

Diary Thesis: Software specialist

Johannes Takala



Author Johannes Takala	
Degree programme Business Information Technology	
Report/thesis title Diary Thesis: Software specialist	Number of pages and appendix pages 45
<p>This is a diary type thesis that follows the authors professional development as a software specialist in the information technology sector during an 8-week observation period. The thesis consists of the introduction, framework, diary entries, discussion, and conclusions. Before starting the observation period, the introduction, background information, and framework was established to set a baseline for the starting point. The diary entries are separated weekly and consists of daily notes and weekly analyses. The main tasks were related with business intelligence, data analytics, and building up reporting for the financial and operative management.</p> <p>The observation period was 28.2.2022 – 24.4.2022.</p> <p>The focus during the observation period was on knowledge transfer, orientation, time management, communication, documentation processes, and improving authors skills in Power BI report development. The importance of time management was highlighted through out the observation period. Writing down observations, self-reflection, and analysing your work is a very important part of professional development.</p>	
Keywords Software Specialist, Business Intelligence, Data Analytics, Microsoft Power BI, Data	

Table of contents

1	Introduction	1
1.1	Key Professional Concepts, Tools, and Abbreviations	2
2	Framework	3
2.1	Analysis of your current work	3
2.2	Interest groups at work.....	5
2.3	Interaction skills at work	5
3	Diary entries	7
3.1	Observation week 1	7
3.2	Observation week 2	11
3.3	Observation week 3	15
3.4	Observation week 4	21
3.5	Observation week 5	26
3.6	Observation week 6	30
3.7	Observation week 7	34
3.8	Observation week 8	37
4	Discussion and conclusions	40
	References	43

1 Introduction

This is a diary thesis project that will be following my professional development whilst working as a software specialist. There will be an observation period of 8 weeks in total when work will be reported daily and analysed weekly. The task for this thesis is to provide valuable information about working as a software specialist in the information technology sector, demonstrate the professional development during the reporting period, and build up understanding about the required skills in the working life.

The observation period will be 28.2.2022 – 24.4.2022.

I started working at the company in June 2020 as an IT application specialist. The company operates in the healthcare sector. I work in the IT Management branch and the team I work in is responsible of the development, maintenance, and upkeep of reporting and data analytic services for the company. The customers and end-users of the reporting services we provide are internal interest groups such as the financial management or the operative management. I worked during the summer of 2020 and 2021 in the customer support services for the reporting service we were providing for the end-users. The tasks consisted of providing customer support, maintenance of reporting services, and planning the development of the reports and datasets together with the external contractors responsible of the development and maintenance. I was responsible also for making announcements to the customers about any problems, issues, or important changes that were happening in the reporting services we provided.

In December of 2021 I started working full time as a software specialist in the same team and that meant that my tasks and job description would change. The new tasks started in February 2022. I will be focusing on the planning and designing new reporting services to Microsoft Power BI together with internal interest groups and an external contractor that is responsible for most of the development work. I will be working in reporting development projects that will focus on a specific reporting area. Also, I will be taking part of improving and planning the documentation processes of the reporting development work. I will be working remotely during the project so good communication plays a key role in my daily tasks.

ITIL is one of the key frameworks in my day-to-day work life. Constant improvement of processes and the service we provide for the customers is important. The systems and reporting services we provide go through a set path throughout their lifecycle. The services we provide go through the ITIL service lifecycle starting from the design all the way to

maintenance. It is important to improve our services efficiently and in the best way possible and for that the ITIL framework is a very important part. (Farenden, 2012.)

ISO 8000-8 standard is one the important standards our company. The standard is related to data quality and how it can be measured. Good data quality is a very important factor within our company especially because of the large amounts of data that we have. We also have multiple sources where data is collected, and it can differ a little between these sources. In the end the information we provide with the reports and services needs to be trustworthy and data quality plays a key role in this. (ISO, 2015.)

1.1 Key Professional Concepts, Tools, and Abbreviations

ITIL	Information Technology Infrastructure Library. Guidelines and best practice for information technology development processes and service lifecycle. (Farenden, 2012.)
SCRUM	Project management method used for the development work of different reporting services within our company. Consists of sprint planning, scrum meetings, sprint reviews, and retrospective. (Scrum.org, 2022.)
Sprint	Planned 2-to-4-week working period. Work is evaluated before and after the period. (Rehkopf, 2022.)
JIRA	Software used for management of tasks, tickets, and for scrum project work. (ProductPlan, 2022.)
IBM Cognos Analytics	Reporting services and application provided by IBM. (IBM, 2022.)
Data Governance	Data governance describes the model for how data is handled, saved, and used within our company. (Stedman & Vaughan, 2020.)
Data Lake	Storage area for structured and unstructured data. (AWS, 2022.)
DW	Data Warehouse. (OCI, 2022.)
DV	Data Vault. (Datavault, 2022.)
DS	Data Steward. (Hovi, 2018.)
DM	Data Model/Modelling. (SAP, 2022.)
SQL	Structured Query Language. (Becker, 2021.)

2 Framework

2.1 Analysis of your current work

The tasks related to my job are quite varied and consists of many different things depending on the day. I will list the main tasks related to my job and open what they might include to give a better understanding about my current situation.

1. Planning and designing of reporting services.

- a. Arranging meetings about the specifications and definition of the reporting area. These meetings are done together with the financial or operative management, developers, and IT experts on our side to create a better understanding of the requirements and what can be done.
- b. In the beginning of a project there are more of these meetings. I will be representing our IT services in these meetings and work together with the financial side and developers to ensure transfer of information and knowledge.
- c. In this phase of the project, I would be creating documentation about the specifications together with the development team and the Data Steward (DS) from the financial side of the company.

2. Development of reporting services.

- a. Development work is mostly done by an external interest group that is responsible about the development of the reporting services. My duty is to prioritize and plan the development work together with the development team. I would be creating tickets to the JIRA service about the different issues and needs. At times I might take part in creating new reports to the service, but the back-end development of the datasets and Data Warehouse (DW) is done by the development team.
- b. Arranging weekly meetings or sometimes daily meetings together with the development team. Depending on the reporting project development work is done in 2 – 4-week sprints.
- c. Testing is a large part of the development of the different reporting areas that we are creating. A lot of the testing is done together with the DS, development team. The important part is to improve the data quality, find problems and issues. Sometimes reporting areas consists of many different sources and the data needs to be the same at our end. If there is no explanation for the differences than we need to find out what is causing them.

3. Maintenance and upkeep of reporting services.

- a. Everyone in our team takes part in the maintenance and upkeep of reporting services. It's a customer service task where I need to keep a track of any issues and tickets coming up about the reporting services we provide.

Employees within our company has an electric support system where they can create tickets about the issues or questions they have about the service.

- b. Tickets and issues related to them need to sometimes then be escalated to the development team when it's a clear technical issue that needs further development work or something needs to be investigated.
- c. Tickets are assigned to the employee who is the specialist of that reporting area.

Important skills for my work are the ability to use Microsoft Power BI service, JIRA service, Microsoft 365 Office Tools, and Microsoft Teams. It's very important to understand the data flow and structure. Ability to understand the data and the sources of the data is very useful skill. Of course, we have experts from the specific fields of the reporting area, but it makes the work much easier if you also understand the data better. Good communication plays a key role since the work is completely done remotely. It's also very important to understand who the key personnel for the development project are and from whom you can ask if you need further information about the specific reporting area.

If I would evaluate my current level of professional development, I would say I'm somewhere between a beginning-stage actor and skilful performer. I'm very familiar with the company and my team. I have been working in the same team on and off for the last 2 years, but the tasks were quite different for that period. The work and tasks I will be doing is something I have not done previously at all and I'm basically a beginner with Microsoft Power BI so for that reason I would say I'm still a beginner in that part. I'm familiar with all our older services, the company and our team which gives me some useful tools during the observation period. I will still need a lot of support and help in some tasks I will be doing, and I will not be completely independent in my work. I'm not that familiar with the external interest group who is responsible of the development of the reporting services for our company. It will take me some time to get familiar with all the important processes, understand the reporting are I will be responsible for and learn how to create good reports.

The focus for professional development should be on learning how to use Microsoft Power BI services to create and provide reports for the customers. I want to improve my ability to use Microsoft Power BI and how it can be used to develop reports. On top of that I want to also improve my project working skills and learn how these development projects for reporting services are done. I want to improve my communication skills and the ability to plan out my work. Sometimes the days can feel hard because planning seems difficult, but I want to improve in that area. Also, I want to become more familiar about the whole data handling process within our company to understand it better. It would help me a lot in the

planning of the work and tasks. Improving the structure of the working week and day is important for improving the quality of my work. It would also make me more efficient. I want to become more independent in my work but in general in our work I will always need others.

