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# Improving Foreign Exchange Position Reporting for Group Treasury in Case Organization

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<p>The purpose of this action research was to improve foreign currency position reporting in a case company. The case company is a large and well-known Finnish company in the consumer goods industry and it has operations in eight countries and exports to nearly 40 countries. The treasury department of the case company needed to have improved ways to prepare the foreign currency position report so that all the needed information to the report could be fetched easily any time it would be needed and by any team member in the treasury. The study was commissioned by the case company.</p> <p>The research applied qualitative research methods. The primary research data was collected through workshops in the case company and the secondary research data was gathered from a financial theory of foreign currency risk but also from the information of how other companies have solved a similar problem.</p> <p>The discussions in the workshops brought out very similar problems than other real-life cases have faced, as the foreign currency hedging needs are similar to all companies that have business in the currencies that are not in their home currency. The main challenge for all companies are the accuracy of the estimated currency flows for the future, as they cannot be overly optimistic or too conservative due to the reason that foreign currency hedging can be very costly for the company if the decisions for hedging are based on wrong kind of data. In addition, the companies operate in different ways and they have different programs in use, so one solution does not fit all cases.</p> <p>The author recommends that the Group Treasury in the case company starts to utilize the newly updated collaboration channels to collect the information so that all parties in the team can access the data whenever needed. In addition, there would be a need for a treasury controller, who would take care of reporting, as well as the development of the reporting tools and the data collection. This way the treasury team in the case company could have appropriate level of internal control and risk management but also wisely divided responsibilities would release time to concentrate on their strengths and develop the way of work.</p>	
Keywords	Analysis, Estimate, Financial flow, Foreign currency risk, Foreign exchange rate, Future currency flow, Hedging, Li-

	quidity management, Position reporting, Reporting tool.
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## Contents

Abstract

Table of Contents

1	Business Context; Problem/Challenge, Objective and Outcome	1
1.1	Overview	1
1.2	Case Company	1
1.3	Business Challenge	1
1.4	Objective and Scope	3
1.5	Key Terms	4
1.6	Thesis Outline	4
2	Research design	5
2.1	Research approach	5
2.2	Research design and structure	5
2.3	Data collection and analysis	7
2.4	Validity & reliability	8
3	Conceptual Framework	10
3.1	Introduction to the position reporting and the currency risk	10
3.2	The best practices	14
3.3	Ways to hedge and reporting needs	15
4	Current State Analysis	17
4.1	The current state	17
4.2	Audit trail of the current state	18
4.2.1	Strengths	19
4.2.2	Weaknesses	20
4.3	Key Findings of Current State Analysis	20
5	Building a Proposal	23
5.1	Basic information for building the proposal	23
5.2	Theory and practice of the proposal	25
5.3	Initial Proposal	25
6	Validation of the Proposal	28

6.1	Validation Overview	28
6.2	Final Proposal	30
6.3	Next steps	33
7	Discussion and Conclusions	33
7.1	Summary	33
7.2	Practical Implications	34
7.3	Evaluation of the Thesis	34
7.4	Outcome vs Objective	35
7.5	Reflection & Afterword	36
	References	38

## 1 Business Context; Problem/Challenge, Objective and Outcome

### 1.1 Overview

In large corporations, there are Treasury departments that operate as an internal bank for the group businesses. The Treasury department centrally manages the internal & external financing needs, for example, loans, investments, foreign exchange deals, hedging, and so on. The purpose of this action research is to improve the foreign exchange position reporting for the Treasury department of the case company X.

As the pace in nowadays business life is fast, and employees are having more and more duties, there is a demand for easier and more efficient ways of working. The information gathering tools for reporting should respond to this need. This study is about foreign currency position reporting, developing the reporting procedure and how the information should be expressed so that it responds to the needs of this case organization. In this company, there is a need for re-new the ways of reporting the foreign exchange positions and the aim is to clarify how the new way of reporting should work. The research is qualitative by nature and describes the change process and progress of the advancement.

### 1.2 Case Company

The case company is well known Finnish company with a long history in the fast-moving consumer goods industry. It has operations in eight countries and export to nearly 40 countries. The case company designs and produces the products in its factories. Turnover in 2017 was over 1,6 billion and the company employs nearly 15 500 persons internationally. The thesis worker is working in the case organization and the research is carried out in cooperation with the case organization. Due to anonymity, the case company is not introduced deeper than this.

### 1.3 Business Challenge

The foreign currency position reporting is the basis for foreign currency risk management and for all actions that are taken towards foreign currency hedging. The foreign

currency position reporting provides a control point to the actions taken by the Group Treasury. As well, one of the Treasury's internal reporting duties is to report foreign currency positions and hedged percentages for the group CFO. The foreign currency position calculations help to assess the foreign exchange risks and the need for hedging.

The foreign currency position report is calculated for all foreign currencies that parent company has a bank account. The parent company must have bank accounts in the currencies that subsidiaries/ businesses are having bank accounts. This is due to the issue that parent company is operating as a centralized internal bank for the subsidiaries and many internal transactions between parent company and subsidiary are required. In the case company the currencies that usually require hedging procedures are United States Dollar (USD), Great Britain Pound Sterling (GBP) and Swedish Crowns (SEK). Naturally, if the subsidiaries/ businesses would be having significant cash flows in the future in some other foreign currencies, those flows would be hedged as well according to the group hedging policy.

In the case company it is required that the hedging level is within defined percentage boundaries for the rolling 12-month period. The percentages differ by currency, as each currency has different risk elements. For example, the changes in interest rates, political situation in the currency's country and global business situation influences to each currency in different ways.

Today, in the case company the position reporting is largely manual work and is one of the reasons that reporting is done once in a month and it is largely behind one employee, Senior Treasury Manager. Even though the person is highly skilled in corporate finance matters, this however creates a risk of misinformation and errors when gathering the information manually to one report. As well, this procedure causes a lack of information for other members of the Group Treasury team in case there's a need for substituting the responsible person.

Based on this background, the data should be fetched in a lot easier way and be available any day for all members of the Group Treasury team. Also, the liquidity management system where the base details have been fetched so far is outdated. Thus, the reporting tool must be brought to the latest version of the liquidity management tool. As

well, the current way of work creates a lack in controlling the foreign currency positions and the hedging levels compared to the policies that are set by the group executives.

Today, the reporting is done manually in an Excel, where the details of parent company's previous day's end balances are fetched from the account statements. To this report is added manually the information of the exchange rates from the day the report is issued, the future financial flows, and gathered the future payment forecasts from the business units. The previous day's end balances of the account statements and future financial flows are received from the liquidity reporting tool. The rest of the data (the daily exchange rates and the forecasts from the business units) are entered manually from various sources, especially the business units finance departments report their future foreign currency transaction flows in an Excel or written in an e-mail they send solely to Senior Treasury Manager.

#### 1.4 Objective and Scope

The objective of this study is to simplify the foreign exchange position reporting so that all the needed data could be searched from one source instead of collecting the data from several sources. As well, the objective is to reduce the risks on the reporting as the data would be easier and faster to collect from one source, and the data would be accessed by all Group Treasury team members.

The aim of this project is to develop the liquidity management reporting tool so that all needed data could be collected easily from the liquidity management reporting tool to one report at any day of the month. Preferably the foreign exchange positions would be checked every day if needed in the Group Treasury. This way the Treasury would be continuously up to date of the foreign exchange positions and the reporting would not be dependent on one certain person.

As the needed data could be retrieved from one place at any time by any Group Treasury member, the risk of lacking information, wrongly and too rarely collected data decreases. This way also could be controlled better the foreign currency positions, hedging rates and hedging actions. To reach this goal, it is required to develop the liquidity management reporting tool so that it would receive the daily foreign exchange rates from Treasury management system together with the financial flows, and the business



units would report their financial forecasts straight to liquidity management reporting tool. Thus, all the needed data could be collected together all in once and by any Group Treasury member at any day of the month. More about different ways of hedging and reporting needs is mentioned in the chapter 3 paragraph 3.3.

## 1.5 Key Terms

Analysis

Estimate

Financial flow

Foreign currency risk

Foreign exchange rate

Future currency flow

Hedging

Liquidity management

Position reporting

Reporting tool

## 1.6 Thesis Outline

This thesis was processed in co-operation with the case company's Group Treasury team. At first, the business problem and needed changes were defined. After those definitions, the thesis researcher introduced herself with the theory of the foreign currency risk and deepened her knowledge in the workshops that were held with Group Treasury members. The workshops gave deeper understanding of the whole foreign currency position reporting process as well the complexity of the reporting and data collection.

During those stages, the researcher evaluated the liquidity management tool in co-operation with the program provider the possibilities to gain the best possible outcome for solving the business problem. The thesis researcher built and tested various report bases to get the needed parameters in place and to see the outcomes the liquidity management tool could offer for solving the business problem. As well, the good old Excel program came into the picture as the formability of an Excel for specific personalized needs is outstanding, where the liquidity reporting tool could not respond to.

This thesis has seven chapters. The first chapter is an overview that introduces the business challenge, the objective and the scope with the thesis outlines, where the second chapter is about research design that explains the research methods, the structure and how the data is collected. The third chapter introduces the existing knowledge of foreign currency risk and the best practices of the foreign currency position reporting.

