



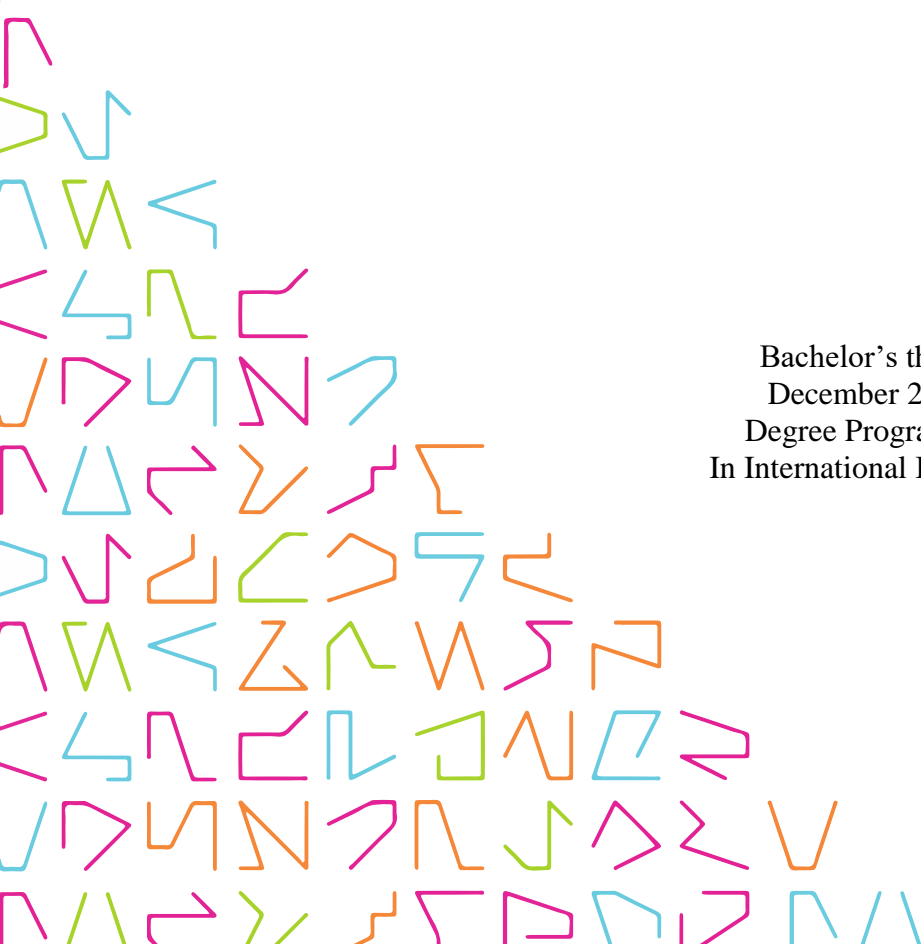
TAMPERE UNIVERSITY
OF APPLIED SCIENCES

DEVELOPMENT OF A REPORTING AND BUDGETING TOOL FOR A MIDDLE-SIZED COMPANY

Case of Järkevä-ratkaisut Oy

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ABSTRACT

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Development of a reporting and budgeting tool for a middle-sized company
Case of Järkevä-ratkaisut

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This thesis and its project were conducted for a Pirkkala-based company called Järkevä-ratkaisut. The CEO of the company is a former TAMK-student and he was seeking for a student willing to develop the already existing Excel-tool for reporting- and budgeting. The work was done in two parts; first the tool itself was developed according to the demand of the company, and the second step was the writing process of this study explaining the project.

The aim of this paper is to explain the project of developing the reporting tool and its functions as profoundly as possible, and to give a theoretical point of view to the matters at hand. This has been done so that first the theory behind the tool is explained so that the reader will understand the purposes behind the developing project, and the benefits this tool creates for the company using it.

The development project was done by updating the charts of accounts to a bigger scale, adding more useful key figures and sheets in order to make the surveillance and reporting more fluent, and making it easier to base the official reporting and budgeting of the firm on the tool. One objective was to make the tool in a way that basically any company could use it for their own purposes. This was done with the mindset of sharing economy. The tool of this study is not an accounting tool, its sole purpose is to ease the reporting, budgeting and monitoring of the firm's financial state, income/loss, cashflow etc. Even though the tool can definitely be used as help when working on the accounting for the company, it is not an accounting software with double entry systems and other procedures normally included in the accounting process, and it does not necessarily meet the standards set by the IFRS and other accounting regulations.

The results of the work were satisfactory for the firm, and later on the writer received work assignments related to the tool from a consulting company which is also run by Mr. Memonen. These assignments mainly included filling the tool with the accounting information of companies that are clients of the Memonen Holding and Consulting Oy.

Key words: budgeting, reporting, tool, Excel, balance sheet, income statement, statement of cashflow, cashflow, financial key figures

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1 INTRODUCTION

1.1 Background

This thesis was written about the project of developing an Excel-based tool that focuses on reporting and budgeting of companies. The project was requested by Järkevä-ratkaisut, a Pirkkala based company that operates in the field of internet cable installations. However, this study focuses solely on the tool, not particularly on any field of business. The CEO of Järkevä-ratkaisut, Mr. Henri Memonen had created a tool that provides the user with useful data for surveillance, reporting and budgeting of a company when the financial information is filled in correctly. In the beginning of the project, the tool was quite well functioning and the basic ideas and figures such as the debt-ratio, working capital etc. were already available once the tool was filled with the needed information. However, many changes had to be made to make the tool useful for basically any company, and it also needed some additional features to bring more value for the company.

In addition to creating a wider platform for the companies to use, also the relations between the different sheets of the tool had to be developed so that it would create useful data for the use of the company or investors without extra work. In practice, this basically meant adding and expanding formulas between different parts of the tool to make them communicate more efficiently with each other and to make it easier to gather, view and analyze the data created by the tool.

1.2 Purpose

At the beginning of the development project, the main problem was that the tool was sort of a tailor-made-solution for the company at hand, and anyone else willing to use it would have to do a great amount of work before benefiting from it, and this is where the purpose of this project lies. The functions needed to reach the goals set for the tool in this project basically already existed at the beginning, but it took a long list of time consuming operations to make it applicable for wider use because of expansions and corrections that were necessary to make the tool to meet the standards of basically any company.

The most important thing that was to be developed once starting the project of improvement was simply the size of the tool. The chart of accounts was made for the use of Järkevä-ratkaisut alone, and if anyone else would like to use the tool they would manually have to add a big list of accounts to the tool, and this would take hours or days, depending on the desired size of the chart. So, to make the tool fulfill the needs of basically any user, the chart of accounts had to be broadened so that technically any company could fill in their information to the tool. This was done by choosing a widely used chart of accounts and then applying it on the tool by adding a vast number of new accounts to the list and naming and numbering them after the standard version of a broad balance sheet. Then some crucial key figures such as the weighted average cost of capital (WACC) and return on assets (ROA) were added to make the reporting more informative. Also making the different sheets of the tool to function together was one of the objectives. The idea was to create a separate sheet for surveillance so that it would automatically create tables and graphs to present the current state of the company.

It was also agreed upon that once the developing work of the tool and its functions was ready, a manual based on the functions and using of the tool would be created so that information about using the tool would be easily found. This was done by adding one more sheet with the manual at the end of the tool.

The goal was that after the expansion and development of the tool, the user could then tailor the tables to be on the right scale with their needs. This basically means that to make the tool easier and more pleasant to use, some accounts could be hidden or deleted from the version that the company is using. The deletion or hiding of the accounts takes a lot less effort from the user than adding in new ones. Of course, in some businesses there are some accounts that cannot be found in the improved version, but in these cases the process of adding in some accounts does not add up to a huge project, and in most cases the changes can be done simply by changing the name and/or the number of the account. This reveals the true nature of this Excel-design; it is a template for reporting and budgeting and it was not even the goal of the project to make it a ready-to-use package. If a company can start using this tool for their own managerial or reporting purposes after some hours of work before it is fully suitable for their use, this project has been successful. When starting the use of this tool, it is very likely that the company taking advantage of it has already operated for some time, because the need for this kind of reporting system will

probably arise only after some time running the business. This is because a startup company probably does not have enough information to be filled into the tool to really make it worth the while to fill it up. There are also some functions that rely on the information of the previous year and some parts of the surveillance and budgeting done with the tool are more informative and easier to use if the data from the past accounting year is included in the first sheets of each category.

2 BASIC CONCEPTS OF REPORTING AND BUDGETING

This chapter is about the main concepts that the Excel-tool handled in this thesis project is about. These are the ones of reporting and budgeting. The whole development on this tool was done to make these things more efficient and fast for the user and because of this it is important to open these concepts a bit, so that the main purposes of the project become more transparent and clear.

Reporting and budgeting are things that every company or entrepreneur does. Even if the business would be about selling orange juice from a stand on the corner of a street, some budgeting will be necessary to find out how much ingredients the seller has to buy to prepare 100 glasses worth of juice. The result means an amount of money that has to be spent on the oranges, cups in which they are served etc. After this some financial planning will be done in terms of calculations about how many glasses will have to be sold to break even and turn the sales profitable. Once the season for the business is over, the seller will have to report the business activities, if not for anyone else, at least for the taxman, and maybe for himself so that he can better plan for the next season.