2.2 Interest groups at work

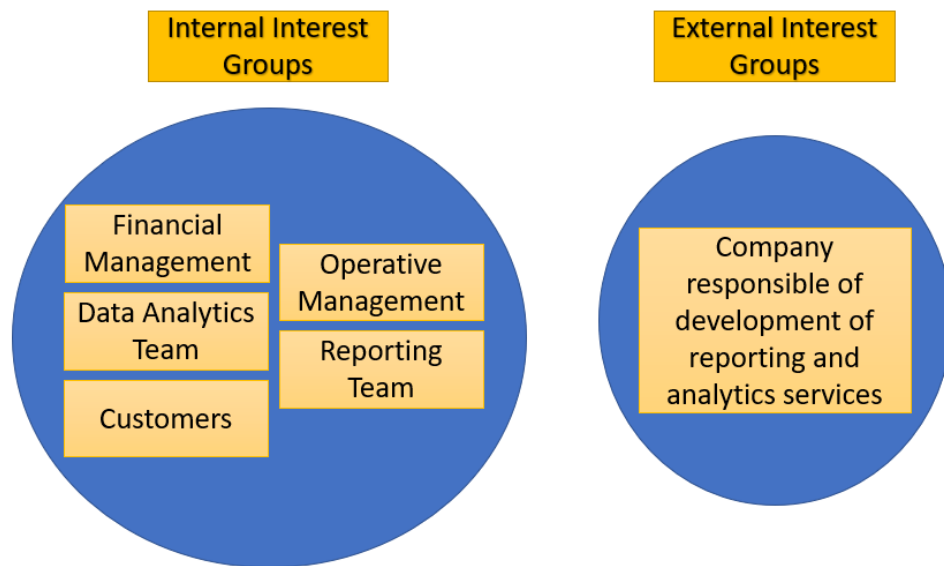


Figure 1. Internal and External interest groups within the company.

In the development of the reporting and analytics services the most important interest's groups are displayed in the figure 1 above. The services are developed for the financial and operative management, and they are most of the customers also using the product. The development is always done together with the customers, data analytics team, and the external interest group company who is responsible for most of the development work. The development company is responsible of the data warehouse and some parts of creating the reports for the Microsoft Power BI service provided to the customer. I work in the reporting team interest group and will be working closely with all these interest groups.

2.3 Interaction skills at work

Interaction will and communication skills will be extremely important factor during the whole period. I will be working remotely during the observation period and have already been working at home for the past 2 years. The interactions consist of daily meetings in Microsoft Teams and most of the meetings we have will be arranged in Teams. Emails

also play a key role in the communication with all the interest groups within our company. JIRA tickets are also used to communicate together with the development team. Customer service is done with our companies own ticketing services and sometimes with the help of emails. The biggest challenge with remote work and communication is to keep everyone posted and informed about the progress of work. Transfer of knowledge and information can sometimes be very challenging and requires you to be proactive in your work. It is extremely important to be vocal in the meetings and ask questions if you have any. Also, everyone gets so much email these days that it sometimes gets lost and many times you need to send stuff again and make sure people have read what you sent. Think twice if a meeting is needed for the specific issue or if it can be handled in some other way and sometimes it's better to have a Teams meeting to solve the issue. It's important to be active and vocal to ensure that issues are handled properly.

3 Diary entries

3.1 Observation week 1

Monday 28 February 2022

The objective for today was to go through the new reporting area I was going to be taking part in. The plan was that starting from this week I would start in a new reporting area with new tasks and needs. The plan was that I would discuss the upcoming tasks together with my supervisor and then plan the knowledge transfer together with the person who was taking part in this reporting area at this moment. On top of that we always have a Monday meeting together within our team where we go through the upcoming tasks on high level and what is the current working situation for everyone. I will also take part in a reporting demo and education meeting arranged for the financial management about reports I have been working with previously.

I discussed all the new tasks together with my supervisor and we agreed to create a plan for the knowledge transfer together with the employee who was filling in now. Most of the day was filled with different meetings I already mentioned before and reading parts of the documentation from the new reporting area I would take part in. The new reporting area or topic is related to human resourcing within our company. The project had already been started last year but it has been on a stand still because of issues with the integration to the data source systems. Most of the upcoming weeks will be filled with a lot of knowledge transfer about my new tasks and topics. We will be discussing the division of the work with the project managers and the development team during this week to clarify how we will be working in the future. Lots of reading documents and creating documentation today. Planning and scheduling will be extremely important in the future, and I need to build up my understanding about the new reporting area so that I can prioritize my tasks correctly.

Tuesday 1 March 2022

Today's aim was to continue the knowledge transfer and orientation to the new reporting area. On top of that I wanted to arrange a meeting for this week together with the project manager and other important personnel in the project to create a plan for the orientation and build up a better understanding about the division of work within the project. Most of the day went by with me going through the documentation and history of the project and creating my own notes about the current situation. I had a meeting together with the lead

Microsoft Power BI developer and the Data Steward (DS) of this project. We went through the initial introductions and talked a little bit about the current situation in this project. I proposed to them that we could possibly create a task list for the future to ensure that everything we would be talking in the upcoming meetings would be noted. Also, I arranged the meeting with the project manager and some other important personnel within the project for Thursday to talk about the current situation and tasks in hand. Not a very special day by the notes but still and very important one. The project is large, and it will take me quite a lot of time to get fully orientated.

Wednesday 2 March 2022

Today was going to be pretty much the same as yesterday in terms of what I was going to do. So mostly orientation, reading documents and getting informed about many different things related to the project. On top of that we had a 2 hour “information strike” -meeting about testing which was very informative. Testing is a very important part within our projects and sometimes the rush and time limits eats out the time meant for testing. This can result in some issues when the product is released for use to the customers. More focus should be put on testing since it improves the product and lessens the workload in the end when the product is released. I helped one of my colleagues with a data collection task that came from one of the customers. Part of this was creating a report with the IBM Cognos Analytics service that we have still in use for older reports and some history data. I'm very familiar with the old reporting platform since I have been working with it the past 2 years, but the subject area was new for me, so it was a very interesting task.

Thursday 3 March 2022

Very similar day when compared to the others this week. We went through the current situation of the development project together with the project manager. The project itself has been running for almost over a year but it has been halted many times because of technical difficulties and prioritization of other projects. On the perspective of professional development, I'm joining this project in a very opportune moment. The development will be restarted all the way of the data integrations, creating data views to the data lake, building up the structure to the data warehouse, and then creating new reports. The project is massive and very complicated. There are multiple source systems where data is collected, and it varies a lot between the systems. There are security concerns and development of the integrations will take a lot of time. The focus for now is to start building up the

integrations together with a contractor and building up temporary reports that our management can use for now.

Friday 4 March 2022

Today's plan was to continue with the orientation but also, we are going to have a weekly meeting for the development project and a 3-hour workshop related to the data security in the afternoon. First half of the day was filled with orientation and creating an excel spreadsheet for following the tasks related to the Microsoft Power BI development tasks. We have quite many meetings every week about the development where many different issues and tasks are talked about. I felt like it would be useful to have a document where we can list the important tasks and issues that we talk about. It would make following the progression of the tasks easier and if in the future we need to check if we talked about something previously. We will test out the excel and see if it works well for us. The requirements are that everyone will be active with noting the things we talk about, and it will be used in the meetings to go through important issues. The workshop meeting about the data security was important but I'm taking part in it to mostly just stay informed and understand what it means for our data structure. In today's workshop the development and testing team showed a demo for the solution of the data protection that was planned. The development team will continue working on the solution and it needs more testing in the future.

Weekly analysis

This week's theme was clearly orientation, knowledge transfer and getting familiar with new tasks. I started working in a new project and reporting area that will be my main responsibility in the future. My tasks are focused on the organisation of work and Microsoft Power BI development. The project I'm going to be taking part in is very large and it has been a long-term project for quite some time. There have been some issues with scheduling, prioritization, and technical limitations that has caused delays for the project previously.

On the perspective of professional development, I am joining this project in an opportune moment. The work on data integrations and collection of data from the source systems had to be restarted which means that the project needed a soft restart in a sense. A lot of the specifications and designs for the datasets and reports have been made before which

means not everything needs to be redone but a lot of the background work needs a lot of work in the data lake and data storage area.

Professional development and improvement in skills is a little bit hard to evaluate this week since it was mostly focused on knowledge transfer and orientation to the new tasks. A lot of the time was filled with either reading documents or going through stuff in Teams meetings. I had to schedule and plan a lot of new meetings in the upcoming weeks together with important personnel in the project to arrange knowledge transfer sessions. Also, we went through the state of the project currently with the project manager and made sure I had invitations to all the important meetings related to the project. There are many main development lines within the project, and I will not have tasks in all of them, but I still need to stay informed about the current situation within the project.

I needed some clarifications about the scheduling and background of the projects which I got from the project manager. The focus of my tasks will be supporting the Microsoft Power BI development side of the project. Although my tasks are mainly concerned with the Microsoft Power BI development team, I still need to stay informed about everything in the project to make sure I have the up-to-date information about the current situation.