The fourth chapter is the current state analysis of the process in the case company before the change. This chapter includes the strengths and the weaknesses of the current state. The fifth chapter illustrates the proposal that was made for the case company, and sixth chapter validates the given proposal with instructions for the next steps. The seventh chapter draws a conclusion of this thesis and summarizes the outcomes versus objectives. The last chapter also includes evaluation and reflections of this thesis.

## **2 Research design**

### **2.1 Research approach**

This thesis is carried out as an applied research project and is a case study for the case company. This thesis is carried out with a qualitative approach as the meaning is to understand not only the current process (the process before the change) but also the desirable way of the process after the change. The empiric material is gathered through workshops, observations and specifying unstructured open questions. The results of the study will be used in the case company.

Some parts of theory will be gathered from the literature introducing in general what foreign currency risk is, and why foreign currency position reporting is needed. Also, this thesis includes comparison about methods and ways of how the foreign exchange position reporting is carried out in other companies in Finland. The comparable companies were selected by the availability of the sources.

### **2.2 Research design and structure**

The research is designed through a gate model, which includes seven gates and thus seven chapters. It proceeds in a logical order and here below is a table that illustrates the research structure and development of this thesis.

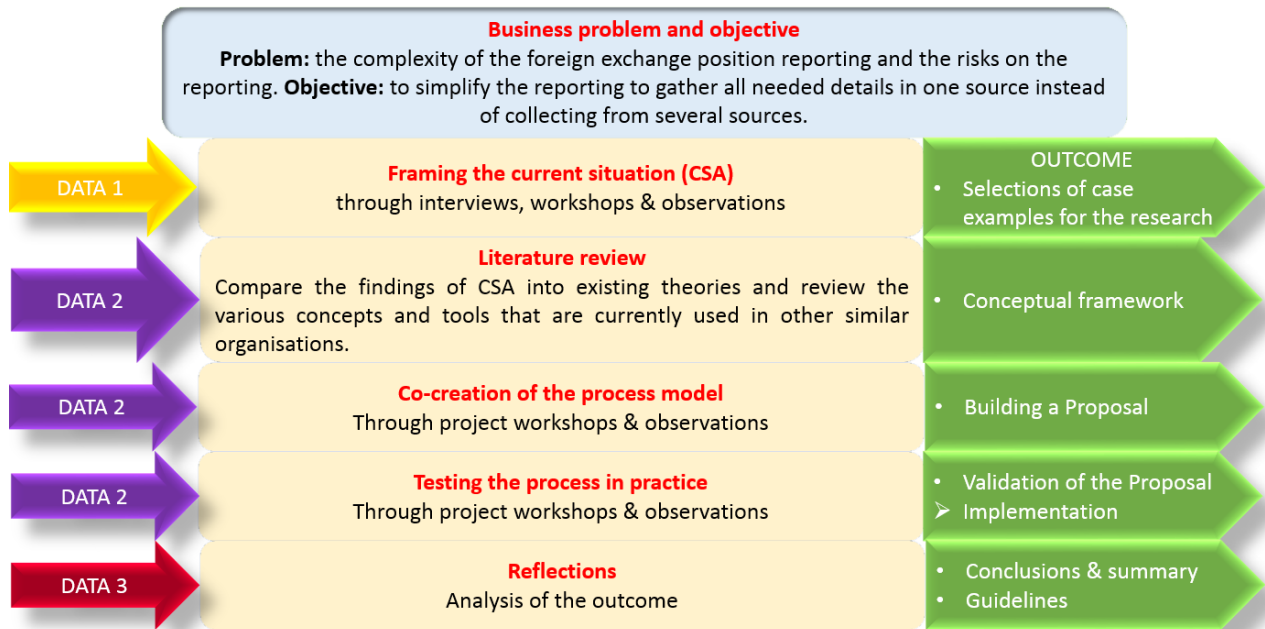


Table 1. The structure of the research.

When explaining the structure of the research, the business problem, the objective and the scope are introduced in the chapter one. The primary data (DATA 1) is the current situation of the case company before the change project, which is introduced in chapter four. The primary data is collected through the interviews and workshops. The observations the researcher has made before the project (in her daily work) and during the project in the interviews and workshops.

The secondary data (DATA 2) includes the literature review, which is exceptionally placed in this thesis to chapter three. This is done for introducing the reader with the theory of foreign currency risk and having a review of the foreign currency risk hedging procedures in other organizations. This order helps the reader to understand the concept of foreign currency hedging and position reporting before going deeper to the issue. This also helps to reflect the different ways of hedging and position reporting procedures in other companies versus the case company. The secondary data includes as well the proposal building, which is introduced in chapter five and the validation of the proposal, which is introduced in chapter six.

The tertiary data (DATA 3) is the reflection and the analysis of the outcome and this thesis. This tertiary data is gone through in the last chapter seven and it includes the conclusions and summarizes the thesis.

### 2.3 Data collection and analysis

The primary data for this thesis will come through the current state analysis, and what are the needs and ways to improve the existing ways of foreign currency position reporting by building the solution and validation of the proposal. The primary data is collected in workshops that are arranged in the case company's premises. In the workshops, the thesis worker has made observations and additional unstructured open questions of the current situation and the needed changes. The workshops, the observations and the answers to the questions are recorded in written notes. The stated questions in the workshops were sudden, unstructured and specifying on nature, so the questions cannot be considered as an interview.

The collection method, the workshops, and the written notes were chosen to this thesis as those suited the best to the work and the situation. To understand the current state of foreign currency position reporting, the best way for the thesis worker was to sit next to the Senior Treasury Manager, watching the work and listening his/ her explanations of the work and reasonings why things are done as they are. This way the deeper understanding for the process was gained and the specifying questions could be made when needed to. This way also the requests and demands for the desired way of work in the future were understood the best, and the thesis worker was able to plan the steps of the development process to gain the best possible results.

Data Round	Data Type	Data Source	Data & Approach	Recording	Purpose/ Focus
<b>Round 1: Current State Analysis</b>	Workshop & unstructured open questions	Senior Treasury Manager	19.12.2017	Written notes	To gather knowledge of the process and the current state
<b>Round 2: Building the Proposal</b>	Workshop & unstructured open questions	Treasury Director & Senior Treasury Manager	15.3.2018	Written notes	To create the proposal in cooperation with the key stakeholders
<b>Round 3: Finetuning details of the gathered data</b>	Workshop & unstructured open questions	Senior Treasury Manager	24.4.2018	Written notes	To finetune the gathered data for better project outcome

Table 2. Primary data collection.

The secondary data, the existing knowledge and the best practices, is gathered through literature, the articles and some theses as foreign currency hedging and position reporting is somewhat common subject within finance students. In this thesis, it is meant to describe the foreign currency position reporting methodology, and this why the other theses are useful for benchmarking the foreign currency position reporting methodologies in other companies versus the case company of this thesis.

The gathered primary data in the case company, and the collected secondary data from the articles and theses has many common features. For example, the foreign exchange position reporting and finding the exact hedging need is a challenge for many companies in the world. This means that there must have been certain policies made by the company executives of the hedging levels and periods of how far the company is hedging their future cash flows, and how much they tolerate foreign currency risk. As well, the companies that have centralized the position reporting or have a central risk management team, have the challenge of trusting the businesses cash flow forecasts and their accuracy versus the very actual future cash flows.

#### 2.4 Validity & reliability

The validity of this work consists of the findings that were gathered through primary data collection (the workshops in the case company) and secondary data collection (the literature, the articles, and the theses). Between these data collections are found similarities concerning the challenges and the ways of executing the foreign currency position reporting. This study is meant to describe the improvement process of the current way of foreign currency position reporting in the case company and to discover the ways it is done elsewhere.

The reliability of this thesis is gained through the fact that this study could be repeated by any other thesis worker, and would have similar interpretations by using the same categories and procedures as having used in this thesis. The thesis worker has an expertise to the systems that are used in this project but objectivity to the subject itself as the foreign currency hedging is not her daily job. The foreign currency position calculation was new to the thesis worker, and the complexity of the position reporting needed to be understood before starting the change process.

Here the data gathering process had a very meaningful place, as it was vital to have a thorough understanding of the foreign currency hedging theory, and understand the unique ways of corporates to arrange the position reporting and the hedging processes. The data for this project and thesis was gathered from multiple printed sources but also through interviews in the case organization. Comparisons between the data from the printed sources and the interviews in the case organization, gave a deeper understanding of the whole foreign currency hedging theory, and the need of the foreign currency position reporting and foreign currency hedging processes in a company.

In the chapter three in paragraph 3.2., were found similarities between the case company's and Metso's way of work, but also many differences between the case company and other organizations represented in this thesis. However, it was worth noting that the foreign currency position reporting and foreign currency hedging process is not an easy task to handle in any of the companies - the foreign currency hedging theory itself seem easy, but when applying it to practice, the case is a lot different. Many things that seems easy in theory, usually are complex in the real life as in real life there must be many points of views and angles to be considered to get the needed result - which here is hedging the future cash flows in foreign currencies. The future cash flows are not easy to foretell, as the most realistic and accurate information of the future cash flows are unpredictable as no-one can predict the future precisely.