The example above very simply explains the idea behind reporting and budgeting. They are important phases in the process of running a business, and if they are not done correctly, the business can end up making loss instead of profit, and the company can face some problems if it cannot present its business activities clearly enough. In the following the concepts of reporting and budgeting are explained from a bit more theoretical point of view.

2.1 Importance of reporting

When it comes to the importance of the financial reporting of a company, the need and desire for it basically derive from three sources. Firstly, the reporting of companies is something that is strictly demanded and regulated by the officials. The terms in which the reporting has to be done is also regulated in detail by regulations like GAAP and IFRS. These reports are the ones on which the taxation and other fees of the company are based on. These documents, of course slightly depending on the country, are something that are basically filled in in a way that leaves no options; certain things have to be declared and

included in the papers and the decisions for taxation and other equivalent things are basically done solely based on these things. (Sherman & Young, 2016)

Secondly, the information of the companies' success is desired for the internal operations of the company. It is crucial for the future planning of the firm's business to keep track of the past. For this reason, viewing the last year, quarter, or even a week in for example a board members' meeting is of great importance. Realistic planning for the future is always based on the past and for this reason it is very important that the data about the past performances is well presented and easily available for the management of the company.

Thirdly, one group that is very interested in the data about the firms' performance are the investors. Both, current and potential shareholders make their decisions about if to invest to a company or not, solely based on the performance and the future forecasts of the company. If the company is not profitable, or is not likely to be it in a long time, it is not a good place to invest one's money in because the return on investment will probably be very small, if there will be any. For this reason, good reporting activities are also a good way of growing the capital and size of the company because if the firm is having a solid base for their operations, and it is making profit, it is likely that someone will invest in it. (Chambers, Mullick & Smith, 1971)

2.2 Basic concepts of budgeting

Budgeting is basically planning for the future, but it is strongly based on the past performance of the company at hand. It is important to understand the reasons behind the current state of the business to be able to efficiently budget for the future. If the past is not used as a base for the budgeting, it will not be realistic, since the current moment is always the moment from which the company will start its operations for the times to come. (Klein, 2006)

Budgeting and forecasting are concepts that need to be done every year to keep the business and the parties having to do with informed about the goals and starting points for each period. Budgeting is also necessary when starting a company, because without a good business plan, a company is not likely to succeed. (Viitala, 2006) This takes evaluation of the market, competitors, potential customers, threats etc. SWOT analysis can be

used for help when figuring out the overall situation when starting the company. SWOT comes from strengths, weaknesses, opportunities and threats. It is usually created in a table model so that it is easy to spot the main parts of each category. When the environment for business has been clarified, and the financial side of the company taken care of, the actual budgeting can start for the upcoming period. (Joseph, 2015)

Budgeting is something that is done to make sure that the company will reach the best possible performance given its resources and current state. It is a plan for optimizing the performance so that the resources would be turned into profit as efficiently as possible. This is done through evaluating how and what for certain amounts of money will be used and what are the realistic expectations for the revenues from the business activities that will take place during the period. These factors together lead to the final budget that will be sort of a plan for the future. Of course, the things do not always go as planned, and the budget can fall short from, or exceed the expectations. However, it is the goal of the budgeting process, that the plan would be realistic and that reaching the wanted levels of for example revenues would be possible. This is why the budgeting has to be done carefully and based on facts like the current financial position of the company and the expected demand from the customer's side. Some of these things might require researches or other projects to make them reliable enough for the use of the budgeting department, especially in the case of a big company that operates in a busy field.

In short, budgeting is an important part of the strategy of a company. When done right, it will give a good understanding of the company's goals and sights for the future. This will give valuable information for everyone that have to do with the company. For example, the management will be able to base and pace their decisions on the budgeting plan in many cases and the investors can decide if the strategy the company has is something that they believe in. The most efficient way of budgeting is making a master budget for the company. This means that the budget is done for the whole upcoming year so that it includes different parts such as the sales budget, expenses, financial budget and other important sections. This way the different important categories can be synchronized with each other and the budget will become an entity enabling more profound analyzing. (Peavler, 2017)

3 THE PURPOSE OF THE TOOL AND THE FUNCTIONS OF THE ORIGINAL VERSION

3.1 The aims of reporting and budgeting

The main goals of financial reporting and budgeting are to inform the management, shareholders and possible investors about the state of the company, and to plan the future business and financials so that the company has as good conditions to operate as possible. This usually means reporting about the past, current moment and the plans for the future. If the companies are publicly listed, they are obliged to publicly give a report about their financial state and profitability. However, many big companies do this even though they would not be listed in the stock exchange because they want to make their business activities more transparent, and to stay interesting for potential investors. (Francis, 2017) This also leads to the fact that most companies apply two kinds of accounting; financial- and management accounting. These terms determine if the purpose of the accounting activities is to provide the managers with helpful information in running the business, or if it is to create reports and obligatory financial documents for the public and officials. Financial accounting is also strictly regulated. In Europe by the IFRS, and by GAAP in the US for example. (Rogers, Martha, Kasanof and Bruce, 2000) The tool that this paper is about is an instrument that will more likely be used from the management's point of view since one of the main functions that it is planned for is budgeting. For this reason, it does not have to meet the standards of the regulations mentioned above. It is something that is used to better plan the future and the direction of the company and to keep the wanted groups informed in an easier way.

Even though the tool that is under review in this article is not an official accounting tool, and it does not meet the standards set by the regulations mentioned above, it is something that can be of great help for example when working on an accounting related matter or filling in the tax declaration of a company, or when planning for the next year's budget. When working with these things it is important to understand the importance of reporting and budgeting when using and examining it.

One of the main aims of this thesis project was to make the tool applicable for anyone willing to use it. Anyway, it is more likely that the company using this tool will be either of small or medium size. This is due to the fact that bigger companies usually have their

own designs when it comes to reporting and budgeting and they are usually quite strict about the information they handle behind closed doors. This tool on the other hand is something that everyone is welcome to use.

3.2 The original tool and goals for improvement

The original Excel-based budgeting- and reporting tool used by Järkevä-Ratkaisut Oy created a good basis for the development project. Main goals were to expand the chart of accounts within the tool so that basically any company could start using it on their own for the purposes of reporting, monitoring and budgeting. Furthermore, it was desired by the company that the tool would give a more detailed picture of the firm's state in the form of key figures, and that it would be easy to rapidly and without an excessive amount of work to find the crucial information considering the company, and therefore make it more efficient in the budgeting process.

The original tool included all the main features needed for internal reporting, budgeting and planning, but the problem was that it was a tailor-made solution for the use of the company at hand. This could be seen especially through the fact that the chart of accounts was way too narrow to be quickly adapted for the use of any other company that would have a need for the tool. The tool was also lacking some significant key figures and charts when looking at it objectively; figures like debt ratio and working capital were automatically calculated to a chart at the bottom of the sheets that represented the balance sheet of the company, but it was still missing some very important figures such as return on assets (ROA), return on equity (ROE), weighted average cost of capital (WACC) etc. Improving these two aspects led to a group of smaller changes and additions to the tool that made it more useful and easier to adapt to for one's own use.

Even though the biggest problems of the tool lied in the size-related lacks mentioned above, also some important additions to the relations between the different sheets of the tool had to be done so that it would function to its highest capacity. Most of these changes had to do with the reporting-side since most of the graphs and reporting information were created on different sheets than it was originally written to. Many functions within the tool use cells from different parts of the tool to create the desired information for examination.

The tool, despite its size, is not very complicated of a system, even though it includes some relations between the different tabs and some formulas that make it function in a manner that saves a lot of work because of automatic calculations. Except for the calculations of the key figures and some relations, what the tool mainly does, is summing up figures of different subcategories to form bigger entities so that it is easier to handle a big amount of information that the closing documents of companies normally include. The work itself was mainly about making the tool bigger. Firstly, the chart of accounts had to be greatly broadened and then the reporting side was enhanced by some crucial figures that the original version was lacking. Despite of the somewhat mechanical nature of the developing project, the work done on the job gave a good perspective on the financial documents for the writer and it was great exercise in getting more familiar with the accounting information of companies.

3.3 The features of the original tool

This section describes the features that already existed in the original tool and explains the functions and benefits it created for the company. The changes made to the tool will be explained later based on this chapter.

The original tool, as well as the improved version, focuses around the three most important documents considering the financial state of a company. These are the balance sheet, income statement and the cashflow statement. By analyzing these documents, the management, as well as the investors, can get some very important information of company's wellbeing and base many of their decisions partly, or fully on these documents.

3.3.1 Balance sheet

Balance sheet represents the financial state of the company at the end of an accounting period. It consists of two sides, assets and liabilities together with the shareholders equity. Assets show the wealth of the company as liabilities and shareholder's equity are the sources of money. According to the accounting equation the two sides must always be in balance, and this is where the name balance sheet derives from. (Tomperi, 2014) These two sides are then divided to smaller subcategories such as fixed- and short-term assets, notes payable, etc.

In the tool the balance sheet of the company is presented in a month-by-month-table (PICTURE 1.) for the past and current year.

