THE IMPLEMENTATION OF XBRL TECHNOLOGY TO FINANCIAL REPORTING IN A CASE COMPANY

Jyväskylä University
School of Business and Economics

Master's Thesis

2021

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Subject: Accounting
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ABSTRACT

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Title
The implementation of XBRL technology to financial reporting in a case company

Subject	Type of work
Accounting	Master's Thesis
Date	Number of pages
16.10.2021	43

Abstract
Companies' external financial reporting is regulated by a number of laws, regulations and standards, both nationally and internationally. International markets have created the need for international regulation to ensure that the information provided in financial reporting is consistent, transparent and well accessible to stakeholders around the world. Listed companies in European Union (EU) must report their financial statements from the 2021 financial statements onwards in accordance with the new technical standards, the European Single Electronic Format (ESEF).

The aim of this thesis was to examine how these new requirements affect the reporting process of the case company and to find a good solution for the case company to meet these new requirements. To achieve this, it was necessary to become familiar with the case company's reporting process, key personnel's expectations of the solution and solution options. The study was carried out as a case study, utilizing qualitative research methods.

Two software service providers are recommended to the case company based on the study. Both software are bolt-on type solutions. The impact of XBRL (eXtensible Business Reporting Language) reporting on the case company at this stage is still quite small, which is partly due to the fact that major changes to the reporting process or the software used in it are not desired. For the most part, XBRL reporting is slightly increasing the cost of financial reporting to the case company and adds few work steps to the reporting process.

Key Words
ESEF, XBRL, IFRS, CSF

Place of storage
Jyväskylä University Library

TIIVISTELMÄ

Tekijä
Heidi Jämsä

Työn nimi
XBRL-teknologian käyttöönotto kohdeyrityksen talousraportoinnissa

Oppiaine	Työn laji
Laskentatoimi	pro gradu -tutkielma
Päivämäärä	Sivumäärä
16.10.2021	43

Tiivistelmä
Yritysten ulkoista taloudellista raportointia säätelevät useat lait, asetukset ja standardit niin kansallisesti kuin kansainvälisestikin. Kansainväliset markkinat ovat myös luoneet tarpeen kansainväliselle sääntelylle, jotta talousraportoinnilla välitettävä informaatio on johdonmukaista, läpinäkyvää ja sidosryhmien saatavilla ympäri maailmaa. Euroopan unionin (EU) alueella listattujen pörssiyhtiöiden on raportoitava tilinpäätöksensä vuodesta 2021 lähtien uusien teknisten standardien, Euroopan yhtenäisen sähköisen muodon (European Single Electronic Format - ESEF), mukaisesti.

Tämän tutkielman tavoitteena oli tutkia, miten nämä uudet vaatimukset vaikuttavat kohdeyrityksen raportointiprosessiin, sekä löytää hyvä ratkaisu kohdeyritykselle näiden uusien vaatimusten täyttämiseksi. Tämän saavuttamiseksi oli tarpeen tutustua kohdeyrityksen raportointiprosessiin, avainhenkilöiden odotuksiin ratkaisusta ja ratkaisuvaihtoehtoihin. Tutkimus toteutettiin tapaustutkimuksena, jossa käytettiin kvalitatiivisia tutkimusmenetelmiä.

Tutkimuksen perusteella kohdeyritykselle suositellaan kahta ohjelmistopalveluntarjoajaa. XBRL-raportoinnin (eXtensible Business Reporting Language) vaikutukset ovat kohdeyritykselle tässä vaiheessa vielä melko vähäisiä, mikä osittain johtuu siitä, että suuria muutoksia raportointiprosessiin tai siinä käytettäviin ohjelmistoihin ei toivota. Pääosin XBRL-raportointi lisää hieman kohdeyrityksen talousraportoinnin kustannuksia ja muutamia pieniä työvaiheita raportointiprosessiin.