One of the problems I encountered this week was that there really is no planned employee onboarding for our projects in general. Most if not all the orientation, knowledge sharing, and so on had to be planned by me with the help of my colleagues. Having an onboarding program or something that was already pre-planned would make the orientation and knowledge sharing a lot easier. Also, if I was a completely new employee starting in at my job, I would feel quite lost for a longer time without proper onboarding process and training. We do have specific training and courses I have gone through previously, but they are much more general and not fully focused on the specific work tasks on hand. A proper onboarding process for the task and job I will be doing would make it much easier for me to get the hang of everything and it would improve the speed of my professional development a lot. I think creating an onboarding process or program in the future would be beneficial for our team especially when getting new hires but also in the case an older employee changes their main tasks. Of course, it is not always possible in every development project to have an onboarding process but for the current project I'm working in it should exist. (Davila & Pina-Ramirez, 2018.)

3.2 Observation week 2

Monday 7 March 2022

Second week on the new project and there are still a lot to learn. On Mondays we always have our teams own meeting where we go through everyone's current work situation, are there any issues or problems currently, and does someone need help with their tasks. We also went through the current process of customer support service we have for our reporting services. There were some issues last week and we needed to discuss a little bit about the tasks related to customer support. Everyone who works in any kind of reporting project or has a reporting are under their own control has the responsibility to take part in the customer support shifts. These shifts are reserved from a calendar and the idea is that you need to monitor the ticketing system constantly throughout the shift to ensure swift response to the customer. Partly because of some sick leaves last week there were some issues in these shifts, and we needed to discuss how we can ensure good service in case we are missing employees within our team.

We had a first meeting session about the Microsoft Power BI reports that had been created by the development team. The idea of the session was to show the reports to the DS of the project and management team (customers). The reports are temporary reports meant to be used for couple of months or until we can replace them with the production reports made from the data sets built in the project. The reports got a positive response from the customers and there were only minor changes needed. I went through the changes after the meeting together with the development team. Also, we discussed together with the development team and the DS that there needs to be some sort of guidance and documentation about the temporary reports, and this will be my responsibility in the future. At the end of the day, I had a 2-hour session together with the head Microsoft Power BI developer about the current situation of Data Warehouse (DW), reports, datasets, data integrations, development history, responsibilities, and tasks. In a sense it was an orientation session and knowledge sharing. We discussed about the division of work tasks and planned the future development work together.

Tuesday 8 March 2022

Today's main task was to go through the documentation and training needed together with the DS of the project. We had a couple hour planning session in the morning where I demonstrated the possibilities and different solutions. The core idea is that we will use the

training videos we have already created previously for basic guidance for the users but on top of that I will create a guidance documentation that helps with the navigation to the reports, useful buttons and inputs, and where additional information can be found. A lot of the information and guidance can be provided within the reports themselves and we will be taking advantage of this when creating the temporary reports. We had time to spare after going through this so we decided together with the DS that we could go through the current data source reporting systems that are used and what kind of reporting they provide for our customers. In the evening I continued with orientation, creating documents, and creating test reports in Microsoft Power BI.

Wednesday 9 March 2022

Today is going to be a busy day. My day was mostly filled with a lot of different meetings ranging from orientation, project planning, and working on the development plan of the new data warehouse. I had a meeting again together with the DS and the core idea was that we were going to go through the current source systems, what kind of reporting is already done, and what are the most important reports that need to be created. It was a very useful meeting and we already talked together that we need more “reporting definition” -workshops throughout this project. In the afternoon we had a workshop for planning out the new data warehouse work. The project has had many issues related to building proper data sets to the data warehouse and we needed a team that had a contractor from the source system developer team. The data in general is very complex and needs a lot of definitions and design help to make it more understandable for our Microsoft Power BI developers. I will be part of this data warehouse development process and my responsibility is to help the management translate their needs to the technical side of the project. In addition, we talked with the project management and decided together that I will create a proposal for the documentation.

Thursday 10 March 2022

The plan for today was orientation and continue working on the data warehouse development. In the morning I had to order some new access rights for the contractors to our data warehouse. We decided to focus and start with one of the smaller parts in the data set. Most of the work was done by the contractor and the data warehouse developer. My part was to help the developers understand the needs in the reporting. We decided that the contractor would create a list that would propose all the fields that are important in their

opinion to take on account in the data warehouse. I created a Teams channel for this project work and the idea for that is that all the outside contractors can safely discuss and moderate each other's ideas.

Friday 11 March 2022

Today was a very busy day filled with a lot of different meetings concerning the new data warehouse work. We created a basic outline for one smaller part of the data set that we can go through together on the next week's meeting. The definitions still need some check-up from the management side and the DS of the project. Also, I created a small presentation about the documentation process that we have within our company and team. This presentation will be shown on Monday in the integration meeting. In the afternoon we had a meeting together with the project management and all the important development lines. We went through the current situation of the project as a whole and discussed together if there are any issues or if someone needs help with something.

Weekly analysis

The orientation and knowledge transfer continued throughout this week but on top of that we also launched many important development processes during this week. In terms of orientation, I had many sessions this week with the DS of the project and the lead developer for the Microsoft Power BI project. It still feels challenging to understand everything and at the same time try to be helpful in the development process especially because of the size of the project. There is so much to learn and know that it will take long time to understand everything. I need to be patient with myself and understand that this is a long process and learning everything takes time.

The most important parts being the data warehouse project where an outside contractor will be helping with building the datasets out of the source data. The issue in this project has been that the source data is extremely hard to understand and building working data sets that could be used in reporting has been very hard and slow. The solution for this was to create a project where contractors from the source systems of the data and experts of building data sets were connected in a smaller development group. I'm taking part in this project and my responsibility is to represent our company but on top of that I will be handling the connection between the technical experts and management. On top of that I will be the person from our company working together with the smaller development group currently. I will be helping with any administrative stuff such as getting access rights for

the developers and contractors if needed or creating Teams channel for the project. Most important part will most likely be that I'm the key in communication between the development team and the DS of the project.

In terms of professional development, the focus has clearly still been on the orientation and getting familiar with my tasks, project scope, and information related to my work. I focused on learning together with the important personnel about the important parts in the project. Together with the DS I went through the source systems they use and what kind of reports they have in those systems. All together there are 7 different source systems in the project as a whole and we went through the 2 main systems during last week. So, there are still a lot of systems I am not familiar with, but the focus will be on the 2 systems we went through during the week. The data warehouse development project is related to these 2 main systems which are very complex in terms of the data they produce. One of the issues is also that there needs to be connections between both systems since they are important in terms of reporting. The current situation with the pandemic has put our whole team to work at home for the past 2 years. It seems that it will continue like this for quite some time, and I have noticed it makes getting familiar and learning new stuff sometimes challenging. All the orientation and knowledge sharing are done digitally, and it includes large amounts of documentation and information that needs to be consumed at home on your computer screen. It's important to learn how to process all this digital information and one of the important parts for me has been that I do handwritten notes about important parts. Writing stuff down has always made it easier for me to remember stuff and to make sure something stays in my head after massive amount of stuff we go through weekly. Repetition and continuous work will bring results in the end. (Øystein, Amandeep & Bjørn-Tore, 2021.)

Communication is also playing a key role in my everyday work. It is extremely important to make sure everyone in the project has the same understanding and information about different parts of the project travels to all the important parties in the project. Building up meaningful work relationships is much harder whilst working remotely. It's very important that collaboration work is effective, and time is not wasted during the Teams meetings because of issues in communication. I have noticed that emails are used a lot more for communication that used to be done during the meetings. This has led to sometimes important communication getting lost in the large number of emails and sometimes we need to discuss issues and problems we have already talked about in emails. Improving the efficiency of communication and at the same time the documentation process will be very important in the future. (Oz & Crooks, 2020)

3.3 Observation week 3

Monday 14 March 2022

This Monday was filled with meetings before starting the day. We had our weekly meeting session with our team, workshop together with the management team about the temporary reports, project data integration meeting, and new data source workshop -planning session. The day itself would be very busy and it seems like the whole week will be filled with different kinds of meetings.

In the weekly meeting session, we went through our monthly reporting excel where everyone within our team reports their current situation in the project, they are working in. This was the first time we used this kind of reporting systems, so we mostly discussed about how it went and if any changes needed to be made to the document itself. The documents idea is that it's supportive information for our management and in the case, there are any sick leaves within our team. In the integration meeting I presented the current situation with the documentation within the project and what are the guidelines for the future. I have already previously worked a lot with the documentation process within our team so it's somewhat familiar for me, but it is still something that we continuously try to improve. There are still some issues in the data warehouse documentation process, and we want to automate as much of the documentation process as we can. On top of that there are some document templates I have created together with our teammates for the development project for reporting. These documents will be something I will be responsible for in the future when we get to the stage that they are needed.