However, even though there were several steps in this project that could not be arranged from several sources / reports to one as desired, at least the basis for the position reporting is collected a lot easier and faster after the change than it was done before the change. All in all, three fully manual steps in collecting the report base are almost fully reduced. The steps are not fully reduced, but after the project the information can be copied from the source and pasted to the report base a lot easier, as the Excel executes the correct lookups from the imported data. As well, the position reporting Excel is a lot easier to understand and the data can be tracked easier, as there were several sheets and rows added to split the information from one huge to many smaller pieces. This way information can be imported easier, as the lookup commands can be made in Excel for the needed and certain data, as well the data can be tracked down through the lookup commands in the Excel.

### 3 Conceptual Framework

#### 3.1 Introduction to the position reporting and the currency risk

An exchange rate expresses the relative value of two currencies, and as a result, an exchange rate can be quoted in terms of either currency. (Horcher, K.A., 2005. P 83.)

So, what foreign currency position reporting is and why it is needed? Foreign currency position reporting is the analysing tool for Group Treasury that gives the insight for the next twelve-month period foreign currency cash flows and the hedging needs towards foreign currency risk that arises from the future cash flows. The foreign currency position report is the company's internal tool for calculating the foreign currency position, and thus it is free willingly decided of how the reporting is done in the company. This arises from the reason that every company have different foreign currency risks and policies towards foreign currency risk management. Also, the processes for gathering the data are unique as well as the systems and form where and how the data is available.

The forecasting process should consolidate revenue and expense forecasts from all the company's entities in which net revenues incur FX risk. (Stafford, P., Cash Flow Hedging Best Practices, 2014.)

Table 3 illustrates the components of foreign currency position reporting.

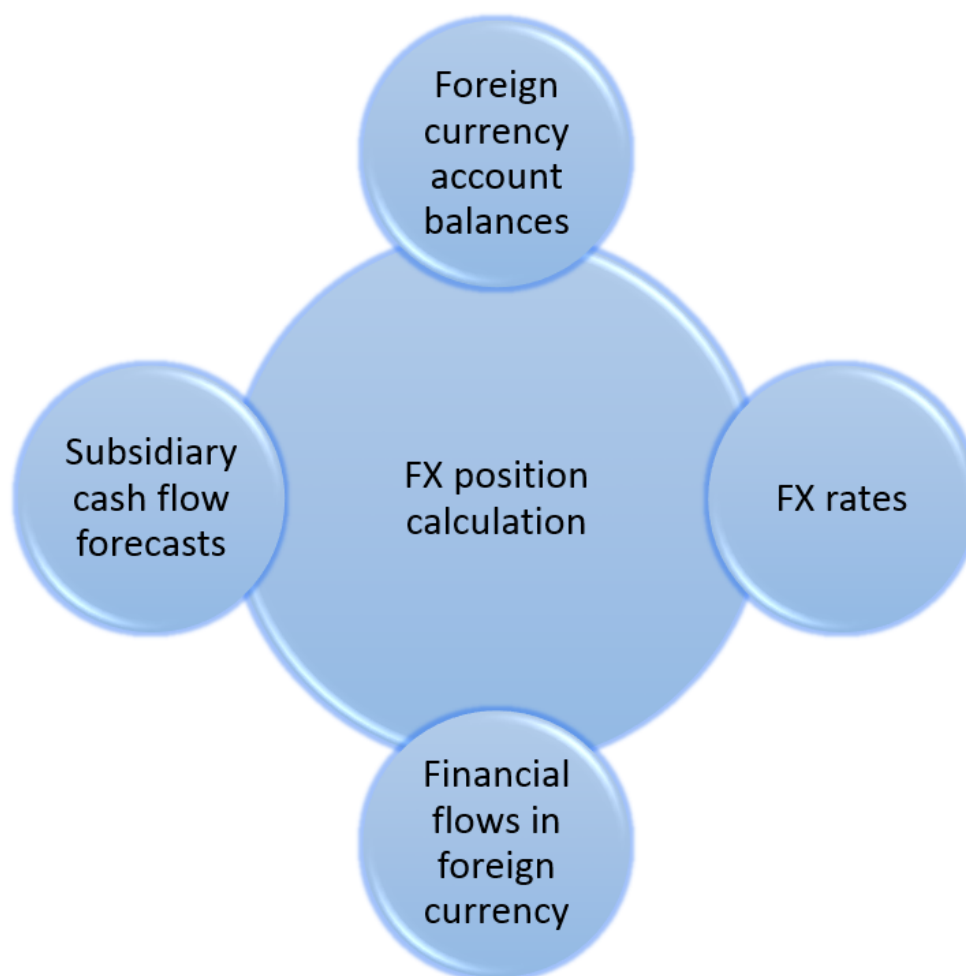


Table 3. Components of foreign exchange position calculation.

Hedging cannot be done relying solely on the gut feeling - if the hedging decisions are done by based on guts, it can turn to be very costly for the company to over or under hedging the future cash flows. When gathering the information to foreign currency position reporting, the inflows and outflows can be matched for example, so that if a subsidiary has inflows in foreign currency, but parent company has outflows, then only the possible difference needs to be hedged.

Never the less, the position reporting is not easy in any company that has foreign subsidiaries or operations executed in foreign currency, for example, raw-material purchases. Paul Stafford brought the issue out in his article *Cash Flow Hedging Best Practices* as also the case company treasurer brought up in the workshops:



Some entities might consistently provide projections that are overly optimistic or that are off in their timing, while other groups might routinely provide forecasts that are overly conservative. (Stafford, P., Cash Flow Hedging Best Practices, 2014.)

This scenario is common and is challenging for the group treasurers all around the world. This means that they need to act as currency flow forecast controllers, question the reported numbers, and challenge the businesses about their insights.

The problems of foreign currency position reporting also lie in the fact which was brought out by Deloitte in Wall Street Journal in 2016, but also what this certain applied research and case study tries to solve:

Highly manual processes. An inefficient resource model can allow less time for analytics and potentially result in an adverse impact on FX operations and risk management. Additionally, manual processes can leave more room for error and hinder information flow across the enterprise. (Deloitte, Wall Street Journal 2016.)

The manual processes are wanted to be solved to the best possible, easy and smooth way of reporting. This way there would be more time for analysis and certain actions of foreign currency hedging instead of spending time for manual “write, cut and paste” - work in the Excel.

Now, it is good to open a bit the foreign currency risk, to understand what it is, where it comes from, and what is the meaning that foreign currency position reporting is done for. The currency risk is not solely a problem of finance functions, but it concerns the whole organization; foreign currency risk needs to be considered for example, in pricing decisions, in planning investments and the budgeting.

Firstly, it is good to recognize that currency risk is one of the financial market risks and includes three factors: translation risk, economic risk, and transaction risk. *Transaction risk* arises between the time of making a contract and the payment of buying or selling products, the loan amortizations or the interest payments. Transaction position includes all foreign currency cash flows that are quite certain. Typically, these are such as accounts payables and accounts receivables. *Translation risk* is the foreign currency risk that lies in the financial statement. In the financial statement the foreign subsidiaries returns are converted to the home currency of the parent company that will show the conversion differences. *Economic risk*, however, is the one that arises from the fluctua-

tions of foreign currencies compared to the home currency of the company. This risk applies to all businesses through competition, but nature is mostly strategic and is the most difficult to measure. (Knüpfer, S. & Puttonen, V., 2014)

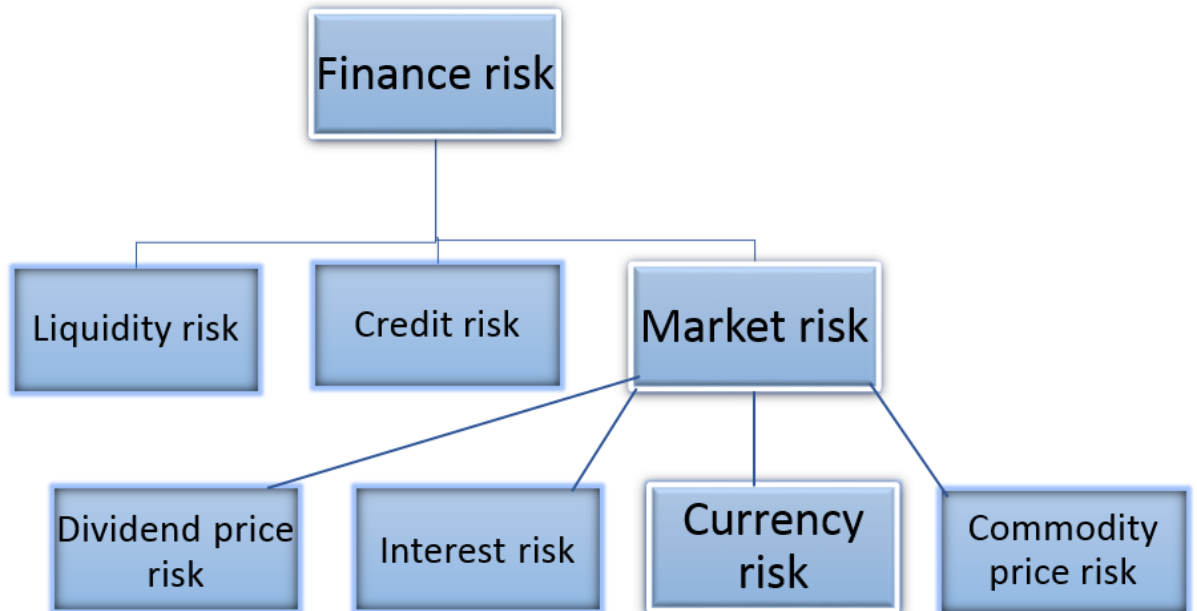


Table 4. Finance risks. (Adapted: Knüpfer, S. & Puttonen, V. 2014, p 217.)