Asiasanat
ESEF, XBRL, IFRS, CSF

Säilytyspaikka
Jyväskylän yliopiston kirjasto

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LIST OF ABBREVIATIONS

AICPA – American Institute of Certified Public Accountants
CSF – Critical Success Factors
ERP – Enterprise Resource Planning
ESEF – European Single Electronic Format
ESMA – European Securities and Markets Authority
EU – European Union
FAS – Finnish Accounting Standards
FASB – American Financial Accounting Standards Board
HTML – Hypertext Markup Language
IAS - International Accounting Standards
IASB – International Accounting Standards Board
IASC - International Account Standards Committee
IFRIC - International Financial Reporting Interpretations Committee
IFRS – International Financial Reporting Standards
iXBRL – inline XBRL
RTE – Real Time Economy
RTS – Regulatory Technical Standards
XBRL – eXtensible Business Reporting Language
XHTML – eXtensible Hypertext Markup Language
XML – eXtensible Markup Language

1 INTRODUCTION

This master's thesis focuses on development of financial reporting in EU area. Special attention will be paid to the new information technology requirements for reporting and accounting work in a case company. The study searches for a suitable solution for the case company to meet the new requirements. In order to find a good solution, the criteria for solution goodness need to be defined. The study also examines the potential and actual effects of the solutions on the case company's current reporting process. The research was carried out as a case study and qualitative research methods were used. Data collection methods included interviews, observation, and written materials.

Through financial reporting, companies communicate their financial position to their stakeholders (Mitra 2012; Troshani & Rao 2007). External financial reporting is regulated by various laws, regulations and standards. These are intended to harmonize financial reporting and increase its transparency. International investment markets and international companies have also created a need for international regulation of financial reporting. The European Union (EU) has introduced e.g. International Financial Reporting Standards or IFRS standards for listed companies. However, they do not specify the technical presentation of the financial statements. In addition, ESEF European Single Electronic Format requires listed companies to submit financial statements for 2021 and onwards in computer-readable form i.e. in Extensible Business Reporting Language or XBRL format. This aims to further increase the consistency, transparency and usability of financial reporting to support stakeholder's decision-making. (Bruggemann, Hitz & Sellhorn, 2013; ESMA 2020; Finanssivalvonta 2020; IFRS 2020.; EC, 2002. 1606/2002; Troberg 2007.) The amending regulation postponing ESEF reporting by one year was adopted for the Transparency Directive by the EU legislator in December 2020. Thus, the regulation will apply to the 2021 financial statements, not 2020, as previously provided. (Arvopaperilaki 2012 746/14.12.2012.)

The objective of this research is to identify a suitable software and service provider for the target company to meet the ESEF financial reporting requirements. Possible alternatives are examined and evaluated from several different perspectives and criteria to find a good alternative. This thesis seeks an answer to the research questions of:

What changes XBRL reporting brings to the case company reporting, reporting process and software?
What would be a good service provider and software for the case company to meet the ESEF financial reporting requirements?
What criteria are used to compare service providers and software in the case company?

This thesis introduces XBRL, its deployment, and software that supports it. The study examines several different software, service providers and other solutions that enable XBRL reporting. The new effective XBRL requirements for financial reporting apply to the target company, as it is listed on the stock exchange on Nasdaq Helsinki Oy. The company's current software does not support XBRL format reporting, so finding a solution is essential.

There are several software, service providers, and other solutions available to implement XBRL reporting. The study does not examine every available possibility but only the possibilities of interest to the target company.

The theoretical section also looks at the potential impacts of XBRL deployment from the perspective of reporting companies to make it easier to assess the potential benefits and challenges of different solutions. The actual effects will be assessed to the extent that it is possible to assess and state them at the time of the study.

The literature review is in chapters two and three, of which chapter two deals with financial reporting in general and international regulations related to the research topic. Chapter three discusses what XBRL means, what technology it contains, how it will be deployed, and the potential impact its deployment may have. Chapter four discusses the reliability and validity of research from the perspective of research and data collection methods. Chapter five reviews the study and its results. The last chapter, chapter six, contains the conclusion of the study.

2 FINANCIAL REPORTING AND REGULATIONS

This section first discusses financial reporting in general and its purpose, and reviews the regulations that affect the financial reporting of listed companies in Finland. These are followed by an overview of the regulation behind XBRL reporting. Finally, we look at the critical success factors of implementation projects.

2.1 Financial reporting in general

The purpose of financial reporting is to provide useful, relevant and reliable information at the right time to internal and external stakeholders of organizations. Financial reporting provides information about a company's performance, which assists stakeholders in decision-making. Financial reporting is mainly based on data produced by accounting. The aim of the data is to be solid, consistent, reliable and relevant. (Mitra 2012; Troshani & Rao 2007.)