Järkevä - Ratkaisut Oy Tase		Tilikausi 2016												
		2015	1	2	3	4	5	6	7	8	9	10	11	12
Vastaavaa														
<i>Vaihtuvat vastaavat</i>														
1635	Konsernilainasaamiset	41 667	41 667	41 667	41 667	41 667	54 943	54 943	54 943	54 943	53 554	53 554	53 554	53 554
1659	Muut lainasaamiset	(25 000)	(25 000)	(25 000)	(25 000)	-	-	6 926	6 926	6 926	6 926	6 926	6 926	6 926
1667	Maksetut vuokravakuudet	1 560	1 560	1 560	1 560	1 560	1 560	1 560	1 560	1 560	1 560	1 560	1 560	1 560
	Vaihto-omaisuus	18 227	18 227	18 227	18 227	43 227	56 503	63 429	63 429	63 429	62 040	62 040	62 040	62 040

PICTURE 1. Assets of the former year in the original tool

Later the sheets show the balance sheet by the quarters of the year (PICTURE 2.), and finally there are two separate sheets that indicate horizontal and vertical proportion of the cells' values when compared to total sums of each account (horizontal) or category (vertical) on the balance sheet by percentage. (PICTURE 3.)

Vastaavaa		2016			
		3	6	9	12
<i>Vaihtuvat vastaavat</i>					
1635	Konsernilainasaamiset	54 943	41 667	53 554	53 554
1659	Muut lainasaamiset	(25 000)	-	6 926	6 926
1667	Maksetut vuokravakuudet	1 560	1 560	1 560	1 560
	Vaihto-omaisuus	18 227	43 227	62 040	62 040

PICTURE 2. The balance sheet by quarters

The vertical and horizontal changes are presented so that the horizontal change is the value of the current month divided by the total value of that year for that particular account and the vertical table presents the proportion of each category of, for example, assets. Because the coloring of the cells according to their values it is then easy to see which category has been the biggest or smallest in each category and then the decisions for the future can be made partly based on these comparisons.

Vastaavaa		2015	1	2	3
<i>Vaihtuvat vastaavat</i>					
1635	Konsernilainasaamiset	10,16 %	34,26 %	20,99 %	27,14 %
1659	Muut lainasaamiset	-6,10 %	-20,55 %	-12,59 %	-16,28 %
1667	Maksetut vuokravakuudet	0,38 %	1,28 %	0,79 %	1,02 %
	Vaihto-omaisuus	4,44 %	14,99 %	9,18 %	11,87 %

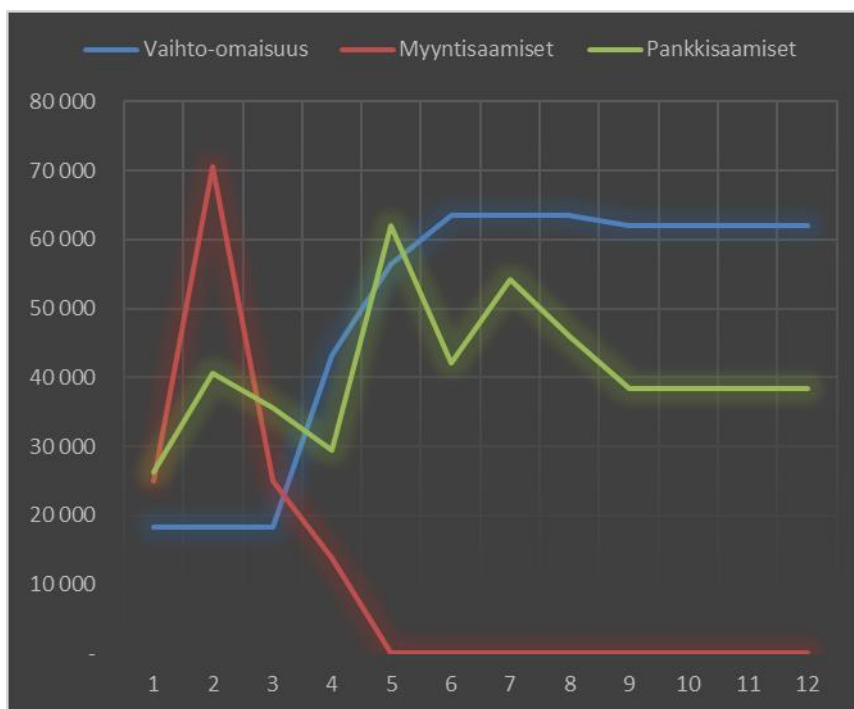
PICTURE 3. Balance sheet by percentual proportions of each category (vertical)

The tables are designed so that when the information of the company's balance sheet is filled in to the table, it automatically shows the key figures that can be calculated according to the information, and then shows them on the chart that can be found on the bottom of the sheet. (PICTURE 4.)

Yleiset tunnusluvut	1	2	3
Debt Ratio (Vastattavaa / Vieras pääoma)	0,14	0,14	0,21
Current Ratio (Vaihtuvat vastaavat / Lyhytaikainen vieras pääoma)	2,09	2,09	2,03
Working Capital (Vaihtuvat vastaavat - Lyhytaikainen vieras po)	63 550	63 550	100 589
Assets-to-Equity Ratio (Vastaavaa / Oma pääoma)	1,16	1,16	1,26
Debt-to-Equity Ratio (Vieras pääoma / Oma pääoma)	0,16	0,16	0,26

PICTURE 4. Key figures calculated from the information of the balance sheet

The tool also creates some graphs from the balance sheet so that the monitoring of some categories of interest (e.g. long-term liabilities) becomes more fluent. (PICTURE 5.)



PICTURE 5. Picture of an automatically drawn graph about the balance sheet's information

The actual Excel-table showing the balance sheet of the company is quite straightforward and simple, mainly including formulas that sum together cells from accounts of the categories to form bigger entities, which are then all summed up to show the whole sides of the balance sheet. This saves the user from a big amount of work since all the actual calculations are done by the tool. However, filling in the information of the accounts still

needs to be done manually. As this tool, in an ideal situation, only requires filling in the financial information of the company on a readymade table, one could say that no further knowledge of financial management is needed to use it. This, in theory, is true, but since the tool is designed to be used by the people making decisions related to the budgeting and reporting of the company, it basically takes at least basic knowledge about under which categories some specific accounts and numbers belong to, and how to react to shifts in some categories or what to think about the outcome of the year etc. However, in the case of the original tool this problem did not exist since the chart of accounts only included the categories and accounts needed with the account numbers that matched with the financial reports of the company.

The tool includes seven sheets that consider the balance sheet. One for the former year, one for budgeting of the current year, the current years balance sheet, difference between the budgeted and the occurred balance, balance sheet by quarters and two sheets that represent the horizontal- and vertical change. The balance for the former year is very straightforward. It is there only to give perspective on how much the financial situation changes compared to the earlier accounting period. The balance sheet of the last month (or quarter) of the former year can also be seen at the beginning of the table for the current year for more fluent comparison to the situation at the end of the last year.

The budgeted balance sheet is filled in with the information that is either expected or desired for the becoming year. When this is done, the sheet showing the difference between budgeted and occurred balance of the current year will automatically calculate the difference as the balance information for the ongoing year is filled in as the accounting period proceeds.

The sheet showing the balance sheet of the quarters only has four columns for the current year (those for the months 3, 6, 9 and 12) to show the financial situation at the end of each quarter of the accounting period.

3.3.2 Income statement

The role of the income statement in reporting is crucial. It shows how the income or loss for the accounting period has been formed. First all the incomes and expenses related to business activities are presented. Incomes are the money received from selling the goods

or services and expenses stand for all the materials, employee expenses, depreciation of property etc. Then the difference between these two categories shows the profit or loss for the actual business activities of the accounting period. PICTURE 6 shows the basic outlay of the income statement in the tool. As in the balance sheet, the income statement was created to be quite simple looking and many drop-down menus were created to make it possible to squeeze the tool into a smaller space for quicker and less detailed viewing.

What is the most important thing in the income statement depends greatly on the viewer's point of view. When someone is looking to invest in the company, he will most probably look at the earnings per share or some other categories that show how much money he is likely to gain from his investment. On the other hand, if the person viewing the document is in a managerial position in the company under examination, it is more likely that he is interested on how to increase the company's success overall and to maintain a sustainable development in the company. (Smith, 2017)

The manner in which the original tool presents the income statement is the same as with the balance sheet, but the content, of course, is very different. The sheets used to report the income information are the income for the previous year, budgeted income, income for the current year, difference between the budgeted and occurred income, and the sheets for horizontal and vertical change during the period. Like in the balance sheet section, some graphs are then automatically created by the tool to make it easier to monitor some of the most important details of the income statement. For instance, sales and expenses are presented in their own graphs so that the viewer can see how the two categories have developed month by month throughout the year.

3000	Tuloslaskelma	1
3002	Myyntituotot	
3010	Yleiset myyntitilit	- €
3012	Myynti	
3013	Myynti 2	
3014	Myynti YL%	
3015	Myynti rakentamispalvelut (käännetty alv)	
3016	Myynti rakentamispalvelut 0%	
3017	Myynti 6	
3018	Myynti 7	
3019	Myynti 8	
3022	Myynti 9	
3023	Myynti 10	
3210	Oheispalvelut	- €
3250	Toimitusveloitukset ja osamaksulisät	- €
3310	Komissiokauppa ja agenttuuri	- €
3350	Tavaravienti	- €
3410	Myynti, käytetyt tavarat ja taide-, keräily- ja antiikkiesineet	- €
3450	Myynti, arvopaperit ja kiinteistöt	- €
3510	Myynnin oikaisuerät	- €
3600	Myynnin tuotot yhteensä	- €
		1
3598	LIKEVAIHTO	- €

PICTURE 6. The outlay of the income statement's sales section in the developed version of the tool

As the income statement is the document that shows the profitability of the firm's actual business activities, it naturally is of great interest for the management as well as for the investors. For this reason, it is very important that finding, understanding and examining this information is made easy and fast by the tool. Budgeting and planning for the upcoming periods is also highly based on the income statement of the previous years and therefore using the tool for budgeting purposes has to be made as fluent and fast as possible.