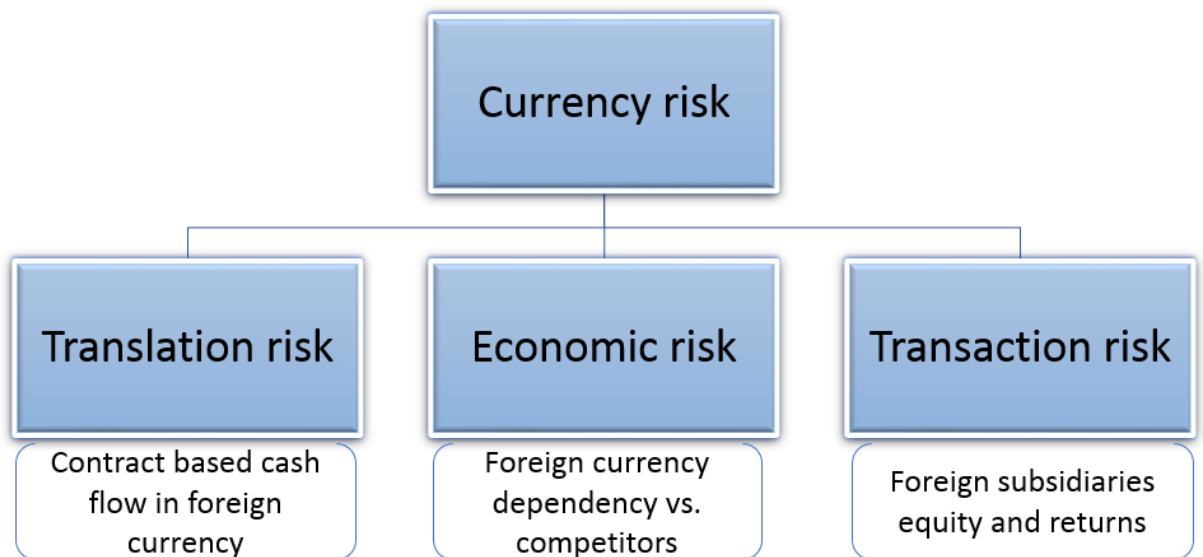


Table 5. Currency risk components. (Adapted: Knüpfer, S. & Puttonen, V. 2014, p 218.)

### 3.2 The best practices

Efficient and organised organizations operate in processes. This way the work environment is structured, and it is easier to understand the organization and own work in the organization. (Sankala, S., 2014, p 28.) It is very important for a company that the risk management is arranged properly, and has a functional and updated risk management policy. This is why many international companies have a risk management person or a team, which analyses the risks around the financial environment. For example, Mira Päivinen has written in her thesis that Metso's risk management team is responsible for the programs and procedures and takes care that they're focusing on the actual risks that concern their businesses. The changes in economic situations in foreign countries might affect the inflations and interest rates, which also affects on the currency rates. (Päivinen, M., 2011, p 33-34, 40-41.)

As in the case company of this thesis, also Metso is hedging all binding contracts of foreign exchange positions completely, as those are surely going to realize. Metso also hedges some of the forecasted cash flows, but those are considered of their significance, and by the company's competition situation. On the contrary, in this thesis' case company the risk management is part of the monthly reporting. In the case company treasury is the department that centrally processes the risk management concerning the foreign currency positions and the businesses can concentrate on their businesses instead of managing their foreign currency risks. (Päivinen, M., 2011, p 33-34, 40-41.)

As in the case company, also Kone Oyj has most of its operations (costs and incomes) in the national currency. However, there are functions that material costs and sales are in different currencies. This why the export, import and billing currencies are carefully considered to minimize hedging needs in foreign currencies. They also hedge the forecasted sales and purchases up to twelve months and the position reporting is done once in a month as in the case company of this thesis. (Päivinen, M., 2011, p 35-36.)

To take more examples of how companies manage their hedging, Finnair has hedging horizon for 24 months. At the first half of the year they have 60% hedging degree, but towards the end of the year, they drop the hedging degree in periods. (Päivinen, M., 2011, p 39.) These hedging decisions might rise from the massive amounts that aviation industry requires in form of owning and leasing planes and the currency risks in fuel purchases.

In some large global companies, hedging is done to each purchase or sales deal that exceeds X amount of home currency and/ or the maturity is over X months far. Also, the subsidiaries do their own risk management and hedge the risks against the parent company (the treasury department). Then the treasury arranges the netted external hedging deals towards its own or the parent company's position. As the reporting is in the hands of local controllers, the treasury is always there guiding and supervising the execution of the risk management and given hedging policy by the group. (Helenius, H., 2011, p 35-37, 43.)

### 3.3 Ways to hedge and reporting needs

According to the needs of this case company and the common knowledge of position calculation and reporting ways, the solution for the business challenge is to renew the reporting process and the system to respond to the needs of current time and demands. When relying on this existing knowledge and as it was mentioned in the first chapter of this thesis, this thesis is about to improve the reporting systems and the process in the case organization. The treasury of the case organization is working now in highly manual and complex ways and the need is to simplify the process so, that any of the treasury members could check the position situation at any day of the month and this way being continuously up to date of the foreign exchange positions.

In the case organization, the liquidity management system in the Web server will be the main place where the details are gathered from several systems and business functions. By doing it this way, only one report would be needed to retrieve from the liquidity management system – it is far easier and requires far less manual work than the way the foreign currency position reporting is done so far. Also, then the work would not be on one person's shoulders to collect the information and prepare the reporting from the control point of view. As well, it would be easier for the colleagues to step in, in case of substituting needs.

In general, the ways of hedging the foreign currency risks are linked to the ways of the foreign currency position reporting is executed. For example, in the companies where the foreign currency hedging is done locally in each subsidiary, the reporting needs are far simpler as subsidiary needs to think only their own business processes and curren-

cy risk issues. Subsidiary doesn't need to send the report to the group treasury, as they just request the needed foreign currency deals they need. However, the corporates that operate this manner are usually very large and global, and they use fixed monthly FX netting days to close the hedging deals against foreign currency exposure.

On the contrary some companies, as the case company, the foreign currency risk and position reporting are done centrally in the group treasury or risk management. Then gathering the information can be very complex as many causes must be considered when setting up the report. For example, always must think of each subsidiaries home currency versus the home currency of the parent company. Also, the matter of the currency flows between the parent and subsidiary; are those hedging each other, and does open foreign currency positions occur after the math?

Some of the companies that operate this centralized financial risk management way might also use monthly FX netting but not all, as it is not in use in the case company either. If there are not enough volumes to arrange monthly FX netting, it might be costly and unnecessarily lot of work to operate monthly FX netting. This why when monthly FX netting is not used, all the subsidiaries estimated foreign currency flows in the future are included to parent company's position, but only from the parts that exceeds the subsidiary's and parent company's netted amounts.

When thinking this point of view, it is a lot of work to calculate several subsidiaries foreign currency flows together with the parent company's foreign currency flows, as well as the subsidiary's home currency versus the parent company's home currency must be taken into account. Thus only the currencies need to be calculated that are foreign to the entity.

Below is shown table 6, which illustrates the conceptual framework of the business challenge. It outlines the characteristics that are required to be considered before the proposal of the foreign currency position reporting can be done.



Table 6. The conceptual framework of the business challenge.

## 4 Current State Analysis

### 4.1 The current state

The sources of the current state analysis are the key stakeholders of the Group Treasury team that is responsible for the foreign currency position reporting and the hedging activities. There have not been any formal written documents or process description available, so the worker of this thesis has explored the current way of working with the person (Senior Treasury Manager) who is in main responsible for the foreign currency position reporting. The data is collected by written notes from the workshop observations and additional questions. The thesis worker's role in this project is to create new ways of working for the Treasury team in the case company and involves moderate participation in the issue. The thesis worker needs to understand the environment and context but also detachment from the influence over the activity.

## 4.2 Audit trail of the current state

The workshops were arranged in the premises of the case company. The purpose of the workshops was to gain a deep understanding of the whole foreign exchange position calculation and reporting ways, how and where the data is coming from and the needs to improve and ease the ways of reporting and the systems. In the workshops, the thesis worker was an observer and made notes of the observations. The thesis worker also asked clarifying questions when needed. However, the workshops cannot be considered as an interview, as the questions were sudden, random and clarifying of nature. The workshops were held with Senior Treasury Manager, who is in main responsible for the position reporting. Some workshops also were held with Treasury Director, who is substituting the Senior Treasury Manager when needed, and thus is the one who placed the order for this change process. The workshops were held during the fall semester 2017 and spring semester 2018 alongside and during the project.