On top of the 2 main data sources, I'm mostly working with right now to create temporary reporting for the management there is also a 3rd source which is very important for reporting. The data integration for this source system was finished last week and we have received the data to our data lake, but it needs further definition work so that we can develop it further to our data warehouse. The issue is that other projects also need the data in this 3rd source system within our project and we needed to discuss how to proceed and make sure that this progress at the same time as the other 2 main data sources within our project. We discussed that I would arrange a modelling workshop for the upcoming week where we get our modelling experts to create a model based on the needs of the end customers. Important personnel within our project would take part in this modelling session and on top of that some people outside our development project that would be using the data for their projects.

Tuesday 15 March 2022

Today we worked a lot on the temporary Microsoft Power BI reports. We edited the reports based on the feedback we got from the management. Also, there were some minor visual changes that needed to be done and edited before we would give the reports to the management for testing. After that we had a meeting together with the DS and discussed some of the minor changes that we made and gave the link to the test environment so that they can start the testing with the reports during this week.

We had a meeting together with the project manager and the data analyst from the data lake team within our company. The data analyst would be joining our project and working together with us at the data lake side. The tasks for the data analyst in this project will be mostly related to working closely together with the data warehouse experts and help creating data sets out of the raw data from the data lake. I had to also prepare for a yearly development discussion scheduled for Friday. The discussion is held together with our team leader to discuss current tasks, future goals, issues or problems, and future development.

Wednesday 16 March 2022

Majority of this day was going the focused working on the temporary Microsoft Power BI reports and, we were going to have a couple hour session together about the data warehouse progression. I did a lot of changes to the temporary reports based on the feedback we got from the management. Mostly these were related to small visual changes, and I also created some guidance and information sections for the reports so that they are easier to use. I added some necessary links and guidelines to our support sites and the training videos we have created previously for using the reporting platform. The rest of the day was spent in the workshop where we focused on the current situation of the data warehouse work for our project. The session mostly consisted of going through the needed fields, dimensions, and primary keys for building up the joins between the tables. Also, we needed to go through the important attributes and fields required together with the management to make sure nothing is left out and while we don't take any unnecessary fields or tables that would not be used in reporting. The contractor for this project will continue working on the needed scripts and create some example views based on the requirements we set last time.

Thursday 17 March 2022

Today we went through the changes made to the temporary reports together with the management and went through some of the testing results about the data. The management liked the changes, and we got a lot of positive feedback about the current state of the temporary reports. We will continue working on some of the missing reports and at the end I will create some simple guidance documents for the users when the reports are close to finished. The reports are almost fully done but there are still some minor issues that the lead developer needs to solve in terms of some of the indicators used on the reports.

I also discussed together with one of my colleagues that I would take the responsibility of customers supports for the older reports that had been created before I took over in this reporting area. This just mostly means that any kind of support tickets or requests related to the older reports would be redirected to me. This will help me keep everything under my control and there would be a single person to contact about these issues. Every couple of weeks we also have a workshop together with the business management, data analysts and our reporting team where we have many kinds of topics to discuss about together. Today's topic was going through some changes in priorities of the development lines and, we discussed about issues in data quality.

Friday 18 March 2022

We had a meeting together with the scrum master of this project and he presented the plan for the upcoming weeks and months. Because the project was basically restarted this spring, we need to create a specified plan of data sets, metrics, reports, priorities for all different sections, and scheduling. The basic gist is that we will restart the 2-week sprints at the same time and at the start a lot of my work time will be spent with working together with the team members for creating the specific plan at least on a high level. Creating the outline and plan might be a bit difficult but it will be important so that we can focus our daily and weekly work. Every Monday on the upcoming weeks we will have couple hour workshops where we will try to refine and create the plan for the project work. On top of that there will be daily meetings 3 times a week where we will discuss the progress during the week and if anyone has any specific issues. In the daily meetings we will not go in depth about the tasks but on high level just follow the current situation of everybody's tasks.

I also had the yearly development discussion together with my supervisor. We discussed the current work tasks, development plan, work health, and focus on the upcoming year. We also discussed that it would be important that I would stay within this project for a longer period since my tasks had changed a lot in the previous couple of months which had made it hard to focus on specific tasks. Most of the development is related to working in the project I'm currently working in and focusing on learning whilst doing. A lot of the development will come throughout the project and the experiences it will give me. I will take advantage of the specialists and experts in the report development team and improve my skills in that part throughout the project. There might be some SQL training and report training in the upcoming months for our whole team, but it was still in the planning phase.

Weekly analysis

A lot of this week was focused on building up a better understanding of the project and reporting needs. Also, we focused heavily on developing the temporary reports together with the lead developer and the reports were already given to the management for testing and for data quality check also. I improved my understanding of bigger picture of the whole project and on that point, it was the focus in terms of getting clarification of the many different parts related to the reporting area. There were multiple meetings related to the data sources, systems, and the definitions of the data sets during the week. I needed to especially get a better idea of the project structure and in what way we would be working in the upcoming weeks and months. For that reason, we had the meeting together with the scrum master of the development team and he presented the plan for the upcoming months. I had to also take the old existing reports created by previous employees under my handle which meant that if any issues occurred on those reports, I would be the contact person and provide customer support related to any issues on those reports. The older reports will be removed in the future and there will be no further development work done on them unless they break completely for some reason. Previously there has been some issues in the data source which has caused some issues on those reports, and they need to be fixed since we are using the same data source for our temporary reports we are creating currently.

It was also important to have the yearly development meeting with my supervisor since I got to discuss about the issue of changing my tasks in the past months and we agreed that it would be important that I could focus properly on my current tasks for a longer period and focus on my professional development throughout this project I'm currently working in. The sudden changes in my tasks in the past months were related to sudden sick

leaves of other personnel and I had to go and help in the projects they were working in. Also, I was given the task to work in this current reporting area and project suddenly because the previous person who was working in the project left the company. On top of working in this reporting area I will keep working in improving the documentation processes within our report development team together with other employees within our team. I had already started working on the documentation project previously last year, but it had been pushed aside because of prioritization to other tasks for many months. Good documentation is extremely important for any kind of project and having some templates and ground rules makes the process of documentation much easier. Hopefully we will now have time in the future to focus on this documentation process and there will be no sudden changes in my tasks.

I focused a lot on this week in improving my skills when using Microsoft Power BI especially because one of my goals for this year is to improve my skills in creating reports with Power BI. Most of the development work will be done by the development team in terms of creating the reports currently but I'm constantly helping throughout the project, and we have almost daily sessions about the temporary reports currently. I'm taking advantage of the experienced developer and asking advice during the meetings if I need something explained. On top of that I have used Microsoft own documentation about creating reports and dashboards called "Create reports and dashboards in Power BI – documentation" (Microsoft, 2022). It has large amounts of information about creating reports and dashboards in Power BI. These kinds of documentations are very helpful and supports the learning process. I focused mostly on learning the visual design and how could we take advantage of the different tips on the reports to create supportive documentation for the users. I also practiced in just creating my own test reports just to learn how to use the different visualizations and to get more familiar with the system.

In terms of reminding myself about working with JIRA and what are some of the best practices for it I went through the "Jira Software best practices" (Jira Software, 2022). I'm very familiar with the JIRA system itself and how it works but I thought it would be important to remind myself about some of the best practices especially related to scrum work and sprints. JIRA is the tool we are using together with the development team to document sprints and all the different tasks. The scrum work and project work were something we will be heavily focusing on the upcoming weeks. We had the meeting together with the scrum master during the week and discussed about restarting the sprint work next week. We will be having longer planning sessions on Mondays about and daily meetings 3 times a week. JIRA will be an essential tool during the sprints, and we need to have good plan-

ning to have successful sprints. There will be a lot of tasks in the backlog during this project which means a good plan helps us when we need to prioritize tasks for the sprints. We have limited manpower and working hours, but things need to still progress in a controlled manner during the project. We will have 2-week sprints at least for the first couple of months and good sprint planning plays an important role in these short sprints. I will take part in lot of the planning together with the scrum master and other important personnel for the project and it's essential we work well together so that we can create a good plan for ourselves. Sprint planning is the start up for the sprints, the shorter scrum meetings will be followed up meetings throughout the weeks and at the end we will have a sprint review followed by a sprint retrospective meeting. This development process is the core for our reporting development project.

3.4 Observation week 4

Monday 21 March 2022

In the morning we had a meeting together with the management where we would present the current temporary reports and get some feedback about the data. The visual improvements and new reports we added to the set got a lot of positive feedback. There were mostly just minor changes that we are planning to do to the reports themselves. In terms of the data, we still need to ensure the update schedule of the data set and make sure it updates at the same time as the data the management is comparing it to. There were some issues in the data because they were not matching together well but we suspected it was because the sources update on a different schedule which caused the minor differences between some data points.

In the afternoon we had the first planning session for the upcoming project work and sprint. The project manager first presented the basic idea of how we are going to work for everyone. We made a guideline of all the important parts of the project. This meant we had to think what would be the main reports which were already defined before this meeting. The idea was to present everything on a high level so that it's easier to prioritize and plan the work for the upcoming sprints and months in general. This first week will mostly be a setup phase where we will have the daily meetings Tuesday-Thursday and the project manager will continue to refine the plan for our project for the future. The focus for now was already clear since we need to keep working on the temporary reports and continue the data warehouse work at the same time.