Budgeting of the income in the first version of the tool is based on the percentual change from the previous year. This option is made possible so that at the right end of the income statement there is an added vertical column in which the change in percentage desired can be added. The tool then multiplies the sells for that account by $1+r\%$ to show the desired value budgeted. This allows the person doing the budgeting to try out different options and decide between them quite fast since the causes of the expected change can be seen very clearly from the table. Beside the percentage column there is also another added column. In this column one shall write the reason for the expected change (e.g. the change in clients' demand) so that the budgeting becomes more understandable for the persons viewing it.

As in the balance sheet section, the income statement of the current year is filled in as the accounting period moves on. The sheet comparing the budgeted and occurred income

then automatically calculates the differences between the two sheets. From this sheet it is easy to see if the actual income or loss has exceeded or fallen short of the budgeted value.

The sheet presenting the income by quarters makes the overall monitoring of the annual business activities faster. Unlike in the table that shows the balance sheet per quarters, the income statement is presented by summing up the income statement's information from each quarter of the year (months 1-3, 4-6, 7-9 and 10-12). Balance sheet shows the financial state and property of the company at a given time, therefore it is always presented with the latest information, but the income statement is a sum of all the months of the accounting period under examination.

3.4 The statement of cashflows

The last document handled in the tool is the statement of cashflows or the cashflow statement. This part of the original tool was not ready. It was something that looked quite good, but functionally it was lacking most of the needed qualities. However, after the earlier parts of the tool were ready, it was quite simple and easy to create the needed formulas to make it function right since all the information needed for the formulas of the cashflow statement can be found in the balance sheet and the income statement.

The statement of cashflows is a document that shows the cashflows to and from the company, meaning external investments, the investments from the company to other businesses, financials of the company etc. and it is one of the documents that are published every accounting period. (Orpurt, 2016) PICTURE 7 presents the outlay of the cashflow statement of the original version of the tool.

Kassavirta	2017												
	1	2	3	4	5	6	7	8	9	10	11	12	
Kassa vuoden alussa	26 298												
Liiketoiminta													
Myynisaamiset	-	-	-	-	-	50 030	-	2 246	-	-	-	-	#VIITTAUS!
Kulut													
Yleiskustannukset	-	-	-	-	-	-	-	-	-	-	-	-	-
Henkilöstökulut	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!
Muut kulut	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!
Verot													
Liiketoiminnan nettokassavirta	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!
Investoinnit													
Saamiset													
Omainsuuden myynit													
Omolainat													
Muut investoinni-saamiset													
Kulut													
Omainsuushankinnat													
Anneksut lainat													
Muut investoinni-menot													
Investointien nettokassavirta	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!
Rahoitus													
Saamiset													
Rahoitus-saamiset													
Lainat													
Kulut													
Osingot, VPO	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!
Lainamaksut	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!
Muut rahoitus-kulut													
Rahoituksen nettokassavirta	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!
Kassan muutos	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!
Kassa jakson lopussa	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!	#VIITTAUS!

PICTURE 7. The outlay of the cashflow statement in the original tool

4 DEVELOPMENTS MADE TO THE TOOL

4.1 Changes to the chart of accounts

First step of the development project was to expand the chart of accounts to be as wide as possible so that any company could use the tool by narrowing it down to the accounts needed for their own purposes. Mr. Henri Memonen from Järkevä-Ratkaisut had a clear vision of sharing economy in this sense; if someone wanted to apply the tool for their own needs, they would be free to do so, free of charge. Because of this, no trademarks or patents of any kind were applied for during the project. The goal was also to make the tool to match the standard of a chart that is widely used so that it would be as effortless as possible to use the tool without having to deal with a great amount of changes of account numbers, names etc. To best reach this goal, a general chart of accounts found in the internet was used. (http://www.tilit.info/tase_laaja.php)

This phase was probably the most time consuming since the original version had only a small fraction of the accounts needed, and only a minor portion of them with the right account numbers. Because of all this, the accounts had to be manually created in Excel and named after the accounts' numbers and names from the publicly used chart. PICTURE 8 presents the scale of the original chart of accounts from one section (short-term assets) of the balance sheet, and PICTURE 10 shows how many more accounts were included in this section alone. In PICTURE 9 there is a small sample from the chart of accounts used as the source for expanding the tool. This quickly gives a good picture about the size of the development project. It can also be seen that the names and account numbers are not corresponding between the two versions and this of course added the amount of work even more. In addition, there are still dozens of accounts that can be found hidden under the main categories shown in the picture, so the change in the number of the accounts is severe.

Same kind of expansion of the chart of accounts was applied to the accounts of the income statement. In that section the expansion was even bigger, especially due to the various accounts related with the expenses that were needed to make the tool suit the needs of any company. Even though using the tool efficiently for a new company requires narrowing down the number of accounts by either deleting or hiding the accounts not needed by

the company, the work is much faster to do than creating the chart from the very beginning.

Vastaavaa	
<i>Vaihtuvat vastaavat</i>	
1635	Konsernilainasaamiset
1659	Muut lainasaamiset
1667	Maksetut vuokravakuudet
	Vaihto-omaisuus
1702	Myyntisaamiset Talenom
1731	Konsernimyyntisaamiset
	Myyntisaamiset
1735	Konsernilainasaamiset
1739	Muut konsernisaamiset
1749	Muut omistusyhteisyrityssaamiset
1755	Saamiset osakkailta ja omaisilta
1762	Verotilisaamiset
1763	Arvonlisäverosaamiset
1777	Selvittelytili
1819	Muut menoennakot (siirtosaamiset)
1849	Muut siirtosaamiset
	Lyhytaikaiset saamiset
1910	Pankkitili Nordea -4160
1940	Säästöpankki -10326312
	Pankkisaamiset
<i>Vaihtuvat vastaavat yhteensä</i>	

PICTURE 8. Short-term assets in the chart of accounts of the original tool

The source of the chart included two options for the account numbers. Other option had five digits while the other only had four. To make the development and surveillance faster the four-digit version was used except for some particular sub-accounts where it was clearer to use the five-digit version. (PICTURE 9.)

15000	1500	VAIHTUVAT VASTAAVAT	H	H2	
15050	1505	Vaihto-omaisuus	H	H3	
15100	1510	Aineet ja tarvikkeet	H	H4	451
15110	1511	Aineet ja tarvikkeet	A	A	
15200	1520	Keskeneräiset tuotteet	H	H4	452
15210	1521	Keskeneräiset tuotteet	A	A	
15300	1530	Valmiit tuotteet	H	H4	454
15310	1531	Valmiit tuotteet	A	A	
15400	1540	Tavarat	H	H4	456

PICTURE 9. An example from the chart of accounts used for the development process. Instead of the five-digit version, the four-digit account number was used for majority of the accounts (www.tilit.info, 2017)

Vastaavaa	
<i>1500 Vaihtuvat vastaavat</i>	
1505	Vaihto-omaisuus
1510	Aineet ja tarvikkeet
1520	Keskeneräiset tuotteet
1530	Valmiit tuotteet
1540	Tavarat
1550	Muu vaihto-omaisuus
1560	Ennakkomaksut
1597	Vaihto-omaisuus yhteensä
1600	Pitkäaikaiset saamiset
1610	Myyntisaamiset
1620	Saamiset saman konsernin yrityksiltä
1630	Saamiset omistusyhteisyyksiltä
1640	Lainasaamiset
1650	Muut saamiset
1660	Maksamattomat osakkeet/osuudet
1661	Pitkäaikaiset maksamattomat osakkeet / osuudet
1670	Siirtosaamiset
1680	Laskennalliset verosaamiset
1697	Pitkäaikaiset saamiset yhteensä
1700	Lyhytaikaiset saamiset
1710	Myyntisaamiset
1740	Saamiset saman konsernin yrityksiltä
1744	Konsernilainasaamiset
1750	Saamiset omistusyhteisyyksiltä
1760	Lainasaamiset
1769	Muut lainasaamiset
1770	Muut saamiset
1790	Maksamattomat osakkeet/osuudet
1810	Siirtosaamiset
1840	Laskennalliset verosaamiset
1847	Lyhytaikaiset saamiset yhteensä
1850	Rahoitusarvopaperit
1860	Osuudet saman konsernin yrityksissä
1870	Omat osakkeet
1880	Muut osakkeet ja osuudet
1890	Muut arvopaperit
1897	Rahoitusarvopaperit yhteensä
1900	Rahat ja pankkisaamiset
1910	Rahat
1920	Pankkisaamiset
1950	Rahansiirrot ja täsmätykset
1901	Rahat ja pankkisaamiset yhteensä
1998	Vaihtuvat vastaavat yhteensä

PICTURE 10. Short-term assets in the chart of accounts of the developed version (there are a great amount of sub-accounts that can be dropped down from under the main categories)

4.1.1 The developments of the balance sheet

After big expansion of the chart of accounts there were still many smaller changes that had to be made to the tool to make using it more fluent. When looking at the balance sheet, this mainly included adding some important key figures and coming up with some

formulas that would automatically inform the user of mistakes in the filling process of the tool. For example, after the development, if the two sides of the balance sheet, assets and liabilities with shareholders' equity, are out of balance, the cells showing the totals for these categories will turn red. This way it is very unlikely that the user would not pay attention to a mistake in the balance sheet. (PICTURE 11)

357 208,71	336 084,72	351 739,67	305 496,34
1	2	3	4

PICTURE 11. The total of the assets shows that the two sides of the balance sheet for the first month of the year are out of balance

Also some new summing functions were needed to make the balance sheet calculate the whole entity based on the smaller categories. After the process of expanding the chart of accounts the balance sheet was many times bigger than the original one and therefore some drop-down menus had to be created under some main categories. This way the balance sheet became much more pleasant to view and it is also much easier to see the big picture more quickly because the viewer does not have to scroll through the whole list of accounts when examining the balance sheet.

