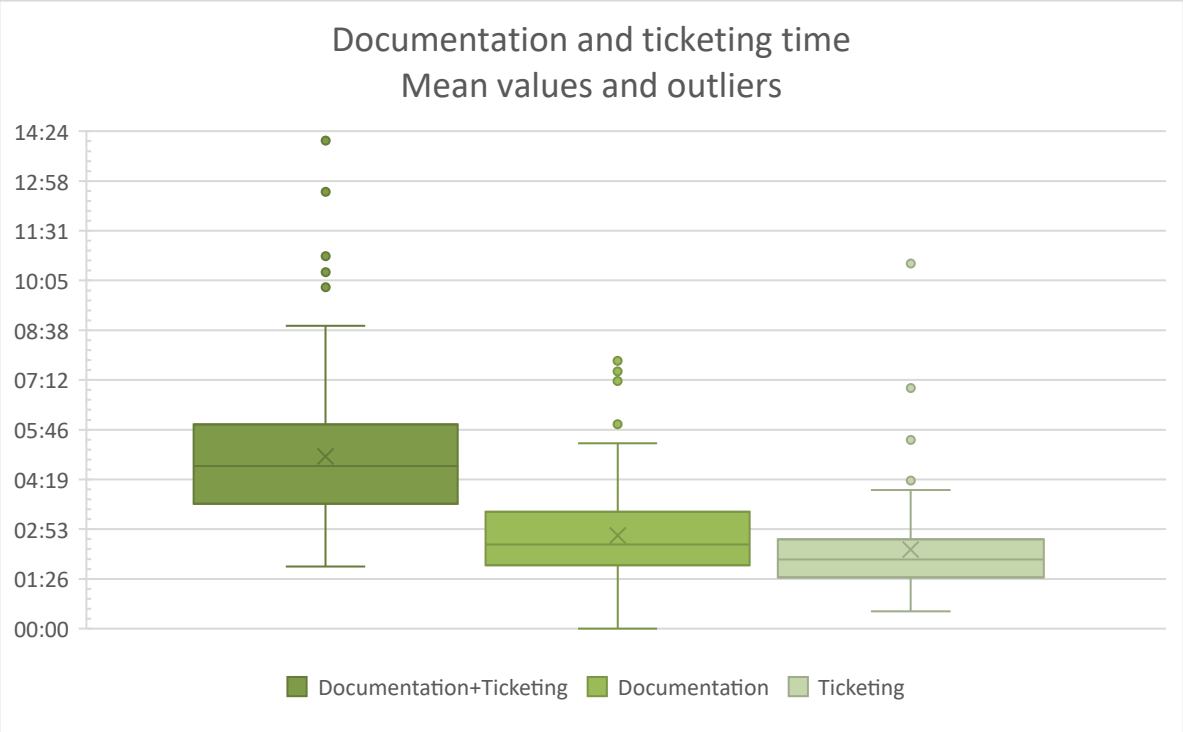


Figure 3. Documentation and ticketing mean values and outliers

5.3 Handle time of the service requests

Handle time is a industry standard that means the total time spend on a ticket. It is often calculated by totaling the total talk time, time on hold and follow-up work

which is done after the call. In the data we have collected the handle time and now calculated the average handle time (AHT). This was done by dividing the total minutes spent on a service request divided by total amount of tickets (Supercobra 2022).

Outliers for the handle time were not the same tickets that affected documentation and ticketing. These were other tickets that took more time to solve. Sometimes you have more time to solve the tickets and the simple reason for it can be connection issues, long process times or other time consuming process. The outlier was big but did not affect the mean substancually. The ticket took over 1h 14 minutes to solve (Figure 4).

Mean on the handle time was 20:28 minutes with an upper mean of 27:00 minutes and lower mean of 5:00 minutes (Figure 4). When looking at the fastest handle time you would expect to have fast ticketing and documentation time. This however was not the case with majority of the handle time coming from documentation and ticketing, 3:07 minutes. Similar theme could be found on other tickets.