Tuesday 22 March 2022

We had a first daily meeting today for the project where we mostly just discussed the form we are going to use in the upcoming daily meetings. The importance of not just listing the tasks or meetings was noted and we want to focus on discussing briefly about important issues or possible showstoppers. At the end we went through the current situation of the data warehouse development and discussed that the developers need to provide a list of the known issues and problems for the contractors who are working currently with the data warehouse development. Together with the DS we discussed about the way they wanted the temporary reports presented and published for use. The Power BI developers presented the changes made to the reports. After the meeting I continued with testing the functionality of the reports and making notes about all issues I found.

Wednesday 23 March 2022

Very busy day in terms of meetings today also. Today's plan was to keep working on the data warehouse modelling, temporary report testing, and cleaning the workspace for the upcoming reports. The current workspaces for the reporting area are little bit messy and they have a lot of reports that have been done previously from different kinds of sources. We discussed this problem together with the development team and decided that we needed to clean up everything that is not used or needed anymore. This resulted in the decision of removing most reports and data sets from the production workspace. I took some backups of the reports and datasets just in case and informed the management that we are removing the not published and unused reports from the workspace. The reporting applications are created from the production workspace and that workspace should only have the most recent reports and datasets that needs to be published.

The data warehouse modelling continued in the weekly workshop we have for this work. The contractor for this project has kept working on the needed views for the project and they presented the current situation and issues they had with them. The workshop was mostly used for defining all the concepts in this data set that needed ready built views for the data warehouse. These views are created for concepts that are complex and need multiple joins between different tables and can have complex keys used for connecting all the important concepts in the dataset.

Thursday 24 March 2022

I continued with testing the temporary reports and we went through the issues I found together with the developer. There were mostly just small visual issues, and the functions of the reports were working well. We presented the temporary reports again to the DS and went through the minor changes. Together we decided that we need to change the data to read the production dataset and not the development set so that we could easily do some comparison between the test reports we had readymade beforehand. I continued with cleaning the workspaces for our reporting area and started with testing some of the analysis tool functions for our reports. We had decided that we would demo these tools next Monday when we had a meeting with the management about the reports currently. In the afternoon we had a first-time modelling session for the next source systems of our reporting area and the starting workshop had a quite large participation since the systems data is related to many other projects we have currently going on. The priority of tasks for this

project needs to be re-evaluated a little bit in the future and we are going to discuss this issue tomorrow together with the project manager and DS.

Friday 25 March 2022

We had a meeting about the priority of the tasks together with the project manager and DS. There were some issues in the order of data warehouse development, and we needed to discuss the priorities of some workers within the project. Because there was a need to already start a lower priority development task related to another source system for the project, we needed to decide what resources can and will be used for this part of the project. Most of my working day was spent on arranging future meetings and workshops related to modelling the data of the new source system coming in the upcoming weeks. Also, I kept working on the temporary reports and kept improving the visual quality and documentation for all of them. In the afternoon we had our weekly meeting with all the different development lines for the project just to get a heads up where everything is currently going.

Weekly analysis

This week was still heavily focused on working on temporary reports, data warehouse development, and planning the current work tasks for the project. We had the restart to our sprint work during this week and had our first planning session on Monday for the upcoming couple weeks. The idea was to mostly just get the outlines of priority work tasks for now. We discussed about the most important tasks and project that needed to be completed in the upcoming couple of weeks. Part of that was to also have a clear understanding if there are any roadblocks for the tasks and how they could be tackled if there were any. I focused a lot on improving my understanding of the project as a whole and getting a better idea of the important development work. I need to have a good understanding about all the different development lines within the project even though I'm mostly focused on building up the reports at the end. The reason for this is because I need to be able to always understand the current situation and be able to report about any significant changes if my supervisors ask something about the tasks from me. Restarting the sprint work is a good opportunity in terms of understanding project working methodology better and getting a better picture of the project. One of the issues during this week was the need to re-evaluate the priorities a little bit. This need came after we had our first modelling session for the new source system even though the development for this has currently

a lower priority for our project. The push for starting this development came from the management. The problem for this is that our resources for development are limited which means we needed to either find new personnel to work on this part of the project or re-evaluate the priorities. In this case it was a bit of both since we needed to talk about prioritization anyways together with the project manager and the management.

I wanted to improve my understanding of data warehousing because a lot of my time has been spent working together with our data warehouse developers and our project is focused a lot on the development of our data sets to the data warehouse. I've been mostly working outside the data warehouse my whole time and it's not a very familiar place in terms of technologies used and so on with the system. I'm not a technical expert and developer in terms of data warehousing and I will mostly focus in the future on the reporting end, but I think it would be beneficial to understand the systems and technologies we use better for my professional development. I found a book called "Data Warehousing for Dummies" (Hammergren, 2009) which was very useful for my current knowledge level about data warehousing, and I mostly tried to learn about the technologies used in data warehousing and tried to understand the purpose of a data warehouse better.

Important part of our data warehousing is the data vault modelling and dimensional modelling. Modelling is an extremely important part of our development process, and it is something I wanted to learn more about also when it comes to data warehousing and data vault architecture. A book called "Building a Scalable Data Warehouse with Data Vault 2.0" (Linstedt & Olschimke, 2015) was an excellent source for learning more about data warehousing and data vault more in depth. I focused mostly improving my understanding about modelling since it's something that is very relevant to our project currently. Star schemas and modelling is what we have been doing on a weekly basis and it is the backbone of the data warehouse development process. I work together with many different experts both from the technical side and the personnel who have a great understanding of the source systems and its data to create these star schemas of data sources. We use a tool called Ellie for our modelling during the workshops. Understanding modelling more in depth is important now and in the future. The technology behind the data warehouse is Microsoft Azure. I wanted to understand the data warehouse architecture in the eyes of Microsoft Azure. Microsoft had a great source about data warehousing with Azure (Microsoft Azure, 2022) and it explained well with some use cases the structure of the example architecture when using Microsoft Azure for data warehousing. It's important to understand the technology at least on a high level especially because they can have so many

different components affecting the product. Building up my knowledge about these different solutions will help me a lot in the future and it is important in terms of my professional development to stay informed on the technologies used in data warehouse development.

3.5 Observation week 5

Monday 28 March 2022

Today's plan was to spend the time between the meetings to continue working on the temporary reports. The day and week once again started with the team meeting where we went through everyone's status and situation. After that we presented the temporary reports to the management, and we found some issues with the update of the data set which needed to be changed so that the data quality checks could be done. For that reason, we couldn't check the data quality for now together with the management, so we focused mostly on talking about some minor changes that needed to be made to the reports. We also had a training session together within our team about the customer support for the reporting services. The training was a useful even though parts of the process was already familiar for me from the tasks I was doing previously.

Tuesday 29 March 2022

The objective was that I would continue working on the minor changes needed on the temporary reports and try to get them ready for publishing. On top of that we were supposed to do some data quality checking together with the management today, but we couldn't because the data warehouse development team had some issues in changing the update scheduling for the data set the reports use. There are currently 17 different reports included in the temporary reports -application. I didn't have enough time today to fix all the reports, but I will continue working on them in the upcoming days also.

Wednesday 30 March 2022

Today's objective was to continue working on the temporary reports, continue the data warehouse modelling, and customer support. The day was filled with meetings, so it was challenging to find time to work on the reports and do the customer support tasks. Everyone within our team must reserve days when they are the customer support person for our reporting services. It basically means that person needs to check if any new tickets come to the customer support service and process them accordingly. In terms of tickets the day was very quiet and there were only couple tickets during the whole day. We had a data warehouse modelling session where we focused on modelling another concept in the data model. I had some time to finish most of the changes to the reports that were mentioned in the Monday meeting with the management.

Thursday 31 March 2022

The objective was that we would go through the current situation of the reports together with the Power BI developer and the DS of the project. During the meeting we had I presented the current reports to both, and we decided that the reports are now almost ready to be published for wider use. Before publishing the reports, we still gave them for the last check-up for the management and added couple key personnel in the reporting area that can also check the reports. We decided that if there were no major changes by next week's Tuesday, we would move on to publishing the reports for wider use. There were some small naming changes I did on the reports and tomorrow I will add the guidance documentation to the reports that I have been working on previously. It was challenging to find time to work on the reports and other tasks between the meetings we had today.

Friday 1 April 2022

The goal for today was to add the guidance documentation to the reports and try to get them ready for publishing. In the morning I had couple meetings related to the data warehouse work. I worked on the reports in between the meetings and kept finished adding the guidance documentation to the reports also. We got some feedback from the financial management about the reports, and we are most likely going to go through the feedback next week. We need to decide if any changes or further testing needs to be made or if we publish the reports for now. The idea is that the reports are temporary reports that will be used until we can replace them with the new data set after finishing the data warehouse work for the data from the new source system. In the afternoon we had a meeting together with all the different development lines within the project just to have a check-up about the current situation.