One important feature of the balance sheet is that the information has to be filled into the so called "white" cells. Meaning that the information has to be more specified. For an example, if the user would like to fill in the information of the land owned by the company, he would first drop down the chart of accounts for the category *long-term assets* and then search the account for land from the list. Once the value for the land owned by the company is filled into the balance sheet, the tool automatically calculates the sum for it together with the other accounts from the subcategory, and then shows the total value for long-term assets. This enables the user or viewer of the tool to customize the outlay of the balance sheet to meet their desires since every category is not necessarily presented account by account. This way it is easier to monitor for example some specific groups of assets and their development throughout the accounting period. The user is also given an option for not deleting some categories that he does not need since they can simply be hidden with an Excel-command. This is useful in a situation in which some category does not yet include any values, but they are expected in the future.

4.1.2 New key figures

The original tool already included some key figures that helped to keep track of the company's valuation, but it was also lacking some important features. Debt ratio, current ratio, working capital, assets-to-equity-ratio and debt-to-equity-ratio could already be found in the table that included the key information of the company's state at the bottom of the sheet.

Yleiset tunnusluvut	1
Debt Ratio (Vastattavaa / Vieras pääoma)	2,636020247
Current Ratio (Vaihtuvat vastaavat / Lyhytaikainen vieras pääoma)	2,36
Working Capital (Vaihtuvat vastaavat -Lyhytaikainen vieras po)	184 962
Assets-to-Equity Ratio (Vastaavaa / Oma pääoma)	1,61
Debt-to-Equity Ratio (Vieras pääoma / Oma pääoma)	0,611239379
ROE	0,36
ROA	0,22
WACC	0

PICTURE 12. The key figures in the developed version of the tool

PICTURE 12 shows the whole list of the key figures that were included in the developed version. In addition to the original key figures included in the tool, return on equity (ROE), return on assets (ROA) and weighted average cost of capital (WACC) were added. These key figures are widely considered as one of the most important indicators to examine the wellbeing and financial success of a company.

Return on equity is the meter for how much money a company makes when compared with the amount that has been invested in it (Gallo, 2016). This is something that is of very high interest for those who have invested in the company or are considering doing so. The calculation to get ROE is quite simple and therefore it was easy to add into the Excel sheet. Return on equity is simply calculated by dividing the net profit of the company by the shareholders' equity.

The calculation for the return on assets is very similar to the one of return on equity but in this case the net profit is divided by the total assets of the company. Return on assets shows how much profit a company makes compared to everything that it owns. This includes everything from buildings to computers that has been included in the company's balance sheet. For both, ROE and ROA, the needed cells for the formula were easily

found since the summing process of the subcategories of the accounts was carefully finished. Because of this, both formulas are simple calculations only including two cells divided by each other in the Excel sheet.

When it comes to the third key figure included in the updated version of the tool, weighted average cost of capital, often referred to as WACC, the calculation is a bit more complexed.

“The WACC is the average cost of the company’s finance; this will include equity, preference shares, bank loans and bonds. It is generally accepted that the WACC will be used to appraise long term investments; therefore it is most appropriate to include only long term debt.” (Millar, 2014)

Formula for WACC is as follows:

$$WACC = \frac{E}{D + E} (r_e) + \frac{D}{(D + E)} (r_d)(1 - t)$$

Where: E = equity

D = debt

r_e = cost of equity

r_d = cost of debt

t = corporate tax rate

All the needed information to calculate weighted average cost of capital for the company can be found in the balance sheet except for the cost of cost of equity and cost of debt. To make presenting the WACC possible on the tool, a box of six cells was created on the upper right side of the balance sheet. In this box the user of the tool gives the cost of equity and cost of debt alongside with the corporate tax rate, all in the form of percentages, to finish the formula and make it function right. (PICTURE 13.)

Cost of equity (%)	8 %
Cost of Debt (%)	8 %
Tulovero-%	20 %

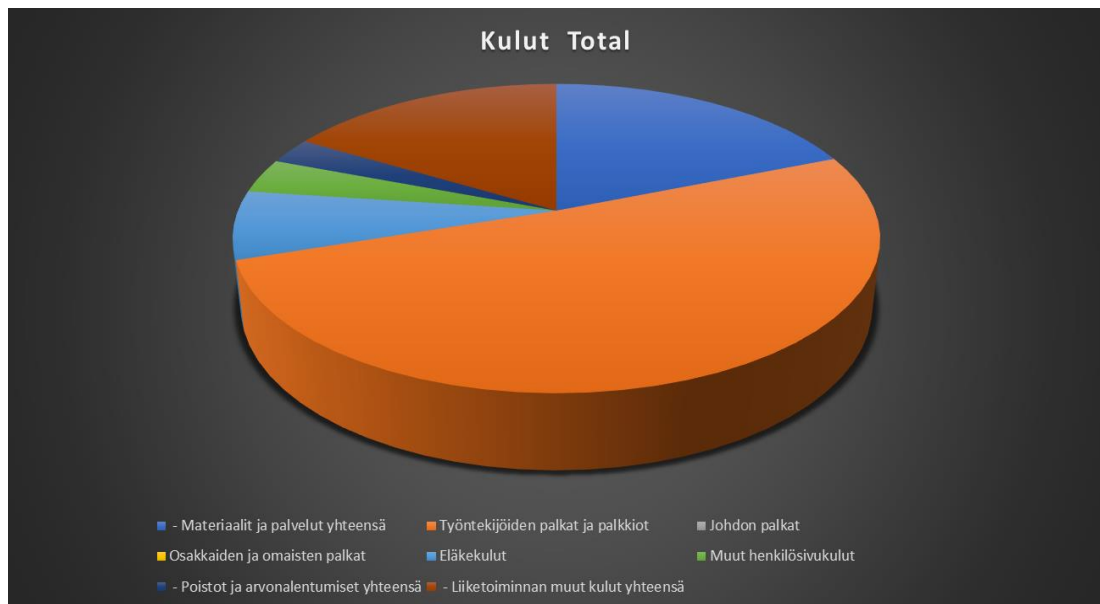
PICTURE 13. The box in the Excel tool to finish the formula for weighted average cost of capital

The presented key figures are the most common ones used for analyzing the health of the company since they show the company's ability to make profit from what they own, or what they have invested in, and on the other hand how much it cost to finance the activities that enable making investments and acquiring the needed products, materials, properties, workers etc. If the viewer has the needed knowledge to evaluate the figures in the table, he will easily get a good understanding of the current situation and these can be used in the future for example for managerial purposes.

4.1.3 The changes to the income statement

The changes made to the income statement were of the same nature as the ones made to the balance sheet. The biggest work took place in the project of broadening the chart of accounts to meet the standards and to be as wide of a chart as possible. By far the biggest category of the income statement is the one for the expenses of the company. This category includes many different subcategories which then include dozens of accounts that all together sum up to the total expenses that have to do with the business-related activities of the company. As well as with the balance sheet, the user of the tool will probably have to narrow down the tool quite much before it will actually become informative for the company's use, but it for sure is easier of a job than creating it from the beginning.

As in the balance sheet-section of the tool, some graphs were also created to the sheet of the income statement. This makes it easier to see the highest and lowest points of some of the most important categories in a more visual manner, and makes the monitoring of the company's performance more fluent and pleasant. PICTURE 14 shows the expenses for the accounting period in a pie chart. The chart is automatically calculated by the tool by comparing the different subcategories of the expenses to the total expenses of the period. From a chart like this, it is easy to quickly spot the biggest or lowest categories of the expenses and it can be used for example on planning of the future activities. In this example the wages of the staff add up to roughly 50% of the total expenses.



PICTURE 14. An automatically calculated pie chart showing the different categories of the expenses based on the information of the income statement in the Excel-tool

4.1.4 The changes to the budgeting-related sheets

One of the main functions of the developed tool is to ease the budgeting of the company. On a request by the employer for this project, Mr. Henri Memonen, the budgeting sheets were formed so that it gives the user a chance to add or decrease the amounts of different accounts by percentage. To enable this, two additional columns were added to the end of the income statement's budgeting sheet. First column includes the desired rise or decrease by percentage to the account and the second is for information that lead to this decision. This way it is easy to try out changes of different sizes and see their effects to the account and the whole category in monetary terms. For example, if the company using the tool would be willing to cut down the costs for materials by 10% for the next accounting period, the user of the tool would type *-10%* to the column that say *%-change* and then explain the reasons for this budgeting to the other column. This change in percentage has to be done separately for each account, but it affects all months and quarters of the upcoming accounting period shown in the tool. The base information to which the change is applied to is taken from the same, otherwise identical sheet representing the income statement of the last accounting period. This way it is easy to be realistic and come up with some budgeting goals by trying out different combinations without a massive operation.