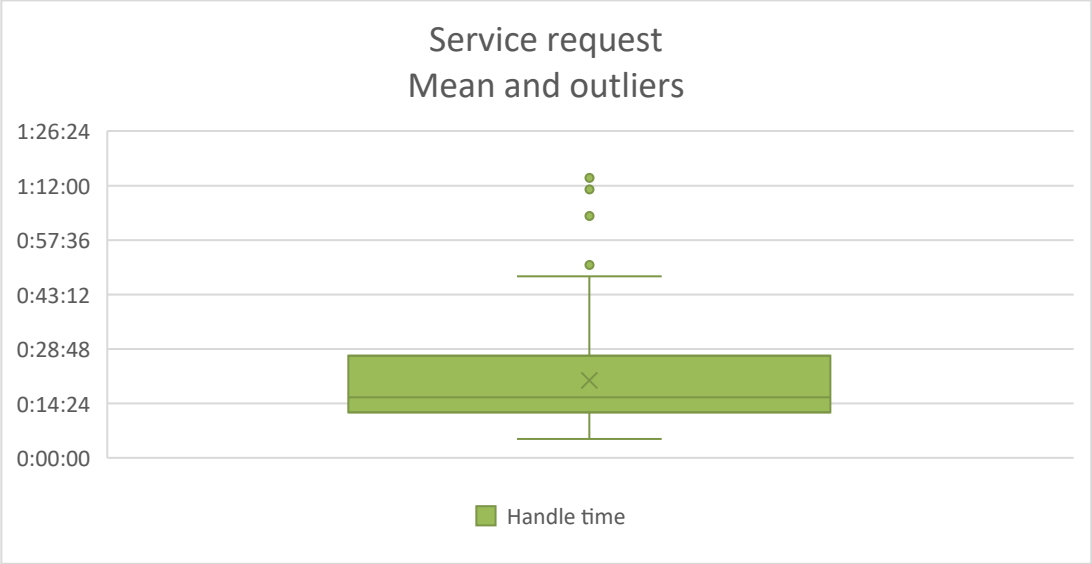


Figure 4. Service request mean values and outliers

5.4 Common themes and clues to efficiency loss in data

Tietokeskus uses three separate systems during handling time and for ticketing. This makes it so that agents must juggle multiple systems to create a single ticket, causing considerable amount of time being lost thus efficiency drops. This can be seen in the big differences between average ticketing and handling times around the industry compared to the data (Stefanowicz, B. 2024).

Another common theme in the industry is that the use of AI, chat bots, search engines, FAQ pages and overall automation is on rise. This affects especially fields that are more popular for the Gen Z and millennials as between them roughly 50% resolve their tickets through them (Sapardic, J. 2024).

At the time of data gathering there was a database only for selected few from customers company could access, meaning this data was not available for the general employee. Chat bot and search engines were not utilized, and overall automation was close to non-existent. The ticketing system itself was the only one that had automation built into it but that helped with ticket management and not so much ticket receiving. This is another gap creator compared to the average industry standard (Sapardic, J. 2024).

Utilizing the AI for example in a call menu would help with getting information before the call has even began making the agent aware of the core reasons for calling and the potential fix faster. This could reduce multiple minutes of entry talks and could make the handle time even smaller. Chat bot or call requests that automatically get sorted would also help with the same principle. Tietokeskus has possibility to do a call request, but it is quite elementary and not too efficient. There are still many things you must do to the ticket before its ready and more often the lack of any text information makes it hard to figure out what’s going on with the ticket initially.

6 Conclusion

The objectives of this thesis were to investigate the commissioning companies ticketing system and its effects on the efficiency of the Help Desk. This was achieved by analysing the data collected and by researching industry standards and various papers about Help Desks and ticketing systems good practices. During the research discrepancies in the good practices and current practices were found. This chapter goes through the discoveries and deepens our understanding gained from the data collected and research. By closely looking at workflow, roles in Help Desk, handling of tickets and different service requests, useful information was found that revealed how well the ticketing system works and what impact it has on the efficiency in Help Desk operations at the commissioning company.

Through the thesis, we found out various strengths and weaknesses in commissioning companies existing ticketing system. Although ConnectWise Manage has useful characteristics such as a small degree of automation and sorting of tickets into categories, there are also difficulties with integration as well as automation capacity. CW also does not effectively use templates and other similar features in the ticketing process.

Looking into the future, the outcomes of this thesis can assist in making choices to enhance Help Desk productivity. By carrying out suggestions such as incorporating call systems, upgrading automation procedures, and refining user interface design, commissioning company has potential to improve ticket handling processes while cutting down on resolution durations - an action that would ultimately lead towards bettering overall user experience and customer satisfaction.

This thesis also demonstrates that continuous research and development in Help Desk management is crucial. Later improvements can be found in new technologies like AI-controlled automation or including chatbots for improving effectiveness more. Furthermore, comparing ticketing systems and how

different businesses use them may give important knowledge about the efficiency and introduce different methods and plans in the development plans.

In conclusion, this thesis provides an in-depth understanding of how ticketing systems impact Help Desk effectiveness and suggests useful improvements for increasing efficiency. If Help Desks keep on finding new methods and adjusting to changing technology and following good standards, they can successfully handle the increasing need for fast customer support services in this digital era.

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