The foreign currency position reporting is an internal calculation tool for Treasurers about the corporate's hedging needs for the foreign currency positions. The calculation gives the Treasurer information whether she or he must make hedging procedures to minimise the foreign currency exposures. Of course it also gives an insight of the cash balances in foreign currencies of the parent company and subsidiaries through the bank account balances that are gathered to the report. However, as the foreign currency hedging needs evolve from the future sales or purchase figures in foreign currency, the company controllers draft the budgets for each function that they inform among others to Senior Treasury Manager. The budgets and hedging should be almost even – Senior Treasury Manager must consider the break-even point of the hedging versus the budgets. After all, the profits are not hedged, but those are closely followed, as profits have an influence on the internal dividend payments.

The main idea that popped out from the workshops was that foreign currency position reporting is the latest prognosis of the future foreign currency cash flows, which lives along the time. Only the realistic cash flows are considered in the foreign currency positions. The Senior Treasury Manager mentioned; "There is no room for overly optimistic future sales figures, as that might lead to over hedging and that could cost the company tens of thousands for doing so."

The reason behind overly optimistic or too conservative reporting from the businesses might arise from misunderstanding the concept of foreign currency position reporting, and the foreign currency hedging needs. The business controllers must produce many kinds of reports, and usually, those are either optimistic or conservative, depending on what kind of budget is in question. For example, sales goals are always optimistic as those are goals that businesses aim to. Never the less, aiming for those sales goals are not necessarily realistic when thinking the foreign currency position reporting. This is a challenge for the Group Treasury to dig out the real and realistic forecast figures from the businesses. Due to this challenge, confirmation of the realistic numbers from subsidiaries business functions might be sometimes delayed from the needed schedule.

In the case company of this thesis, the foreign currency hedges are layered so that a certain amount of foreign currency exposure is hedged continuously for the longer period. The Treasury Committee supervises and gives directions or permissions for Group Treasury to perform certain actions. As there might occur some difficulties of having reliable future cash flow forecast from the businesses, must be remembered that the foreign currency position reporting and hedging should not be done relying only on gut-feeling.

However, it is better to give the Treasury Committee at least some kind of best guess of the foreign currency hedging needs than giving nothing at all. The numbers can be corrected later, if needed. (Senior Treasury Manager of the case company.)

Never the less, the person who ever can give the guessed estimates, must know the process and certain numbers deeply and well enough, before being able to give any “guestimates” for any steering group, if the situation demands to do so. However, in this company the foreign currency positions are reported in several forums in several ways, so the numbers are in truly capable hands.

#### 4.2.1 Strengths

The strengths of the current way of working are that the foreign currency reporting is in excellent hands by the responsible person (Senior Treasury Manager) and she/ he is a super specialist on the issue. She/ He have very good insight into the situation of the foreign currency positions and the numbers that subsidiaries inform in their foreign cur-



rency forecast reports. The person knows what she/ he is doing and is a good sparring person for the subsidiaries in what comes to the forecasting the future foreign currency flows, and the reporting is easily produced by her/ his actions.

The Senior Treasury Manger, who is responsible of the company's foreign currency hedging, has decades of experience in this company's Treasury front office functions and has been involved in foreign exchange matters even longer time. The treasury committee can trust hers / his reports and the process is somewhat easy on subsidiaries point of view, as it is free from bureaucracy.

#### 4.2.2 Weaknesses

Weaknesses of the current way of working are that the work is mostly on one person's responsibility and way of work. The work is done through several e-mails, Excel sheets and calculations, and all the information is only behind one person. As the work is quite manual, it is time-consuming and there lies a risk of mistyping or some else human error when gathering the data together. This why position reporting is done only once a month due to the complexity of the reporting. This is a very inefficient way of working and is a risk for the company in case of a need of substituting this responsible person and making the foreign currency position report by an ad-hoc request.

The weakness of the current way of work is also the lack of transparency of the process and the numbers concerning the reporting to other Group Treasury team members. Thus, substituting the responsible person in case of need is time-consuming as there is no basic information at hand in any shared work tools. Also, the foreign currency position reporting does not fill the control function either, as the same person arranges the foreign currency hedges, but also the foreign currency hedging reporting as well.

#### 4.3 Key Findings of Current State Analysis

As noticed in previous chapters and sections, the foreign currency hedging itself is easy task, but as many examples have brought out, the foreign currency position reporting is in real life a very complex task for the Treasury departments. To gain realistic currency flow forecasts from the businesses in time is one of the challenges. However,

that is not solved by new tools; it is something that possibly needs more dialogs between Group Treasury and business units so that business unit's would understand the concept better. Never the less, the foreign currency position reporting tools needs to be updated to today's needs. The reporting must be easier and simplified, so there could be access also for the other Group Treasury team members to do the reporting whenever there is a need to do so.

Below is a flowchart illustrated (table 7) of the current way of work. The steps in blue (the parent company's foreign currency bank account balances and the existing financial flows in foreign currency) are the ones that are already gained easily through the system and only needed to bring the liquidity calculating tool to the latest version. However, the steps in light orange are the ones that must be simplified, as those are both unnecessarily manual and time-consuming steps, or are unnecessarily complicated steps towards the goal.

In the manual phases (light orange boxes) the risks of mistyping are present, and thus lead to greater risks in the future when decisions are based on the mistyped numbers. Also, gaining the information from the subsidiaries are hiding in one person's e-mails instead of being visible in systems that allow collaboration in a more flexible and transparent way. When having a system that allows subsidiaries to enter their numbers when it is convenient for them, not when they are requested to deliver the numbers, would create flexibility for everyone's work.

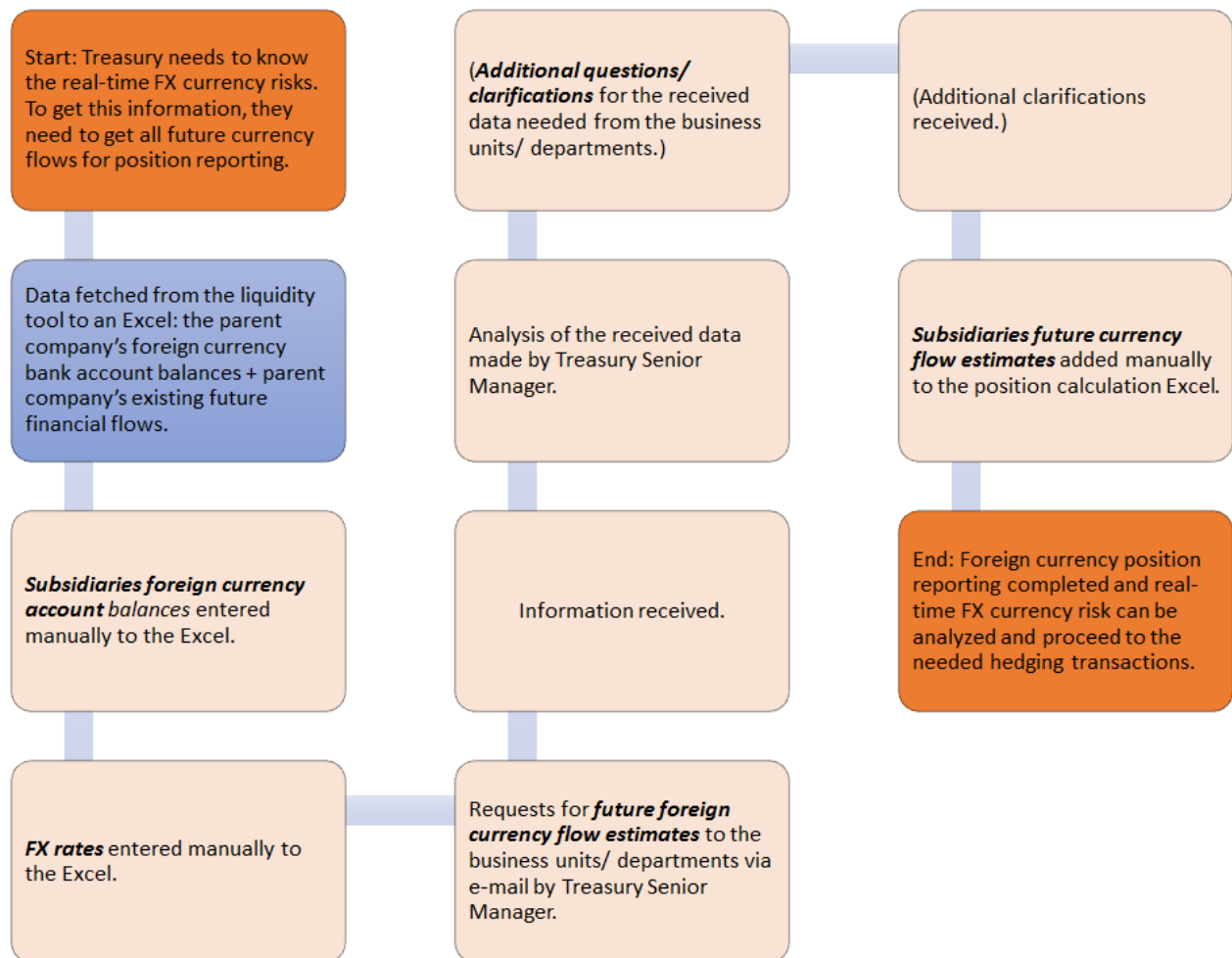


Table 7. Flowchart before the change.