Financial reports can be divided into external reports and internal reports based on their content. External reports are generated by external accounting and the information is intended primarily for stakeholders outside the organization, such as owners, customers, authorities and suppliers, and other partners. The purpose of external financial reports is often to meet a company's statutory reporting needs. The most commonly used external reports are the income statement and balance sheet. External reports also include notifications to authorities. (Lahti & Salminen 2008, 14, 147.) Internal accounting generates internal reports and focuses primarily on meeting management's needs for financial information. Internal financial reports provide information on, for example, sales, costs and profitability in various business units, cost centers, operations, projects, geographical areas, and products and product groups. Internal accounting also focuses on reporting budgets and forecasts and comparing them to actualities. (Lahti & Salminen 2008, 14, 148–149.) In addition to external and internal reports, companies often use ad hoc reports and other various process-specific summary, review and monitoring reports. Ad hoc reports refer to reports that respond to an occasional demand and are often at least partially manually generated. (Lahti & Salminen 2008, 147–149.)

2.2 Legislation affecting financial reporting

In Finland, the regulations governing accounting and financial reporting are mainly contained in the Accounting Act (1336/1997) and the Decree (1339/1997). In addition, the instructions and statements issued by the Accounting Board (Kir-

janpitolautakunta – KILA) form an important part of the good accounting practice. Together, these form the Finnish Accounting Standards (FAS) (Ihamäki 2020). Financial reporting in the EU is regulated by e.g. EU Directive 2013/34/EU. Publicly traded companies are required to prepare their financial statements in accordance with International Financial Reporting Standards (IFRS). The financial statements include the income statement, the balance sheet, the cash flow statement and the notes to the financial statements. In addition, listed companies must prepare an annual report as an appendix to the financial statements. The accounting principles and presentation of this required information are determined in these accounting acts, decrees, directives and standards. (Ihamäki 2020; Kirjanpitolaki 1997 1336/30.12.1997; Kirjanpitoasetus 1997 1339/30.12.1997; Directive 2013 34/EU/26.6.2013.)

A publicly traded company is subject to a regular disclosure obligation. The purpose of this is to provide investors with sufficient information to assess the financial condition and performance of the issuer. For example, listed companies are subject to public trading, as they have listed their shares on the stock exchange for public trading. In Finland, a publicly traded company must publish financial statements and annual report as well as a semi-annual report accordance with International Financial Reporting Standards (IFRS). (Finanssivalvonta 2020; Haaramo, Palmuaro & Peill 2021; Directive 2013 34/EU/26.6.2013.)

2.3 IFRS - International Financial Reporting Standards

The international securities market and international groups created the need for internationally uniform accounting standards. The most significant authors of international accounting standards are the American Financial Accounting Standards Board (FASB) and the International Accounting Standards Board (IASB). International Financial Reporting Standards (IFRS) are prepared by the IASB. In 2002, the European Commission decided that companies listed in the European Union (EU) must report in accordance with IFRS accounting standards from 2005 onwards. (Troberg 2007, 18–26 .) Reporting in accordance with IFRS is currently required in more than 140 countries. (IFRS 2020.)

The IFRS standard consists of three parts, which are the Conceptual Framework, IFRS standards and previously developed the International Accounting Standards (IAS), and the International Financial Reporting Interpretations Committee (IFRIC) Interpretation Guidelines. The Conceptual Framework defines the objectives of financial statement information, the qualitative characteristics of useful financial information, financial statements and the elements of financial statements, recognition of elements, measurement, presentation and disclosure and concepts of capital and capital maintenance. The main objective of general-purpose financial reports is to provide the financial information about the reporting entity that is useful to stakeholders. Qualitative characteristics can

be divided into fundamental and enhancing characteristics. Fundamental characteristics are information relevance and faithful representation. Enhancing qualitative characteristics include comparability, verifiability, timeliness and understandability. The financial statements include information about the reporting entity and statements on its financial position, performance and other statements. The statement of financial position includes information on assets, liabilities and equity. The statements of financial performance recognize incomes and expenses. Other statements include e.g. cash flow statement and other relevant information about the financial statements and their preparation methods. Recognition means including an element to the financial statements and measurement in what amount to recognize asset, liability, piece of equity, income or expense. Presentation and Disclosure refers, as its name implies, to the principles of how information is presented. Capital can be divided into financial capital and physical capital. Financial capital synonymous with the net assets or equity of the entity. Physical capital is the productive capacity of the entity. The Conceptual Framework is not a standard itself, but it defines the basis for IFRS. IFRS is an international set of accounting standards that prescribes e.g. the disclosure requirements, and recognition policies, measurement principles and presentation. IAS standards are international standards published by the International Account Standards Committee (IASC), the predecessor of the IASB, which are still followed in the preparation of financial statements in accordance with IFRS. The IFRIC is a committee that provides interpretations of international accounting standards, which are called IFRIC interpretations. (Haaramo, Palmuaro & Peill 2021; IFRS 2020; Troberg 2013.)