PICTURE 15 shows how the budgeting cells of the tool look like. The formula behind it takes the information of each month and then multiplies it with $(1+x)$, x being the percentage typed in the cell that stands for the change in percentage.

11	12	TOTAL	Muutos %	Peruste
- €	- €	- €	-100 %	Ei myyntejä
- €	- €	- €	-100 %	Ei myyntejä
- €	- €	- €	-100 %	Ei myyntejä

PICTURE 15. Picture of the budgeting-sheet's cells including the desired change in percentage

The budgeting part of the tool was something that already existed in the original version, even though in a scale that was much narrower. This was something that Mr. Memonen wanted to maintain in the tool since budgeting is one of the most common purposes for using it, and this model was the one that best served the needs for it. Because the tool is mainly used as a help for reporting and as a platform for budgeting, it is well justified that the functions heavily rely on the previous accounting period since in this kind of operations the decisions derive from the desire for improvement and improvement is always done based on what has occurred in the past.

4.1.5 The improvements of the cash flow statement

As the last part of the actual sheets handling the three key documents for company's reporting (balance sheet, income statement and the cashflow statement), the sheets about the cash flow of the company had to be improved and made to properly interact with the other parts of the tool.

Cash flow statement is a document that presents the flow of money to and from the company during a given period of time. In some cases, this can greatly differ from the timetable of the income received by the company. For example, car dealers can sell the car for a customer any day, but then charge for the car during several years. (Orpurt, 2016) This is the reason why the cash flow statement is a document of its own. In fact, the net income (or loss) is only one part of the cash flow statement. PICTURE 16 shows how the cash flow statement of the tool has been formed. This cash flow statement consists of four parts: the cash of the company at the beginning of the year can be found on top of the page and the cash at the end of the year can be found on the bottom. Above the cash

registered at the end of the year, the change in cash can be found. This is simply a calculation where the cash at the beginning of the year is deducted from the cash at the end of the year. The information for these two is simply taken from the balance sheet.

In addition to the amount of the liquid cash of the company, the cash flow statement shows net cash flow based on the business activities that have taken place during the accounting period. This is simply the net income from which the expenses and depreciation have been deducted. Compared to the income statement, the cash flow statement is much more compact and because of that it might be a quicker way to examine the expenses etc., if it is not important to get a very detailed idea of the cashflow.

Kassa vuoden alussa	
Liiketoiminta	
	Myyntisaamiset
Kulut	
	Materiaalit ja palvelut
	Henkilöstökulut
	Poistot ja arvonalentumiset
	Muut kulut
	Verot
Liiketoiminnan nettokassavirta	
Investoinnit	
Saamiset	
	Omaisuuden myynnit
	Ottolainat
	Muut investointisaamiset
Kulut	
	Omaisuushankinnat
	Annetut lainat
	Muut investointimenot
Investointien nettokassavirta	
Rahoitus	
Saamiset	
	Rahoitussaamiset
	Lainat
Kulut	
	Osingot
	Muut rahoituskulut
Rahoituksen nettokassavirta	
Kassan muutos	
Kassa jakson lopussa	

PICTURE 16. The outlay of the cashflow-sheet

Also in this section, as well as in all the sections of the cash flow statement, the information in the excel-tool comes from the earlier sheets. This means that once the balance sheet and the income statement have been filled in correctly, the cashflow statement will be generated automatically based on this information and the user will not have to do any extra work for it.

Second category of the cash flow statement is the cash flow of investments. Information on this category relies on the balance sheet and is generated by comparing every month of the balance sheet to the previous one and this way getting the change for each category. The whole cashflow-part of the tool represents the state of the current year, but the information for the first month requires data from the last month of the previous accounting year to be calculated right. The investment part of the cashflow statement consists of two sides, revenues and expenses. These two categories basically include the same elements; sales/acquirement of assets, loans taken or given, and other investments based on their nature. After these two sides have been summed up to their own entities, the expenses are deducted from revenues to get the total cashflow for investment.

The third part of the cashflow statement shows the finances of the company. It simply uses the balance sheet and the income statement to find out the receivables and loans collected from the finance activities and deducts the dividends and other financial expenses from them to come up with the total for the financing activities.

4.1.6 The sheet for surveillance

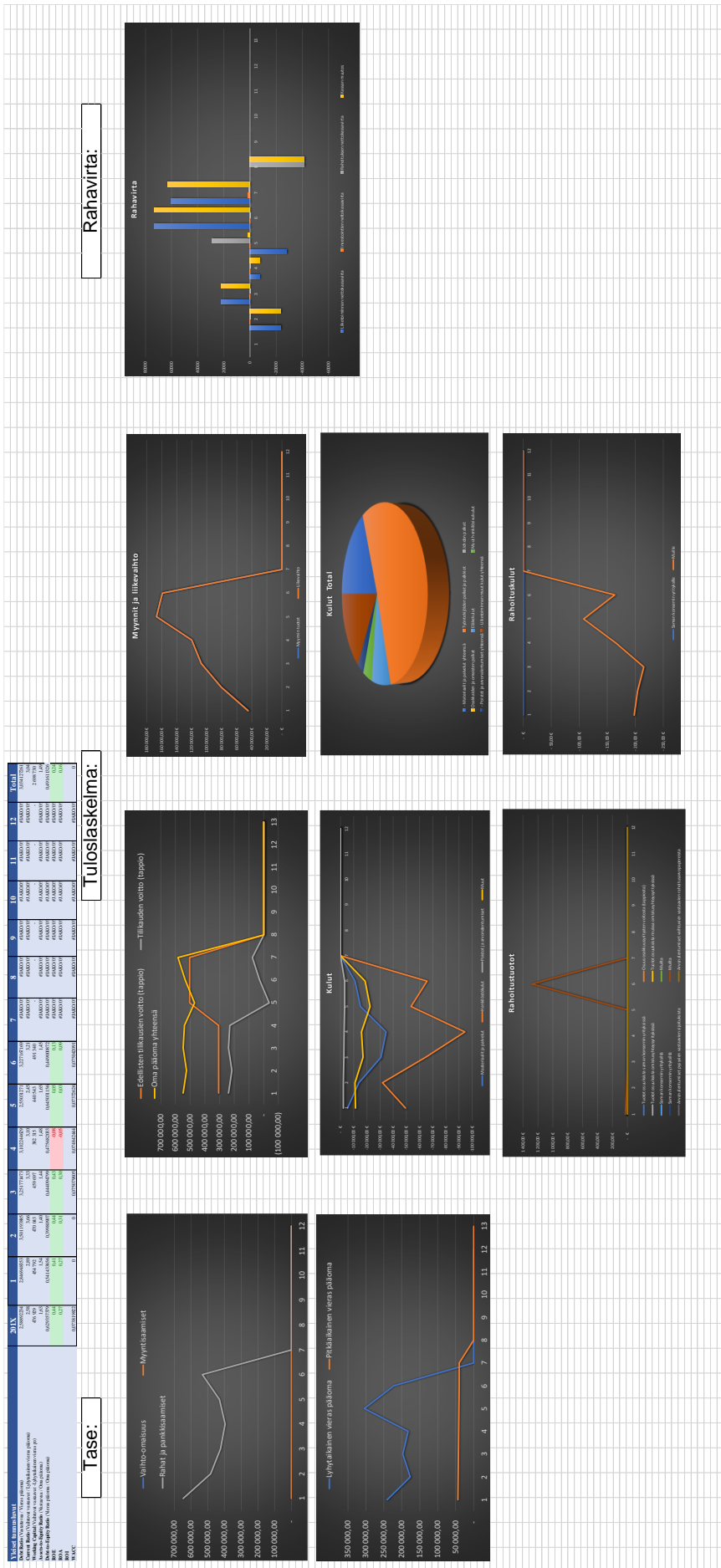
Last sheet of the tool is designed to show a summary about the other pages so that it reflects the most crucial information of the tool on a single sheet. It was a request by the company that this kind of a summary would be included because the tool holds quite much information and it is important to have a platform for more rapid overview of the company's current state and recent past to make short term decisions. This part of the tool is also very helpful for presenting the most interesting information in a viewer-friendly way for example in the case of a meeting.

Like all the sheets in the tool, the surveillance sheet can be edited to best meet the interests and needs of the company at hand, but the sheet created during this thesis project includes the most crucial information about all the key financial documents of the company. These

are something that the managers and investors usually are interested in and will bring extra value to daily- and long-term decision making when they are easily available for review.

The outlay of the surveillance/summary sheet can be seen in PICTURE 17. It includes graphs that have been divided into three categories according to which financial document they are about.