Here, I would like to go through the manual phases (light orange boxes) of the foreign currency position reporting, to open up the complexity of each phase towards the goal of having the foreign currency positions clarified.

**The subsidiaries foreign currency account balances** could be included and retrieved from the liquidity calculating tool at the same time as the parent company's balances. However, now those are entered to the Excel manually as there is no correct report base in the liquidity calculation tool.

As well, the **FX rates** are entered manually to the position report. Those also could be added to the liquidity calculation tool where the parent and subsidiaries account balances are.

The need of the ***future foreign currency flow estimates*** are needed from the subsidiaries and Senior Treasury Manager must send the inquiry mail to the subsidiaries to receive the information in case the subsidiaries have not remembered to send the information. Instead, the entities could enter and / or update their estimations in agreed period of the month to a report that could be built to the liquidity management tool. Then the data would be in the same place with all other details that are needed to the foreign currency position reporting. However, this as well requires that the entities would understand the purpose of the reporting well enough and analyse their future estimated cash flows realistically enough by themselves. When the process would be like this, there would be only one or two steps instead of having six steps in the process.

## **5 Building a Proposal**

### **5.1 Basic information for building the proposal**

In the objective (point 1.4.) it is stated that the aim here is to simplify the foreign currency position reporting so that all the needed data could be searched from one source instead of collecting the data from several sources. Also, the objective is to make the data collection easier and faster and thus reduce the risks on the reporting. As well, the data would be accessed by all Group Treasury team members and could be collected at any time of the month by fetching one simple report. This way Group Treasury could be continuously up to date of the foreign currency position and the reporting would not be dependent on one certain person.

To reach the objective, the liquidity management reporting tool needs to be developed so that it would receive the daily foreign exchange rates from Treasury management system together with the financial flows, and the business units would report their financial forecasts straight to liquidity management reporting tool.

As mentioned in the Current State Analysis captures 4.2.1 Strengths and 4.2.2 Weaknesses, the strength of the current way of the foreign exchange position reporting is that the person who is now responsible, is a super specialist on what she/ he is doing. However, the weaknesses of the current way of work are the lack of transparency to

other Group Treasury members and thus the ability to substitute the responsible person when needed. As well, the control over the foreign currency positions and hedging procedures is not realising in this way of work. Thus, the data for the foreign currency position reporting is needed to bring into one database where all needed persons can log in and check the situation any time of the month in case of ad hoc requests.

As there was certainly expressed request from the Director of the Group Treasury for updating the foreign currency position reporting ways, the need was to bring ability for all Group Treasury team members to the reports that business units inform, and this way participate to the position reporting whenever it's needed. This way the way of foreign currency position reporting comes more transparent for all Group Treasury members and the special talent that Senior Treasury Manager has, will be divided to multiple persons. The reporting would not be dependent only on one person anymore, and this way the control point of view between position reporting and hedging operations would be tackled, but also these risk factors would be tackled off from the risk management point of view.

Also, in the capture 4.2. Audit trail of the current state, there was mentioned that the sources and the key stakeholders for this project are the Group Treasury Director and Senior Treasury Manager, who gives the directions and information about the needs and ways that must be considered when planning and delivering this project. There have held several project workshops in the case company premises for collecting the needed data (see table 2: Primary data collection). Also specifying open questions were presented by this thesis writer and project worker. The data for the project and this thesis is collected by written notes by the thesis writer.

The case company needs innovative ways of producing the foreign currency position reporting to respond to the needs they face in their work. The process must be streamlined to increase transparency within the Treasury team so that all needed data is collected to the liquidity management Web server reporting tool. The parent company's account balances, the future financial flows, the foreign exchange rates, and the cash flow forecasts from the businesses would all be gathered from the liquidity management reporting system.

## 5.2 Theory and practice of the proposal

When considering the theory and practice of position reporting and hedging process, the ways of arranging the process is not always that easy, as the issue is complex, and many aspects need to be considered. There needs to be a deep understanding of not only foreign exchange the rates but also the influences of the foreign exchange rate changes to the company and its business. Also, there must be specific understanding of the hedging theory aspects and analytical mindset to scan the economic environment and see behind the numbers, think of the trend curves of the business but also challenge business controllers for the forecasted flows of the future cash flows.

The ways of arranging the foreign currency position reporting and hedging vary in every company by the size of the company but also by the industry the company is operating. The size of the company dictates the ways of how many people are taking part in the foreign currency position reporting and hedging process and the responsibilities, but also the industry and operations specify the needs of arranging it. There was pointed out in the capture 3.2. The best practices; it is very important for a company that the risk management is arranged properly and has a functional and updated risk management policy. This why many international companies have a risk management person or a team that analyses the risks around the financial environment.

In the case company, there is not a need for an army to handle the foreign currency hedging process and one person can easily handle it, but it brings out a risk of lacking control over the foreign currency position reporting versus the hedging actions. Also, there is a risk in information flow across the company, especially within the Group Treasury team, but also manual processes leave more room for errors. However, the programs for the reporting process should be updated, so that reporting can be arranged easily for all the participating parties without too many twists and turns; the controllers in the subsidiaries must have an easy access to drop their forecasts, but also the Treasury's part of the job needs to be convenient so that they can rely on the program and it is not too complex to use.

## 5.3 Initial Proposal

The proposal and objective of this study are to simplify the foreign currency position reporting of the case company, so that the information would flow easily in one program and reports would be fetched easily. The liquidity management Web reporting tool is developed and structured in a new way, so that all needed data is collected to the liquidity management Web reporting tool from several sources altogether. The account balances and the foreign exchange rates are fetched to the report from the liquidity management tool's existing database, as well as the financial flows "swim" from Treasury management tool to the liquidity management report. The change from the original objective here is that the foreign exchange rates are rather taken from the liquidity management tool's database, than structuring a separate interface from the Treasury management tool for the foreign exchange rates that are already available in the liquidity management tool.

There are built new report bases into the liquidity management tool for subsidiaries business units for reporting their forecasts in the unit entry sheets, but also the final report that gathers all this data together. This way all data would be available for all Group Treasury members to check the foreign currency hedging needs from one report any day of the month and thus the risk of not having the information and manual errors are decreased. Below is illustrated the flowchart after the change, the desired future state of the process.

As illustrated in the picture below, the structure of the process is simplified; many steps are cut and many of the manual phases are automated for the reports to collect. All the needed information is gathered to the liquidity management tool and from there the reports are ready to be fetched and analysed by the Group Treasury members.

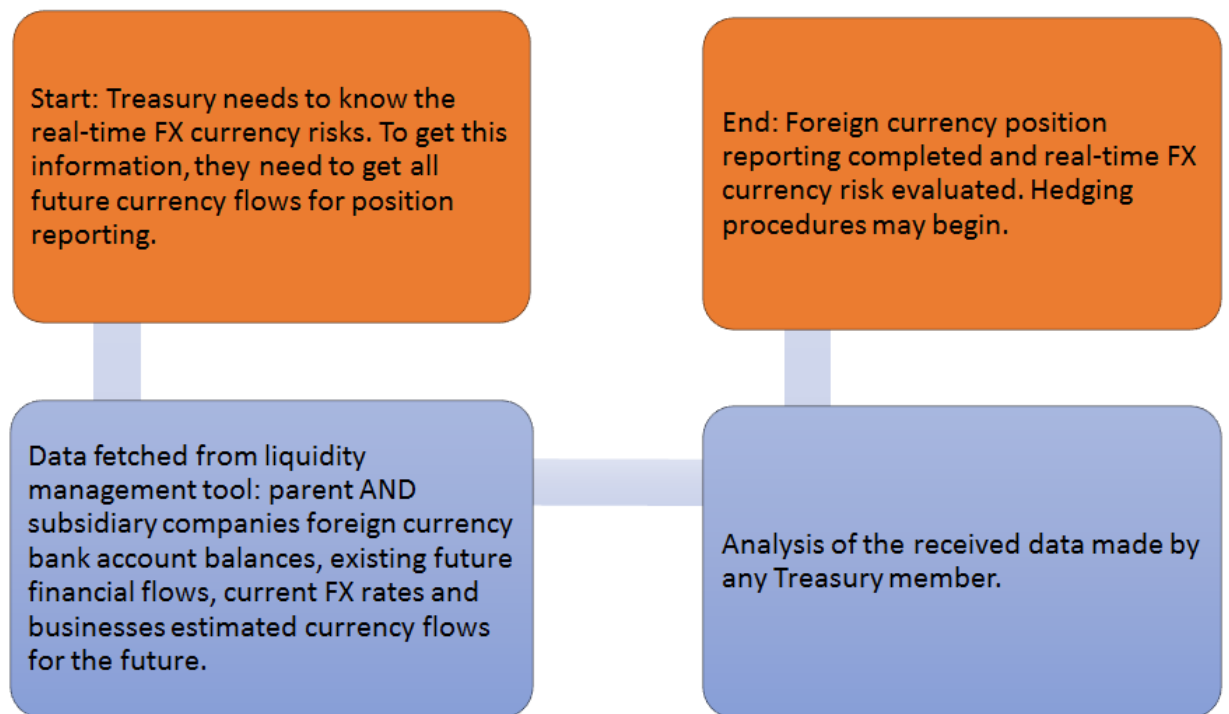


Table 8: Flowchart after the change.