Weekly analysis

A lot of this week was spent on working on building reports with Microsoft Power BI and make improvements to the temporary reports we are currently making for the management. I spent most days either working on the reports or attending some meetings related to the reports themselves. The data warehouse work for the new data continued and we had couple of meetings related to further modelling for the data structure. There were some issues in the update schedule for our temporary reports and it took some time to change it to match the production update schedule. This caused issues and problems in

doing the data quality checks and we had to postpone some of the testing for this reason. The goal is that we will either publish the temporary reports in the upcoming week or the week after that. For that reason, we added more personnel from the management that can test the current reports for now and we want to get some further feedback about them before making the decision about the publishing. The final deadline for publishing the reports is 19th of April but we might be able to publish them earlier if there are no major changes needed. I also finished the guidance documentation for the temporary reports that we are creating, and they were added to the reports. We also had a training on Monday related to the customer support services we provide for our customers. I have already previously done customer support for the older reporting service we have in use, and I am somewhat familiar with the systems that are used for the support ticket service, but the process is a little bit different for our new reporting services. It was a useful training session since I also had a shift on Wednesday when I was the one doing the customer service and handling the tickets that came.

Because of the focus on continuing building the reports in Microsoft Power BI I learned a lot of small tips and tricks related to building reports from the developer we have in this project. We had calls almost every day between each other where we went through things related to the reports. There are still lot to learn related building up reports in Microsoft Power BI and it will take some time for me to learn more and become confident in my own skills. For that reason, I wanted to focus learning more about building reports in Microsoft Power BI. I found many blogs and YouTube videos related to the best practices of building reports in Microsoft Power BI. One good and simple source was called “Five best practices for designing data visualizations in Power BI” (Syvantis, 2021) which talked about the importance of having clean report structure and not having too many visuals cluttering the report. We have a set template within our company that all reporting areas must use which basically outlines the colours and some of the visual look of the reports. It only gives the outline of what we must work with, so it was up to us to make sure the reports are representable and readable. At most we only have 4 visuals on 1 report page to keep it simple. One report page is supposed to present one metric important to the management and have couple important visuals and a table of the data together with filters for the users. Having simple and understandable reports was important so that we wouldn’t need to have complex training related to using the reports. I also found a very useful handbook about designing Power BI reports called “The Complete Guide to Designing Power BI Reports” (Numerro, 2022) which was a very useful learning tool about the importance of design especially because we wanted to provide good user experience for our userbase and ensure the reports were easy to use. The consistent design was one of our important key points when creating the temporary reports and we structured the reports in such way that

they would have similar design. This makes the reports easier to understand and navigate for the users. The guidance of the different sources I found helped us to fix some minor visual issues I noted after understanding the importance of simple design solutions. Because of the template and set rules we must use it somewhat limits our design when it comes to colours and the structure of the application. There needs to be introduction page, guidance, and information pop-ups in all our reports. The information pop-ups are very useful for inserting important information about specific visuals to the reports. Delving into the importance of design really helped me and improved my skills in designing reports.

3.6 Observation week 6

Monday 4 April 2022

Today's objective was to get more feedback about the temporary reports from the management team members and talk about the publishing of the reports together with the Power BI developer. Also, we were going to have the whole afternoon reserved for a planning session of the upcoming development together with the development team. We went through the reports and decided together with the management that they would check them until Thursday, and we would decide together with the DS on Thursday how we would proceed with publishing if no changes were needed. In the evening we decided some of the focus points for the upcoming weeks and months. After publishing the temporary reports, we will focus more on developing the new reports and metrics related to it. The temporary reports are only meant to be used for couple of months and they will be replaced with the new data set we are currently building to our data warehouse. I will also start building the initial documentation already to support modelling the Power BI data set used for the upcoming reports. I will be working together with the Power BI developers, and we will need to have report modelling sessions later in May.

Tuesday 5 April 2022

Today's objective was to get ready for Thursdays modelling session about a new data source and plan out together with the Power BI developers how we would progress with the Power BI data set planning work. We had a session together with the DS and discussed the temporary reports. The main developer in our project presented the current situation of the development work to a new developer who joined our team. I joined the session because we also wanted to plan out how we start the data set planning work. We decided to have a session tomorrow morning where we would start to line out some of the dimensions and data tables based on the definitions that were made previously together with the management. I also arranged a meeting together with one of my co-workers in our team for tomorrow morning to discuss the publishing of reports.

Wednesday 6 April 2022

Today's objective was to get more information about publishing reports from my more experienced colleague, start dimension and data table planning for new data set, customer service support, and create communication message for the upcoming publishing. We got

some feedback related to the temporary reports from the financial management and needed to schedule a meeting for tomorrow to discuss the issues. There were some questions and issues related to differences to their own reports and we needed to arrange a meeting to discuss the issues. I also created the communication message and will show it tomorrow for review to our developer and DS of the project.

Thursday 7 April 2022

We had the meeting today to discuss the problems the financial management had found on the reports. We decided together that one of the metrics on the reports needed to be changed and this caused changes to 3 different reports and to the data set. Also, the decision to remove the older reports were given to us from the management but we possibly need to keep the old data set until we can replace this temporary reporting. This issue will be discussed tomorrow to clear this up. We finished the needed changes to the reports already today and are waiting until tomorrow for more comments. Most likely we will publish the current reports tomorrow and if there are further changes needed, we will continue working on them in the upcoming weeks.

Friday 8 April 2022

Today we got the decision to publish the temporary reports from the management. We had booked a session previously with the Power BI developer where we would go through the process together. The Power BI developer was responsible of moving the reports from the development workspace to the production workspace and my responsibility was to do the publication and informing our customers about it. I had previously already made an information message that I used for informing the customers about the publication. I had to first format what reports would be published in the application and make sure they were presented correctly and in the right order. One of the older reports was reports at the same time but the data set was left for use until these temporary reports will be replaced later. After that I added the application to our collection page and in the reporting service and added a hyperlink to the management's own webpage. No issues were noted so far and we will fix the problems if they come up in the future.

Weekly analysis

Extremely busy week in terms of meetings and tasks. The focus for this week was still working on the temporary reports that we finally published for the customers. There were some issues that needed to be addressed throughout the week which added some stress

since they needed to be fixed quickly. Even though there were some issues that came up we published the reports one week before the deadline we had. In addition to the temporary reports, we had couple sessions related to the data set development work where we continued to do modelling together with the management and developers. Juggling all these tasks throughout the week was difficult and time management was an issue during this week. We needed more clarification about the needs of the financial management related to the temporary reports. For this we needed to have couple meetings throughout the week and will also continue in the upcoming weeks. It seems that they want couple metrics and data to be added once they have finished them at their end.

Time management was an issue during this week, but it was understandable in a sense that there were many things to finish during this week. We want to focus our development work on the new data set and reports related to it as soon as possible. For that reason, the goal was to finish the work related to the temporary reports quickly. The goal is that the temporary reports will work until they can be replaced with the new reports and development work on the temporary reports is minimal after the publishing. There will be some additions we need to do in the upcoming weeks but most of the development tickets that come from the customers will be taken in account when we are working on the new reports.

I learned a lot about the importance of communication during the week. Because of miscommunication some issues related to the temporary reports came up during the week. Sometimes emails are not enough to communicate some issues and it is better to arrange a meeting, but this causes issues in time management if everything needs to be discussed in a meeting. It's difficult to ensure that every important party understands what a specific project is planning to do and sometimes it might be impossible to inform everyone. This makes it extremely important to have good outgoing information together when publishing our reports to the customers. Customer service support will not also be as strained when you tackle some of the questions before hand. Communication is something I want to improve in the future but it's also something that needs a lot of work within our whole company. I will try to improve the documentation process and informing also through our other channels about the upcoming changes to our reporting area. It's important to identify the correct channels for communication within our company based on what kind of information I'm providing. It's good to review what you are about to announce to a big audience together with your team members and think about some of the issues the customers might ask you about. (Walsh, 2022)

Communication is an issue within our whole company, and it is something that needs improvements. In terms of internal communication there are many channels you can use but it mostly results in getting a lot of emails or messages in Microsoft Teams. Information gets lost in the emails and messages since you already spend a lot of work time reading emails. Almost everyone is working remotely which makes good documentation and communication even more important. Improving our documentation processes is also a key factor in improving our communication. Knowledge and information sharing becomes much easier within the company with the support of good documentation processes. Miscommunications cause problematic issues sometimes and can affect the customer experience. During this week we had an issue related that was caused by an issue in communication and it could have been avoided with proper documentation. We did not have communication about this issue before hand because there were changes in the personnel working in the project and some information was lost. (Martic, 2022.)

3.7 Observation week 7

Monday 11 April 2022

Today's objective was to ensure that the reports that were released on Friday were working normally and there were no issues or tickets related to them. We also had a technical modelling session together with the data warehouse developers about one of the new data sources. There was one issue that was found related to the data of our reports and I created a ticket about the issue. The issue was that there were some specific data missing in one of the metrics and it seemed that it was because of a problem in the data warehouse. A lot of our team members were already away this week because of holidays.