The first two graphs on the left present important information from the balance sheet. They show the monetary situation and receivables of the company in the first one and the amount of foreign money in the company in the second. These are very important numbers when evaluating the company. The importance of cash is something quite obvious when talking about businesses. It is the mean of trade and because of this it defines if the company has the power to buy the needed things to act in their field of business and how big of a portion of their activities it can finance on its own. The foreign capital on the other hand tells how much loan the company has got and this is something that the investors and owners are very interested in because self-sufficiency is a very important factor when it comes to long-term business. (Gartenstein, 2017)



PICTURE 17. The outlay of the surveillance sheet

4.2 Examples of graphs and Excel-formulas used

All the graphs and formulas used in the tool are quite simple and not too complicated to build. The demanding side is that the sheets have to communicate properly with each other so that the tool would function in the way it is supposed to. For example, when the budgeting is done for the new accounting period, the information of the previous year has to be filled in correctly. Otherwise the percent-based budgeting system will not work. Therefore the biggest thing to pay attention to when using the tool is to be very careful when filling in the information. This is because if there is a mistake for instance in the balance sheet, it will most likely affect other parts of the tool and corrupt the system.

4.2.1 The formulas of the balance sheet

When it comes to calculations, the balance sheet of the tool is very simple. It is basically a sum of subcategories that then form the two sides of the balance sheet, assets and liabilities with the shareholders' equity. These two sides must then be in balance and there is a function included in the tool that will turn red the cells that show the totals for each side, if the two sides are out of balance.

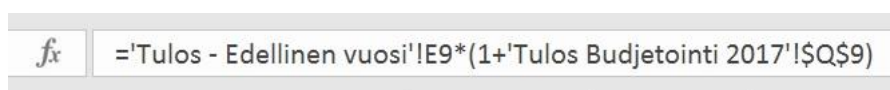
In addition to these simple summing functions, the balance sheet-page does have a set of more complicated calculations that are the ones that are included in the box that presents the financial key figures, such as WACC, that were introduced earlier in this paper.

4.2.2 The formulas of the income statement and the statement of cashflows

Alike in the balance sheet section of the tool, in the income statement the most common Excel-function is the sum of different cells. However, there are some categories that are deducted from each other such as the sales and expenses. It is also possible to use the tool in a way in which the corporate tax percentage and other values are filled into the tool so that it will automatically calculate the amounts of taxes that the company has to pay for the period.

In the budgeting section of the income statement some multiplying functions take place because of the percentage-change model used in the budgeting. This also requires using

the stagnant column-function in Excel to make the tool understand that independent from the month at hand, the cell has to be multiplied by the cell of the same column even though the other multiplier, months, changes horizontally. In Excel, this means that dollar-signs have to be used when dragging the formulas manually to make the modifying of the tool faster. For example, if the cell E4 would stand for the value of January, the tool would take the cell E4 from the sheet of the earlier year and multiply it with the percentage set in the sheet for the current year after this percent would have been added to number one. In Excel this formula would look like this: ='Tulos - Edellinen vuosi'!E8*(1+'Tulos Budjetointi 2017'!\$Q\$8). (PICTURE 18)

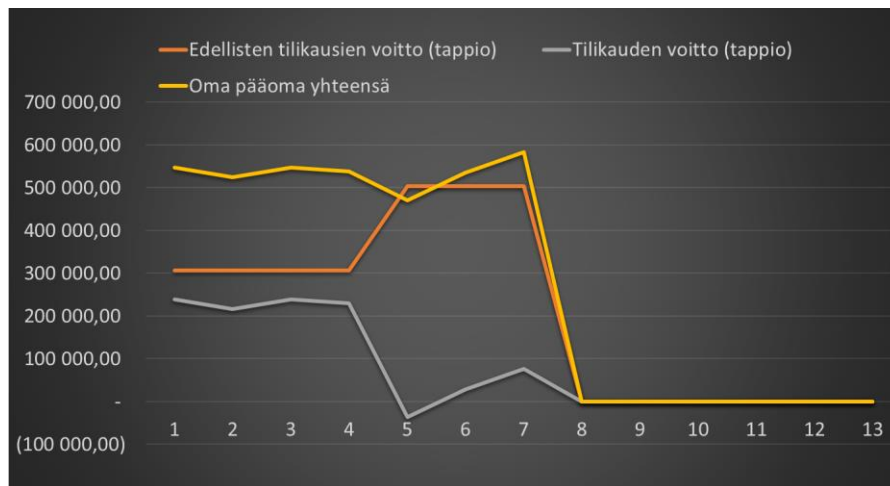


PICTURE 18. An example of the formula from the budgeting-section of the income statement

The statement of cashflows is basically a sum- and minus-sheet from different earlier sheets of the tool. All the information that it uses is taken from the earlier categories. For example, the cash at the beginning of the period is simply a cell from the balance sheet. This information is then varied by different calculations using multiplying, summing and deducting, to get the cashflow statement to be an automatically creating document once the balance sheet and the income statement are filled in right.

4.2.3 The graphs and relations of the tool

The graphs presented in the tool's summary sheet are all drawn automatically from the information filled into the tool. Unlike in the original version, they are all presented in the separate sheet next to each other, so that different categories can all be viewed and compared in the same place. PICTURE 19 presents one of these graphs and PICTURE 20 shows the formula behind it.



PICTURE 19. One of the graphs presented in the summary-sheet

The Excel-formulas behind the functions of the tool are of simple nature but they create very important information for the company in terms of key figures and graphs. It can be seen from the formulas shown in the pictures that the creation of these informative parts is automatic since the tool has been filled in correctly.

Muokkaa sarjoja ? X

Sarjan nimi:
 = Edellisten til...

Sarjojen arvot:
 = 305 926,73 ; ...

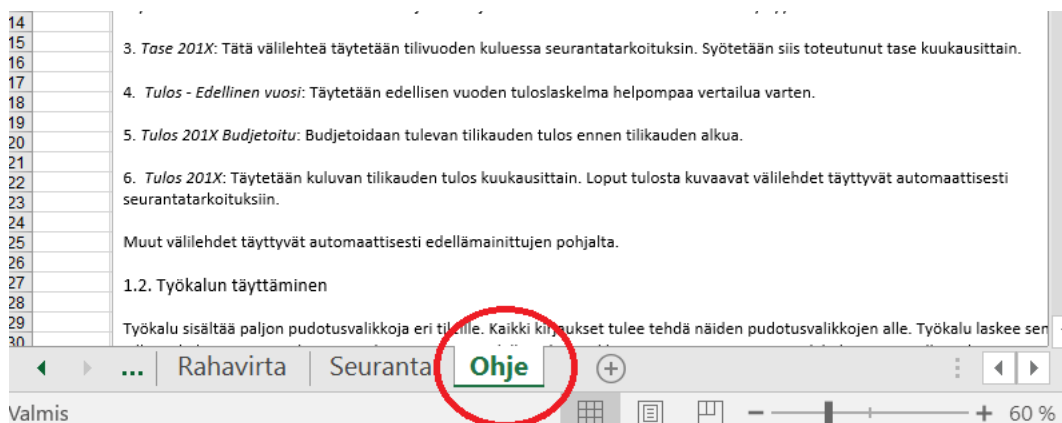
OK Peruuta

PICTURE 20. The formula behind the graph from the summary sheet of the tool

5 IDEAS FOR DEVELOPMENT

Overall the improvement project of the tool was satisfying for both parties. The work met the goals set in the instruction and the final version was immediately applied to a real reporting and budgeting project assigned by an external firm. However, there are always more room for improvement and some things have already been discussed to be improved in the future since the co-operation will most likely continue once the writing project of this thesis is finished.

Since the main uses for this tool are budgeting and reporting, most improvements to be done in the future have to do with these things as well, but there are also other aspects to be taken care of. One of these is writing a good manual for the users of the tool. This needs to be done so that basically anyone could use the tool without additional support and that all the information needed for using the tool could be found in one place. Some of the most obvious problems that could be faced by someone new with the tool have already been answered on an additional sheet “*instructions*” that can be found at the end of the menu for sheets. (PICTURE 21)



PICTURE 21. The sheet for instructions showed as it is in the developed version of the Excel-tool

Even though the tool is quite straightforward and most of the sheets do not require any additions by the user because of their relations with the other ones, there are still some things that are important to know once filling in information, viewing the data or reporting based on the information that the tool provides its user with. Some automatic reminders for mistakes or misuse of the tool could be handy for this purpose so that the user would be informed if a mistake that is likely to corrupt the data has taken place. This would be

useful because of the nature of the work; every number added to the tool is expected to be right and is very likely that it will affect some other numbers as well since most of the sheets are somehow related to each other. For example, a mistake done while filling in the expenses category of the income statement will affect the net income of the company and this way give a wrong picture about the profitability of the firm. Because of this, the most important instruction while using the tool is to pay attention. This goes basically for everything that has to do with financial reporting and budgeting because almost everything affects everything.

In addition to instructional changes, there has been ideas about making the tool to communicate with external files as well. This would be helpful especially with the reporting side of the firm using the tool. Also some new features could be added to the tool to make it even more informative, but including them in this thesis project would have been too time consuming.

5.1 The developments of the reporting functions

One of the most useful ideas for further development would be a Powerpoint-presentation that would create a slideshow based on the information of the tool. This presentation could include for example some key graphs and figures from the tool's summary sheet and it could be used for example in the meetings held by the members of the board of the company or to convince investors. It could also include textboxes for notes and this way it could be used as sort of notebook to give added value for the people in managerial positions inside the company. This kind of a slideshow is also more convenient to read when there is not too much time to examine a large amount of data and different tables, and in addition it would be easier to understand for people who do not necessarily have all the needed knowledge to read all the financial documents. In these kind of situations, a simple graph or chart is much more informative.