IFRS reporting aims to harmonize the financial information presented by companies and to improve the transparency and comparability of financial statements, which in turn leads to more efficient operation of capital markets. For example, differences in national standards create difficulties in analysing and comparing the financial statements of companies from different countries, and international standards aim to address these challenges. (Bruggemann, Hitz & Sellhorn, 2013; EC, 2002. 1606/2002; Haaramo, Palmuaro & Peill 2021; IFRS 2020.)

IFRS standards are not presented further in this study, as this is only intended to open what these regulations aim to achieve and what they are based. ESEF reporting is based on IFRS taxonomy, so IFRS plays a significant role in XBRL reporting in Europe and also in the case company (Regulation (EU) 2018/815 17.12.2018).

2.4 ESEF - European Single Electronic Format

In order to harmonize the transparency requirements for reporting companies, in 2013 the Transparency Directive added, among other things, an obligation for issuers to prepare their annual financial reports as a single electronic reporting format. The actual supplement of a single electronic format to the Directive

2004/109 / EC was adopted in December 2018. The European Securities and Markets Authority (ESMA) was given the responsibility to develop regulatory technical standards (RTS) to define this electronic reporting format. ESMA published (RTS), which defines a single European reporting format, ESEF. The objectives of the provision are to make reporting easier for issuers and to improve access to the information for investors and regulators, thus also improve analytical capabilities and comparability of annual financial reports. (Beerbaum & Piechocki 2016; ESMA 2020.)

Starting from the 2021 annual accounts, the ESEF will require European listed companies to report their annual financial reports and statements in a single electronic format, XHTML. (Finanssivalvonta 2020; Pelkonen 2018.) The XHTML document have to include the consolidated income statement, balance sheet, cash flow statement and statement of changes in equity and all reported by the rules of ESEF taxonomy and using XBRL technology, which will be introduced in chapter 4. Thus, the notes to the consolidated financial statements, the annual report and the parent company's separate financial statements do not need to be attached in XBRL format to the XHTML document yet, but for example they can be attached in PDF format. The intention is that the notes to the financial statements should be reported in the XBRL language from the year 2022 onwards. ESEF's requirements for XHTML format do not apply to financial statements releases or semi-annual reports such as quarterly or interim reports. (Finanssivalvonta 2020; Pelkonen 2018.)

2.5 Critical Success Factors of implementation projects

The introduction of ESEF reporting has not yet been studied much, but there is much research on the implementation of other systems or regulations. A lot of research has been done on the Critical Success Factors (CSF) of Enterprise Resource Planning (ERP) systems implementation projects. Although this study does not focus on ERP, however it is a matter of choosing a new accounting system. Thus, it is also essential for this study to address CFSs in the implementation of accounting systems. As a system change, this is a very different case from an ERP system change and its scope and expectations are very different, so it can also be assumed that CFSs are also different.

Critical success factors consist of those factors that are crucial to the success of a project, but on the other hand, if these factors are not executed properly, they also create the greatest risks to negative outcome of a project. In addition to identifying these factors and understanding their significance and interdependencies, these factors should also be considered and measured throughout the project. Critical success factors cannot be unambiguously identified, as they vary e.g., between projects and companies. Starting points and goals can vary from project to project, and in addition, companies operating in different industries may have very different needs. (Van Scoter 2011.)

The critical success factors of ERP projects have been studied a lot and there are also a lot of similarities in the results. These similarities and the most common critical success factors have been studied e.g., Finney and Corbett (2007), Leyh and Crenze (2013), Žabjek, Kovačič and Štemberger (2009), and Shaul and Tauber (2013). In these studies, top management support is identified as the most critical success factor. Overall, these studies highlighted the importance of management. Indeed, Finney and Corbett (2007) state that the planning of an ERP project must be seen as a change management initiative, not an IT initiative. Change and project management were also identified in these other studies as key critical success factors. However, there is also variation in the research results and Shaul and Tauber (2013) were the only ones who also identified system selection as a critical success factor. Ağaoğlu, Yurtkoru and Ekmekçi (2015) argue that vendor support, careful selection of ERP software and software analysis, testing and troubleshooting are the factors that have the most significant impact on the results of ERP projects. Jarrar, Al-Mudimigh & Zairi (2000) categorize the critical success factors under four main categories: top management commitment, change management, IT infrastructure and business process re-engineering. Change management is seen as the most important of these because it is linked to other factors and thus has an impact on them as well.