Tuesday 12 April 2022

We continued working on documenting the dimensions and tables of the upcoming data set. The decision was that we needed to first outline them on a high level to create an Excel spreadsheet that lists how they are related to each other and what is their status. This document will be used in the project for checking out the progress of the data warehouse and reporting development. In the upcoming weeks we will then focus more in-depth on specific tables and dimensions. The plan is to have a document that the data warehouse developer can use to create the dimensions and tables for the data set that is needed in creating the reports in future. We also had a meeting with the financial management to discuss about their needs for the temporary reports. Financial management had asked us to add couple of reports for them to the temporary report application and we needed some clarification about their needs.

Wednesday 13 April 2022

Today's plan was to continue the data warehouse modelling work. We were supposed to have a longer modelling session this week, but it was shortened because a lot of people were on holidays. Still, I went through some of the questions that the data warehouse developers had about the specifics of the data source and why some of the data is needed in reporting. The issue that related to the missing data in the temporary reports was also fixed. The reason for the missing data was that the data set started updating before the whole data load process was ready and we solved this by setting the automatic updates of the data set to start later.

Thursday 14 April 2022

The objective for today was to go through a demonstration of the data warehouse work. One of the data warehouse developers presented some of the views that had been created and we discussed that we will already do data quality checks in the upcoming weeks. The data quality checks will mostly be on checking that the data is in the correct format and if we are losing something important in between the data warehouse and source system. I will work on this together with the Power BI developer and the DS of the project to create a simple report that outlines the current data of the created views. We also presented the Excel document that outlines the dimensions and tables to the project team members, and it will be discussed further in next week's project planning session on Tuesday.

Friday 15 April 2022

National holiday.

Weekly analysis

This week's focus was on providing customer support on the published temporary reports and continuing the data warehouse work at the same time. In addition, we also had to outline some of the needs for the financial management regarding the temporary reports. There were some specific reports and metrics related to forecasting and budgeting that they wanted to be added to the application. We published a development version to them for comments and probably in the following week we will be able to publish them to the production application for the temporary reports. There was also a need to work on the documentation part of the project. We needed to clarify what kind of dimensions and tables are needed for the data set that will be used in the new reports that will replace our temporary reports. During this week it was a little bit difficult to continue some of the modelling and development for our project because a lot of personnel were on a holiday. This left some time to reflect on and discuss about the current situation of the project together with the team members. I improved my understanding of the data structure and how it relates to the reports we want to create for our customers. Clarifying the needs of the data set gave a better understanding of the data that will be used by the reports and this work will continue in the upcoming weeks also.

One of the biggest issues throughout this thesis process and whilst working in my new tasks have been with time management. Even though I have been working in this team for the past 2 years I am not an expert when it comes to working on report development. The project I joined had been running for over a year before I started working in my new tasks. There had been some issues previously and the project had to be restarted around the same time I started working in my new tasks. This project has also been heavily prioritized by the upper management and there is a lot of pressure to get it finished on time now that it had been restarted. I have been very busy this whole spring because at the same time I need to learn many things related to my new tasks and the reporting area of the project. I have had to attend many kinds of different meetings related to the project which at times may have not been necessary. At the same time, I have also been writing this thesis which takes time, and it has been difficult to find time and have a balance between work, school, and everyday life.

In terms of improving in time management I will focus on 4 different things for now: Listing important tasks, better scheduling of work, prioritizing my work, and declining unnecessary meetings or requests. In terms of listing tasks, I have already been listing everything in my own notes, but I started an excel spreadsheet together with scheduling time from my calendar for them. The idea is that it's a simple list of the tasks, what is the status of the task, and prioritization. The Microsoft Outlook calendar works as a scheduler for me, and I have taken specific time slots for tasks everyday when it's possible. I will review the upcoming days tasks in the morning and make edits if they are needed. Prioritizing work is something that is tied a little bit to the needs of the project, but the general focus will be that if it's not related to the development of the new reports, it has a lower priority for me. Sometimes it can be difficult to prioritize some tasks, but it is important to go through this process because I will get overwhelmed with tasks otherwise. In terms of scheduling I have also dedicated times for lunch and coffee breaks for everyday that I will try to follow. Breaks are also important for staying focused throughout the workday. Declining unnecessary meetings and requests is related to also prioritizing my work. Getting a better understanding of the project and what are important things for me to be part of makes it easier to decline meetings that are not necessary for myself. I know that getting better at time management will be an iterative process, but it is something that is important for my future professional development. (Lucidchart, 2022.)

3.8 Observation week 8

Monday 18 April 2022

National holiday.

Tuesday 19 April 2022

Today's objective was to plan the upcoming sprint together with the project team members. We had a meeting together where we went through the past couple of weeks and planned out the work for the upcoming weeks. My focus for the next sprint will be that I will work together with the Power BI developers to create a supportive documentation about the data set that will be used in the upcoming reporting. The document is meant to support the data warehouse development in the background but also help us continue modelling the data set in the future. On top of working on the modelling I'm still focusing partly on the development of the temporary reports. I'm also filling in for a colleague this week because they are on a holiday.

Wednesday 20 April 2022

We had a technical modelling session today and the focus was on improving our understanding of the main parts of the data. We focused on improving the data modelling by focusing on the technical development in the data warehouse. There have been some difficulties in documenting the background work of the data warehouse developers and this technical modelling is supposed to help with that. I also continued working on the documentation about the data set together with the developers. We outlined the main tables and dimensions that will be used. First, we will focus on 2 main tables and dimensions so that we can already start doing data quality checks as early as possible. I was working as the customer support service for our team today. There were couple tickets and issues that came up that I had to work on. Also, because I'm filling in for my colleague it caused some urgent tasks that came up from the financial management.

Thursday 21 April 2022

Today was going to be filled with some more modelling sessions about another upcoming data source related to our project. We had already started modelling this data source before today but there was still 1 more major part that needed to be discussed together and

we needed to model the main concepts together with the personnel who knew the data source system and management. We finished modelling the data source today. In the afternoon we continued working on the data set documentation. We also finished some additional temporary reports that will be added in the future to the production application, but we still need more comments about them from the customers and approval from the project manager before they will be published.

Friday 22 April 2022

We had a discussion together with the data warehouse developer and the source system developer about one of the data sources. The discussion was to focus on some questions that had come up during the data warehouse work and recap parts of the Wednesdays modelling session about this data source. We also had a short demo session where we went through some initial data testing of the new data set. The idea was to check if we found any glaring issues and if the total numbers were in the same ballpark when compared to another data source. There were some issues that were found, and the data warehouse developer will continue working on fixing them. We had a meeting together with the management to discuss about the temporary reports and a decision was made that the data set would be published for some users for self-service reporting. We will be testing this first in the start of next week before publishing it for a larger group. I have also been trying to get an access right group created for our development project but for some reason it has taken quite a while to create it which is causing some issues for us.

Weekly analysis

This week's focus has been on continuing working on the new and upcoming reports, especially we focused a lot on modelling and creating documentation about the definitions of the upcoming data set for reporting. Some problems and things couldn't be focused on because there was still a lot of personnel missing and on holidays this week. A lot of working hours was used for continuing the modelling of the data source. This was one of the main focuses we decided for the upcoming sprint and weeks in general because we needed to focus on creating a functioning data set to the data warehouse so that we can start working more heavily on the upcoming reports. We have a little bit over 2 months to produce at least the basic level demo for the management just before summer holidays. This means we need to have a functioning data set and reports backing it up. On top of that the data needs to be valid. I also had to fill in for one of my colleagues this week which caused some additional work that was not related to our project. This week was a little bit of mess in terms of planning stuff out in a good way because I had to fill in one of

my colleagues and a lot of people were still on holidays. It was difficult to get in contact with some people and in some situation impossible.

Last week I discussed time management as one of the biggest issues in this project and I wanted to focus on improving my time management during this week and in the future. Everyday I evaluated my upcoming schedule and tasks which was a very good way to focus myself on the upcoming tasks. I also evaluated all the upcoming meetings and if they were important for me to be part of. There were already quite many meetings I declined during this week because they were not something I could currently focus on or wasn't relevant for my work. One of problems this week was that I needed to fill in for one of my colleagues which caused some issues in my plans. Still, it was something I couldn't really plan before hand for since there were some urgent tasks that came up and I needed to help because I was the only person within our team who could help. I think I improved a lot in time management and will keep focusing on this aspect even more in the future.

4 Discussion and conclusions

The 8-week observation period is now finished. Every week I noted my daily observations and wrote a weekly analysis to discuss the week and my professional development throughout the observation period. Initially I was already familiar with the company and the team I was working in but the tasks I was doing were all new for me. It meant that even though I might have been familiar with some of my co-workers and the team I wasn't familiar with the upcoming tasks I was going to do. In the beginning I evaluated myself being somewhere between a beginning-stage actor and skilful performer which I think was reflected the starting point well, but I was closer to a beginner-stage actor when it came to many of the tasks related to report development. There were many things I was not familiar with throughout the observation period and there was a lot of new information I had to learn about.