Another reporting-related idea for improvement would be a table showing the key information that normally is desired by the officials, such as the taxman. If all the numbers and data commonly asked in the tax declaration would be found in one place automatically calculated, or even better, in a readymade form that would be easily adaptable for the standards of the tax reporting, this could save a lot of time within the company and

ease the planning for best possible solutions while running the company through each period.

5.2 Development of the functions of the tool

After the development that took place during this thesis project, the tool was enhanced according to the most urgent needs by the company giving the assignment. As stated before, the biggest tasks were to expand the chart of accounts and add some useful key figures and graphs to ease the processes of budgeting and reporting. The tool is practical, and it can be said that it is straightforward and easy to use, but it is not perfect by any standards. There are still many things that could be improved and many functions that could be added to make it even more informative for the user. For example, many more graphs and figures of different kinds could be added. One of the most important ones that is still missing is the return on investment (ROI). This was basically left out of the project since the main group expected to use the tool are the small and medium sized companies in which the investments probably are quite small when evaluated in monetary terms. However, ROI is one of the most common key figures used when examining the financial state of a company and therefore it should be included in the tool when the development is taken further. The lack of ROI might cause some company to decide not to use the tool if investing is an important part of their strategy.

Good examples of some other important figures that are not shown in the current version of the tool are earnings per share and EBITDA. These two are something that are also commonly used with bigger companies, but their importance cannot be denied from the point of view of a manager or especially from the one of an investor.

Earnings per share shows how much of the funds attributable to the investors belongs to one share. In other words, the attributable amount of money is divided by the number of shares of the company. This, of course, is very interesting for the investors since by this number they do get a good understanding about if the company does make enough profit to reward its shareholders or not, and if this part of the profit is big enough to make the investment worth the while.

5.3 The need for the manual and the goals for the writing process

Even though the tool is of a quite simple nature to use, it is desired by the assigning party that an instructions manual would be created for the tool. It has already been discussed with Mr. Memonen that the project for creating this manual will take place on the spring of the year 2018 as a separate work assignment. It is planned that at that time an article will be written based on the tool and the manual will be one important part of this project that will be conducted in cooperation with the two parties. It is also planned that jobs related to the tool will continue part time once the writing project of this thesis is finished and both sides have enough time on their hands to focus on the matter. At the latest at this point the tool will become available and known for everyone willing to use it.

5.4 Desired change on the way of the budgeting

Even though the way the budgeting works in this tool is very practical and realistic since it is mirrored to the current state and the recent past of the firm, it is desired that in addition to the method of the change in percentage- possibility in the budgeting process, it would be possible to simply add values that represent amounts of money, when doing the budgeting. This would make the budgeting process more detailed and it would not be necessary to change the values for all the months of the accounting period at once. This would enable more short-termed budgeting.

6 CONCLUSION

This thesis process was a summary of the main points behind the vast project that was conducted on the Excel-based reporting and budgeting tool for the need of companies operating in basically any field of business, and the main point of this paper was to open up the steps that had to be taken during the process. Even though it is necessary for a study of this kind to open the theoretical point of view that creates the background for all the work done during the development and broadening of the tool, the goal of this paper was to quite simply walk the reader through the actual path that lead to the situation in which the tool was left at the end of the project.

Main idea behind this work was to make the tool useful for anyone. This goal was accomplished since the tool is now much broader, and with some changes it can be applied for the needs of basically any company. The broadening of the chart of accounts gives a good platform for the reporting activities and the added functions in the form of Excel-formulas and key figures etc. produce a lot of added value for the user. In short, it could be said that the project was successful and that it will be of great help in the future. However, this does not mean that the tool would be ready, or that it would not lack anything important. In fact, this sort of a solution could include a limitless amount of functions and qualities that are not included in this version of the tool. There are also some very comprehensive things that still need development and more add-ons. This is because the field of financial reporting and budgeting is an everchanging one. It changes all the time because of the changes in regulations and laws, it changes due to the need off the companies doing it and it because of the information desired by officials and investors can be very different from time to time, or when the field, or the point of view is different. The tool under examination in this thesis was not meant to be the last version. As a matter of fact, it is meant to be a platform to build on. It goes without saying that the needs and goals differ greatly from one company to another and for this reason the end user of the tool will most likely have to make some changes to it before starting to use it. But once this tool is used, the goal of this project has already been reached. Behind the activities in this thesis there was a strong vision of sharing economy in the sense of making it easier for businesses to monitor, report and budget their operations. In this sense the tool is of great help for any company that is aiming at building a stronger base for these activities.

6.1 Overview of the changes to the tool

During the development project that created the base for this paper, the Excel-based reporting and budgeting tool experienced major changes. The biggest one was the change in its size; the chart of accounts grew from the tailored version in the beginning to cover the most commonly used accounts of any industry, multiplying the number of accounts by tens of times. In addition to this, the tool went through some functional changes since the graphs and key figures were all moved to a separate sheet at the end of the tool that was then dedicated for surveillance and quicker monitoring. The project also included some additions to the key figures' section since return on assets (ROA), return on equity (ROE) and weighted average cost of capital (WACC) were added to the system. Some changes were also made to the way the tool works. Some relations were added or modified between the different sheets so that the manual work of filling in the information would be reduced and more useful information would be automatically created by the system. Examples of this are the sheets showing the difference between the budgeted and occurred balances and incomes. These sections were not properly finished in the original version. Other big changes were the creation of drop-down menus for the long lists of accounts to ease the viewing of the information and the sheet including the instructions for the user of the tool. Both of these qualities were missing from the original version. To avoid making mistakes while using the tool, some functions were added so that the coloring of the cells will turn red if a mistake occurs while filling in the information. This function basically only goes for the balance sheet since it's the only category in which the mistakes can be detected by the tool of this kind.

Overall the project of developing the tool was smooth and useful, and it will bring added value for the future user, even though some changes will always have to be done to the chart of accounts, functions, graphs etc. to make the tool really meet the needs of a new user.

6.2 Goals for the future

In the future the cooperation between the assigning part of this project and the developer will most likely continue in terms of work assignments that have already been tentatively agreed upon. This cooperation will include some further developments to the tool and filling in financial information for the use of the clients. This kind of assignments have

already taken place earlier during the process and they are a good way to detect things that could be better executed in the tool. The future of the tool will be based on the need of the customers and on the demand for changes by them. What kind of changes or expansions will be done depends on how detailed data will be required or demanded by the clients. Also the people who hopefully will take the tool for their own use are welcome to make corrections, changes and development to it, and this information will most likely be shared with other users.

The developed version is good enough for basic reporting and budgeting, and of great help when monitoring and planning the business operations and the current state of the company. However, there are numerous changes and additions that could be done to the tool to make it work even smoother, and help the customer and the user of the tool even more.

REFERENCES

Chambers, J., Mullick, S. & Smith, D., 1971, <https://hbr.org/1971/07/how-to-choose-the-right-forecasting-technique> Read on 2.12.2017

Francis, K.A., <https://www.inc.com/articles/2000/08/20070.html> Read on 20.11.2017

Gallo, A., A Refresher on Return on Assets and Return on Equity, 2016, <https://hbr.org/2016/04/a-refresher-on-return-on-assets-and-return-on-equity> Read on 19.11.2017

Gartenstein, D. Self-Sufficient Business Definition, <http://smallbusiness.chron.com/selfsufficient-business-definition-24704.html>, Read on 19.11.2017

Hartgrove, K., Intrevado, P. & Abel, S. R. 2008. Validation Study: Clarity Multistrip Urocheck. Journal of the American Society for Clinical Laboratory Science. Clinical Laboratory Science 21 (3), 158-161.

Joseph, J., <https://www.entrepreneur.com/article/246434> Read on 3.12.2017

Klein, K., <https://www.bloomberg.com/news/articles/2006-01-18/better-business-through-budgeting> Read on 2.12.2017

Millar, A., How to Apply Wacc, Weighted average cost of capital, 2014, <https://www.seeitmarket.com/use-wacc-weighted-average-cost-capital-13900/> Read on 19.11.2017

Orpurt, S. The Statement of Cashflows; Structure and intuition, <http://businessjournalism.org/2016/04/statement-cash-flows-structure-intuition/> Read on 19.11.2017

Peavler, R., <https://www.thebalance.com/budgeting-what-is-a-master-budget-393049> Read on 3.12.2017

Rogers, Martha, Kasanof and Bruce., 2000, <https://www.inc.com/articles/2000/08/20070.html> Read on 20.11.2017

Sherman, D. and Young, D., 2016, <https://hbr.org/2016/07/where-financial-reporting-still-falls-short> Read on 2.12.2017

Smith, N., <http://smallbusiness.chron.com/three-important-parts-income-statement-57974.html> Read on 19.11.2017

Tase, laaja tililuettelo -tilikartta. Tili.info. 2017. http://www.tilit.info/tase_laaja.php Read on 19.11.2017

Tomperi S., Käytännön kirjanpito, 2014.

Viitala, J., Yrittäjän taloushallinnon perusteet, 2006.

7 APPENDIXES

Appendix 1.

Publicly used chart of accounts. www.tilit.info Read on 21.11.2017