In summary, it can be stated that critical success factors vary considerably, as there are a lot of factors that affect them. These changing factors include, for example, the company industry, corporate culture and reporting needs. In addition, the nature and scope of the project are also significant factors. However, it is good to notice the importance of management, as it was the highly referred as a critical success factor, and management also has an impact on all companies and projects.

3 XBRL - EXTENSIBLE BUSINESS REPORTING LANGUAGE

Extensible Business Reporting Language (later XBRL) is an open international standardized computer-readable language for presenting and communicating corporate financial information. The XBRL markup language makes it possible to effectively transfer, compare and analyze data originally from different systems and data bases. (XBRL 2020a; Lahti & Salminen 2014, 176.)

The development of XBRL has begun in 1998 by an American audit firm the American Institute of Certified Public Accountants (AICPA) (Debreceny, Felden, Ochocki, Piechocki & Piechocki 2009, 35). The work is continued by XBRL International, which is a global non-profit consortium that consist of about 600 companies, organizations and agencies. Its purpose is to develop XBRL, raise awareness of it and promote the introduction of XBRL. XBRL Finland is a national consortium which operates under XBRL International. XBRL Finland's main goal is to actively promote the implementation of XBRL in Finland for various reporting needs. XBRL is already in use in over 50 countries around the world and it has become mandatory for example in China (since 2004), USA (since 2008), Japan (since 2008), Spain (since 2008), Denmark (since 2008), Canada (since 2009) and Ireland (since 2011). XBRL enables information to be transferred between organizations quickly and accurately in electronic form. (XBRL 2020a.; Beerbaum 2015; Tieke 2020.)

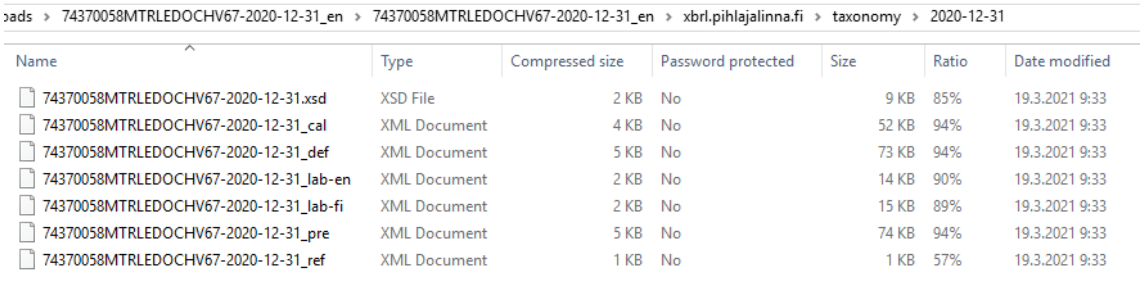
Traditionally financial information is created in a human-readable form, but computer programs do not understand the structure of traditional formats (Iivari 2011). Thus, information reuse often requires manual data entry (Cohen, Schiavina & Servais 2005), which is time consuming and prone to error (Koskentalo 2012). Information in XBRL format is understandable to both humans and computers (Pinsker 2003). Using XBRL can eliminate the need for manual data entry (Steenkamp & Nel 2012). Instead of producing documents of different formats and manually distributing information to different systems for each individual user group, companies can use XBRL to produce a single XBRL document that can be delivered to all users (Taylor & Dzuranin 2010).

3.1 Technology behind XBRL

XBRL is specifically designed for corporate and financial reporting and it is becoming a new standard to communicate and report financial data on the internet. XBRL is based on the XML (eXtensible Markup Language) and HTML (Hypertext Markup Language), which are computer-readable and structural languages. (Steenkamp & Nel 2012).