The change in the table 8 flowchart after the change compared to the flowchart presented in chapter 4.3 (table 7 flowchart before the change), there would be several steps reduced as the manual steps that were taken before the change, are now streamlined to get all the needed data from liquidity management tool to a one single report.

As the parent company's foreign currency bank account balances and financial flows are taken from the liquidity management tool, also the subsidiaries foreign currency bank accounts are gathered at the same time. As well, the current foreign currency rates and estimated future cash flows in foreign currency are fetched all at the same. Now the foreign currency positions are possible to fetch from one single report and export the data to an Excel for further analysis and calculations by any Group Treasury member. This saves a lot of time to retrieve the details all at once instead of gathering the details one by one and the actions towards hedging needs can be started in few minutes when the report is fetched.



## 6 Validation of the Proposal

### 6.1 Validation Overview

The validation phase started quite soon as the project started. When the objectives of the project were set and the interviews for data collection were done, the project itself could be started. The validation phase started by creating the needed report bases to the liquidity management tool with the assistance of a consultant of the liquidity management tool provider.

As mentioned in the paragraph 5.3. Initial proposal, the unit entry sheets were created for the subsidiaries where the controllers can enter their forecasts. Unfortunately, the liquidity management tool's reporting bases are structured in a certain form, so the unit entry sheets needed to be formed in certain way, and thus the form structure that was requested by Senior Treasury Manager could not be delivered.

After the subsidiary's unit entry sheet phase, the actual foreign currency position report base was created, and the foreign currency financial flows from Treasury management tool and the flows from the liquidity management tool's unit entry sheets could be tested. The testing phase was quite smooth and the flows worked perfectly. However, the subsidiaries' foreign currency account balances were not able to be retrieved to the foreign currency position report as such but needed their own report base where those are informed. Also, the foreign exchange rates were not possible to be retrieved from the liquidity management tool's own systems to the position report after all. Thus, as stated in the objective and the initial proposal to get all the needed data to one simple report base is not possible and there are now three different reports that need to be fetched instead of one - which was desired outcome in the beginning of the project.

As all the needed data could not be able to have collected in one report, it became clear that the position reporting will still be data collection work on an Excel workbook. In Excel, it was possible to visualize the report in wanted way. As well, the data can be fetched from various sheets with several kinds of lookup commands to one main page. This way the work of gathering the foreign currency position reporting is not as smooth as was stated in the paragraph 5.3 Initial proposal, but still, in this manner there is less manual work of entering numbers, as those can be copied and pasted from the initial sources and be retrieved in the Excel to the needed cells in wanted form.

So, what was made and how the report is collected after this project? The subsidiaries unit entry sheets, the base of the foreign currency position report and subsidiaries foreign currency account balance report were created to the liquidity management reporting tool. After this, the position report and subsidiaries balances can be fetched and be copied and pasted to the position reporting Excel workbook. The foreign currency rates need to be fetched to the position reporting Excel from another source, and retrieval commands were created to bring the rates in needed places.

The testing phase of the created report bases in the liquidity management tool was smooth and quick. However, testing the newly created foreign currency position reporting Excel in production and implementing the product was much slower as the reporting frequency still takes place only once a month due to the lack of time in Group Treasury department. In the testing phase, there was also realized that the liquidity reporting tool is not very suitable for the subsidiaries' needs, as the reporting tool is not marking time stamps of when and who has been updating the report to keep track of the accuracy of the subsidiaries numbers.

As well, as the unit entry sheet report base would be the same for one business unit but for several departments, there could be a possibility and a risk of one department to override other departments details. Also, the reporting tool could have been a more complex way of reporting some simple numbers for some entity departments. This way the liquidity reporting tool could have made the easy e-mail work to a more complex way of playing with a liquidity tool the subsidiaries do not use in any other occasions.

The stakeholders of this process understood the issues with the liquidity management reporting tool, and as the foreign currency position reporting Excel is built in a seemingly effortless way to use, there were no objections to the issue that all the needed data were not able to have in one report as was desired in the beginning. The liquidity management tool is as well sometimes seen to be unstable and unreliable, and the administrative work for the authorizations of the subsidiaries personnel would have created extra work, so the risks, benefits, and workloads needed to be considered when making the decision of not taking the subsidiaries unit entry sheets in to use.

The subsidiaries still report their numbers either in an email or an Excel they send to Senior Treasury Manager. However, there should be some unanimous place to report

the details. For example, Microsoft Teams is a program that combines Skype and Share point tools. Teams is planned for collaborative work, where can be communicated by chat conversations, meetings, calls and it is integrated work together with other Office 365 programs. This why Microsoft Teams would be good tool for Group Treasury to have a place for sharing information (subsidiaries future cash flow estimates) and keeping the data available for all who are tagged to the certain team/group.

## 6.2 Final Proposal

Below in table 9. is illustrated the workflow of the foreign currency position reporting after the process change. As you see, in this final proposal, there is only one step less than before the change. However, the steps include less risky phases and fewer manual data entering than before the change. Even when there is still needed to fetch data from several reports, the data can be copied and pasted to the foreign currency position reporting Excel in chunks, and there are lookup commands set to fetch the needed data from several sheets to one main sheet.

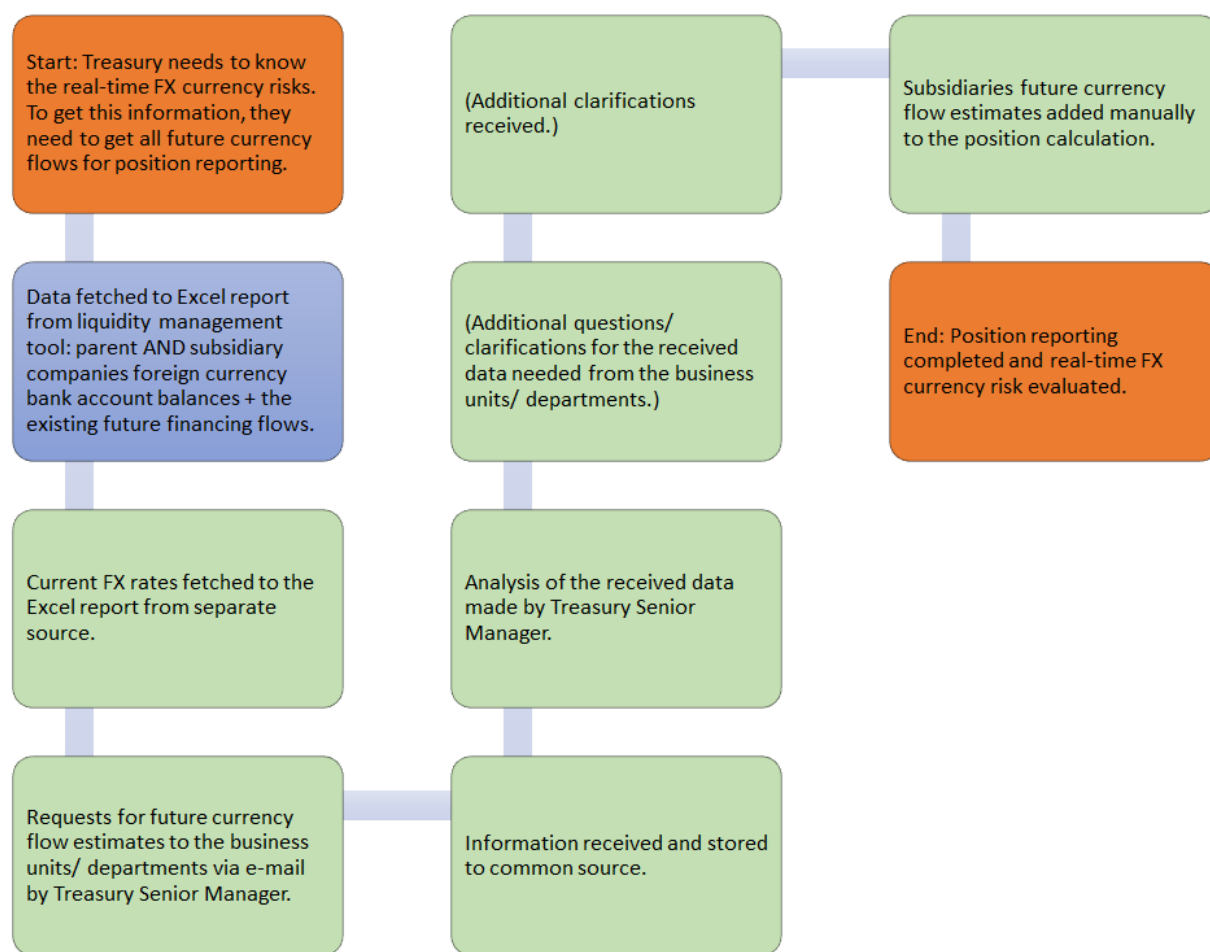


Table 9: Final proposal of the position reporting workflow.