It was an opportune moment to join the project and start the new tasks because the development project I joined had a "soft" reset at the same time I joined. It meant that many of the things related to the development project were restarted at the same time I joined, and I got to join many things from the beginning stage of the development. The project team was also re-structured around the same time I joined and there were many others who also joined the project at the same time I did which forced us to really delve in depth to every part of the development project. We had to plan everything again from the start and we started sprint planning by-weekly. This is a long-term project that I will keep working in the foreseeable future.

Analysing the professional development throughout the observation period has been an important part of this thesis process but it has also been very important for self-reflection. It can sometimes be hard to identify your professional development if you don't specifically focus on certain parts of your job. People notice after working in a project or a new job that after couple of months they are suddenly much more skilful and knowledgeable when compared to the beginning. However, without focusing on your professional development and really analysing what you should focus on, it can sometimes be hard to integrate yourself into your new tasks and keep improving in a controlled manner.

My focus in the beginning of the observation periods were on knowledge transfer, orientation, learning new information, and improving in Power BI report development. There were multitude of different meetings, orientation sessions, and documents I went through during the beginning period. I tried to focus on understanding the whole development project on a high level in the beginning. The idea was to get a hang off the source data systems and

how the data travelled through our data pipeline. I improved my knowledge related to the project, data pipelines, and development of reporting services a lot throughout the observation periods. I'm by no means an expert but when compared to the starting point I have a lot more confidence in my daily work.

There is still a lot to learn in terms of data and development of reporting services, but I will continue to improve in the future. I couldn't focus on creating Power BI reports as much as I would have liked throughout the observation periods since the focus was so much more on project management and understanding every part of the project. It is understandable that my focus wasn't so much in creating the reports since we have a development team for creating reports, but I want to focus a little bit more on this in the future if possible. I learned a lot about the documentation process for the reports and focused heavily on creating supporting documentation for the temporary reports we created. I learned how to manage workspaces for report development in Power BI and how to publish reporting applications according to our company guidelines.

One of the biggest issues throughout this thesis writing process has been time management both in work and when writing the thesis. It has been quite difficult to find enough time during every week to write the thesis. Learning about the new tasks and focusing on professional development has been mentally taxing especially whilst working remotely. The project I joined has a very high priority within our company and there is a tight schedule we need to follow. This has led to a lot of extra hours on some weeks so that we could meet the demands of the customers for the temporary reports and in the future for the new reports we are going to create.

In the later parts of the observation period, I focused on improving my time management at work. The idea was to become more efficient and focus only on important and relevant tasks. I prioritized and listed my daily and weekly tasks. I declined unnecessary meetings which was easier now that I was more familiar with the project. I improved a lot in time management, but it is something that I will focus on keeping working on in the future.

Communication caused some issues also at times especially when it came to publishing new reports within our company. It's extremely hard to ensure all the parties affected by the changes to the data structures and reporting areas are informed. It is not something I can fix by myself, but we discussed this issue within our team, and it is something we will try to improve in the future. For now, I will use all the appropriate channels provided within the company for communication with the customers and affiliated partners. I consulted my

co-workers about their tips for communication and focused on understanding the importance of proper communication within a company.

Analysing and writing down observations about my work was a very fruitful experience. Although it was stressful and time management was hard at times it taught me many important lessons. Before starting the observation, period and doing an analysis of my current work I thought that my focus would be much more on report development together with the development team. Now after working at this project for 8 weeks, I would describe my responsibilities closer to a project manager that focuses on report development. I am not the project manager of this project but my tasks kind of mirror a project managers task at times. I need to be familiar with every part of the development project and understand most things at least on a high level. My focus is still on report development, and I work more closely with the report developers, but I take part in the whole data pipeline process we have for this project. I support our project managers decision making process and I am an important part in communicating the state of the project to our operative supervisors within our team.

The future development areas for me will be time management, learning more about data warehouse, communication, documentation processes, learning more about data pipelines, and improving my skills with Power BI. I also want to take part in some trainings related to project management in the future. I think the experience accumulated whilst working in this project will be invaluable for my future professional development. Our project team has become and tightly knit group that work well together. There are many experts of data development within our project, and I want to keep learning from these experts in the future. Analysing my professional development will be part of my working process even after finishing this thesis. This thesis process has shown me how important it is to be self-reflective and analyse yourself for professional development.

References

AWS. 2022. What is a data lake? URL: <https://aws.amazon.com/big-data/datalakes-and-analytics/what-is-a-data-lake/> . Accessed: 20 March 2022.

Becker, R. 2021. Structured Query Language (SQL). URL: <https://www.techopedia.com/definition/1245/structured-query-language-sql> . Accessed: 20 March 2022.

Datavault. 2022. What is data vault? – All you need to know. URL: <https://www.datavault.co.uk/what-is-data-vault/> . Accessed: 20 March 2022.

Davila, N. Pina-Ramirez, W. 2018. Effective Onboarding, What works in talent development.

Farenden, P. 2012. ITIL for dummies. ITIL 2011 Edition.

Hammergren, T. 2009. Data Warehousing For Dummies. 2nd edition. Wiley Publishing, Inc.

Hovi, J. Data-alan termien selitykset ja kuvaukset. URL: <https://www.arihovi.com/3274-2/> . Accessed: 20 March 2022.

IBM. 2022. IBM Cognos Analytics. URL: <https://www.ibm.com/nz-en/products/cognos-analytics> . Accessed: 20 March 2022.

ISO. 2015. ISO 8000-8:2015 Data quality — Part 8: Information and data quality: Concepts and measuring. URL: <https://www.iso.org/standard/60805.html> Accessed: 20 February 2022.

Jira Software. 2022. Jira Software best practices. URL: <https://www.atlassian.com/software/jira/guides/getting-started/best-practices#jira-project-best-practices> . Accessed: 20 March 2022.

Linstedt, D. Olschimke, M. 2015. Building a Scalable Data Warehouse with Data Vault 2.0. Morgan Kaufmann publications.

Lucidchart. 2022. 10 tips for mastering time management at work. URL: <https://www.lucidchart.com/blog/time-management-at-work> . Accessed: 17 April 2022.

Martic, K. 2022. 11 Reasons Why Business Communication is Critical to Your Company's Success. URL: <https://blog.smarp.com/11-reasons-why-business-communication-is-crucial-for-companys-success> . Accessed: 10 April 2022.

Microsoft Azure. 2022. Data warehousing and analytics. URL: <https://docs.microsoft.com/en-us/azure/architecture/example-scenario/data/data-warehouse> . Accessed: 28 March 2022.

Microsoft. 2022. Create reports and dashboards in Power BI – documentation. URL: <https://docs.microsoft.com/en-us/power-bi/create-reports/> . Accessed: 20 March 2022.

Numerro. 2022. The Complete Guide to Designing Power BI Reports. URL: <https://www.numerro.io/guides/the-complete-guide-to-designing-power-bi-reports> . Accessed: 3 April 2022.

OCI. 2022. What Is a Data Warehouse? URL: <https://www.oracle.com/database/what-is-a-data-warehouse/> . Accessed: 20 March 2022.

Oz, T. Crooks, A. 2020. Exploring the Impact of Mandatory Remote Work during the COVID-19 Pandemic. URL: <https://osf.io/preprints/socarxiv/hjre6/> . Accessed: 13 March 2022.

Øystein, T. Amandeep, D. Bjørn-Tore, F. 2021. Digital knowledge sharing and creative performance: Work from home during the COVID-19 pandemic. URL: <https://www.sciencedirect.com/science/article/pii/S0040162521002985#abs0001> . Accessed: 13 March 2022.

ProductPlan. 2022. What Is Jira? URL: <https://www.productplan.com/glossary/jira/> . Accessed: 20 March 2022.

Rehkopf, M. 2022. Sprints. URL: <https://www.atlassian.com/agile/scrum/sprints> . Accessed: 20 March 2022.

SAP. 2022. What is data modeling? URL: <https://www.sap.com/insights/what-is-data-modeling.html> . Accessed: 20 March 2022.

Scrum.org. 2022. What Is Scrum? URL: <https://www.scrum.org/resources/what-is-scrum> . Accessed: 20 March 2022.

Stedman, C. Vaughan, J. 2020. What is data governance and why does it matter? URL: <https://www.techtarget.com/searchdatamanagement/definition/data-governance> . Accessed: 20 March 2022.

Syvantis. 2021. Five best practices for designing data visualizations in Power BI. URL: <https://www.syvantis.com/blog/5-best-practices-for-designing-data-visualizations-in-power-bi> . Accessed: 3 April 2022.

Walsh. 2022. 5 Tips for Effective Business Communication. URL: <https://www.walshcollege.edu/blog/5-tips-best-business-communications> . Accessed: 10 April 2022.