The final proposal itself included the described settings that were mentioned above in the section 6.1. Validation overview. However, even though the testing of the subsidiaries unit entry sheets were working well, it became clear that the liquidity management tool's report bases are not that adjustable as the report bases are quite structured by the program provider and there is not possible to adjust the report bases for individual needs. Those unit entry sheets will not be used as a reporting tool for the subsidiaries future cash flow estimates. There were several reasons against the original plan to use the unit entry sheets for subsidiaries to inform their cash flows.

The first reason was that the unit entries are company specific, but the same company may inform several different details in same currency from several departments. For example, purchase and sales flow estimates as such cannot be specified in the unit entry sheet as there is possible to inform only inflows and outflows, but not what the flows actually are. So, as the purchase and sales operations are reporting their own

flows, it could be confusing for them to read a report which is in use for several parties, and wrong corrections can be done to the report. Especially in the cases if the numbers would be brought to the report by importing an Excel sheet, the Excel would override the previously entered data.

The second reason was that who would administrate the subsidiaries reporting, that they will do it in the correct manner and timescale? As there already is sometimes faced reminding needs for the required data, then in this separate program it could be easier to slip from the forecasting duty as there are not any timestamps left when someone has been updating the report.

The third reason also comes close to the second one... As people already need to use several tools in their work, is it necessary to have one tool more to learn just to report a few numbers once a month? What if the one who has been responsible for reporting is not available - who would substitute? What would be the backup system for this? From here we come also to the point of administrating the users in the liquidity management tool. As the rights for certain activities need to be set, it creates also extra administrative work to set the authorisations to the systems of the program, and of course, the substituting person needs to have the authorisations to the system as well. Then there would be a spiral of authorisations for the position reporting that takes place maximum in once in a month.

So, after considering these three reasons to use the unit entry sheets for the subsidiaries in the liquidity management tool, it was more reasonable to drop that step from the final proposal. It is not reasonable to make things more complex than it has been previously. It is wiser to let the business units to report their numbers as they've seen it the easiest way for them, Excel or just an e-mail. Group Treasury -team just needs to have a systematic way of work for having the reports in a way, that all parties that possibly needs the information, can have it. For example, there could be created conversation or a project in Microsoft Teams (which is a program that mix the features from Share Point and Skype) where units could send the data, and all needed people would have access to the data.

### 6.3 Next steps

The foreign exchange position reporting is already done in a way that is described in the section 6.2. Final proposal. Now, there is the only one matter left to solve of the Group Treasury; how to get the subsidiaries numbers visible for all the Group Treasury team members. As mentioned in the previous section, there could be used Microsoft Teams for sharing the information.

However, when looking already to the future, there is in the future coming to an update project for the liquidity management tool. The tool providers have already given a glance to the new reporting system and this means that the position reporting will need a new update as the liquidity management tool's report bases are restructured to totally new way compared to the way they are in the current system.

These issues also may raise the conversation of developing the Treasury management tool or changing the Treasury management tool to a tool that combines all the needed data, creates the reports easily and essentially, is developed for Treasury's needs.

## 7 Discussion and Conclusions

### 7.1 Summary

It became clear during this project that the liquidity management tool's reporting bases are stiff and structured to a certain form. For this project there would have been need to have more custom-made possibilities in the reporting bases. Of course, it was a disappointment to see that gathering all data to one and a simple report is not possible but when understanding that the process which may seem easy on a paper, might require a lot of background work to make the things work and have the needed numbers in correct places. However, there is no sense to make the process more complex when the objective is to make the process easier.

As well, there was a need to have the position report base from the old system and version to the current working tool. This need realized in this project, but gathering all the data that is needed in the foreign currency position reporting, an Excel became a lot easier option with several look-up and search commands.

## 7.2 Practical Implications

The improvements that could be achieved were very welcome. The improvements made the data retrieving a lot easier comparing the ways of work before and after the project. Previously the basic information for the report was retrieved from an outdated system, and the data had to be set either in fully manual ways or cut and paste in small pieces here and there to the position reporting Excel. After the change, there are only a few huge chunks of information that can be cut and pasted in once from the source to the position reporting Excel, and the data is retrieved to the correct places through Excel's lookup commands.

However, unfortunately a lot of details were left out from the liquidity management tool, as it did not bend to all the requirements, that would have needed to get the subsidiaries future currency flow estimates all from one place. Also, the system would have cost a lot of administrative work to set all the needed accesses for reporting the subsidiaries future currency flows. As well, the liquidity reporting tool is not always showing its best in what it comes on reliability. When considering these issues, it could be better to set up some other ways to retrieve the subsidiaries information about their future currency flow estimates.

In the future, there will be better programs available that are designed for Treasury's needs that could be used for this purpose. The new ways of storing data in data pools or clouds become more common, as well as artificial intelligence and robotics. I believe that these tools can be very common in future; as well the complex issues as gathering all the needed data and analysing the foreign currency positions become easier.

## 7.3 Evaluation of the Thesis

When the process was started, the business problem, objective and outcome were clear and easy to set. However, the definitions of the scope and goals needed some exercise to be set so clear that any reader, who is not introduced with the topic in beforehand, could also understand the issue.

When searching the literature and background material for this thesis, it became clear that there were not that many sources available, as the topic is somewhat narrow and very specific in nature. As the foreign currency position reporting is somewhat small but important piece of corporate treasurer's work, it is as well a form of management reporting, that does not have any given and authorized structure from the authorities. Thus, there are no given definitions of how the foreign currency position reporting should be formed as the foreign currency reporting can be structured in a way the corporate treasurer's sees necessary. As well, the structure and need of information depends on the way the work is organized in the organization.

The methods for this thesis were somewhat easily conducted by researcher as the used methods were the only possible ones that fitted in this thesis. As well, the results are reliable when the chosen methods were used and the research and conclusions could be repeated and evaluated by another researcher whenever needed.

All in all, even though the wanted results could not be reached in this project due to the complexity of the subject and tightly structured liquidity management tool, the research was interesting and challenged the thesis worker. This project has given the thesis worker deeper understanding of the foreign currency risks and hedging procedures in practice that she can benefit in her future career within the field of corporate finance.

#### 7.4 Outcome vs Objective

The objective of this study was to simplify the foreign exchange position reporting so that all the needed data could be searched from one source instead of collecting the data from several sources. Also, the objective was to reduce the risks on the reporting of misinformation or typing errors as the data could be collected easily from one source. As well, the data would be accessed by all Group Treasury team members any time and the foreign currency position reporting could be done by an ad-hoc request if needed.

However, the wanted results were not reached as the liquidity reporting tool could not bend to the needs that Group Treasury would need in this case organization. The aim was to have all wanted data in this liquidity reporting tool to one report that could be exported to the Excel for further analysis. However, this position reporting became an



Excel tool exercise anyway, as in the liquidity management tool was needed to build several reports that are separately exported to an Excel, where the data can be copied from and pasted to a separately created position reporting Excel. In this separate position reporting Excel were lookup commands created to retrieve all the needed data to the correct places.

As well, the liquidity reporting tool did not bend to the need of having all the subsidiaries data inputs. It would have been risky and confusing if the same entity but different department need to inform their numbers in the same report where any specifications are not available. Also, this way of work would have required extra authoritative work to authorize all the people who should enter their estimations of their currency flows to the liquidity management tool, but also to keep track of timing and punctuality of the given estimates.

All in all, the objective was not reached but the exercise gave a lot of information of the ways of work and the tools that are in use. In the future, the tools could be upgraded to better ones but as well the way of work could be structured in more sensible way. For example, in this case company there is a significant need for treasury controller, who could take care of the reporting and data collection, but as well be the process developer for the treasury function.

## 7.5 Reflection & Afterword

The business problem and the task first seemed big and challenging, but when the project started the task gained smaller proportion and doable frames. When the project got further, the nature of the business problem of this thesis got narrower each time but deeper at the same time.

When was time to scan the literature for this thesis, it became clear that there is a lot of information about foreign currencies, positions and hedging available but not about the specific issue of estimating the foreign currency liquidity and how to calculate and manage the foreign currency positions in corporate treasuries (which is the task that becomes before the foreign currency hedging process). As the topic was quite narrow and specific in nature, wide literature outlook was not possible to gain.

However, the researcher learned to critically analyse and prioritize the secondary data and thus save time to focus on the correct matter. As well, the validity level was gained through the correct literature that told the similar story as the interviews and workshops in the case company. As the theory or other literature cannot tell the way the problem should be solved in the certain company, the primary research skills gained importance. The interviews of the people, who know about the matter, became valuable asset to the researcher to understand the problem and ways of work.

The planning, preparation and execution of the project was relatively easy. However the validation phase in this project took more time than expected, as the process of analysing the foreign currency positions still took the place once in a month. So if there were changes to be made, the changes were validated in quite slow pace. In general, the time management skills were improved during the process as well the understanding that business cases are each unique and can be executed in different ways depending on the organisational structure, need and scope of information.

After this study the thesis worker understands more the importance of primary data collection, which is valuable when acquiring primary information from various aspects and factors that affects to the businesses. As mentioned in the paragraph 7.3., the project gave the thesis worker deeper understanding of the foreign currency risks and hedging procedures in practice. The researcher's skills around the topic were greatly improved but the thesis worker also gained confidence of relying on her own conclusions and also communicating those clearly further.

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