XML can be used to create other custom mark-up languages, by using "schemas" (.xsd files) to define rules for the dataset (Morrison 2006: 67). The schema file (.xsd) describes the elements of the calculation in the XML Schema language. Elements are defined with the necessary features, such as name, information type, and abstract. The link files (.xml) describe the hierarchical relationships between the elements using the XLink language, i.e. the order of the elements, the mathematical relationships between the elements, the language elements, and references to the element-related regulation. For now, there are five types of link files:

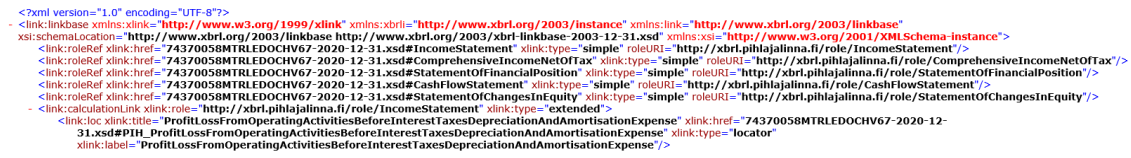
1. The definition link base defines the relationships and hierarchy of the parts of the document. It also defines if some information is not intended to be reported.
2. The calculation link base determines how the content is calculated. The calculations can be checked, and integrity of data can be verified by software. For now, calculations are limited only to additions and subtractions. In the future other calculations will also be possible.
3. Presentation link base determines how the information is organized to the reports.
4. The label link base defines the human readable name of the element. The presentation language of the reports can be changed by changing just this file.
5. Reference link base can be used to link an element to, for example, a law or directive that determines the reporting of that element.
   (XBRL n.d.)



›ads › 74370058MTRLEDOCHV67-2020-12-31_en › 74370058MTRLEDOCHV67-2020-12-31_en › xbrl.pihlajalinna.fi › taxonomy › 2020-12-31

Name	Type	Compressed size	Password protected	Size	Ratio	Date modified
74370058MTRLEDOCHV67-2020-12-31.xsd	XSD File	2 KB	No	9 KB	85%	19.3.2021 9:33
74370058MTRLEDOCHV67-2020-12-31_cal	XML Document	4 KB	No	52 KB	94%	19.3.2021 9:33
74370058MTRLEDOCHV67-2020-12-31_def	XML Document	5 KB	No	73 KB	94%	19.3.2021 9:33
74370058MTRLEDOCHV67-2020-12-31_lab-en	XML Document	2 KB	No	14 KB	90%	19.3.2021 9:33
74370058MTRLEDOCHV67-2020-12-31_lab-fi	XML Document	2 KB	No	15 KB	89%	19.3.2021 9:33
74370058MTRLEDOCHV67-2020-12-31_pre	XML Document	5 KB	No	74 KB	94%	19.3.2021 9:33
74370058MTRLEDOCHV67-2020-12-31_ref	XML Document	1 KB	No	1 KB	57%	19.3.2021 9:33

PICTURE 1. As an example, part of the file structure of Pihlajalinna Oyj's ESEF Financial Statements 2020 report, which shows all the above-mentioned XSD and XML: file formats.



```
<?xml version="1.0" encoding="UTF-8"?>
- <link:linkbase xmlns:xlink="http://www.w3.org/1999/xlink" xmlns:xbrli="http://www.xbrl.org/2003/instance" xmlns:link="http://www.xbrl.org/2003/linkbase"
xsi:schemaLocation="http://www.xbrl.org/2003/linkbase http://www.xbrl.org/2003/xbrl-linkbase-2003-12-31.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <link:roleRef xlink:href="74370058MTRLEDOCHV67-2020-12-31.xsd#IncomeStatement" xlink:type="simple" roleURI="http://xbrl.pihlajalinna.fi/role/IncomeStatement"/>
    <link:roleRef xlink:href="74370058MTRLEDOCHV67-2020-12-31.xsd#ComprehensiveIncomeNetOfTax" xlink:type="simple" roleURI="http://xbrl.pihlajalinna.fi/role/ComprehensiveIncomeNetOfTax"/>
    <link:roleRef xlink:href="74370058MTRLEDOCHV67-2020-12-31.xsd#StatementOfFinancialPosition" xlink:type="simple" roleURI="http://xbrl.pihlajalinna.fi/role/StatementOfFinancialPosition"/>
    <link:roleRef xlink:href="74370058MTRLEDOCHV67-2020-12-31.xsd#CashFlowStatement" xlink:type="simple" roleURI="http://xbrl.pihlajalinna.fi/role/CashFlowStatement"/>
    <link:roleRef xlink:href="74370058MTRLEDOCHV67-2020-12-31.xsd#StatementOfChangesInEquity" xlink:type="simple" roleURI="http://xbrl.pihlajalinna.fi/role/StatementOfChangesInEquity"/>
  - <link:calculationLink xlink:role="http://xbrl.pihlajalinna.fi/role/IncomeStatement" xlink:type="extended">
        <link:loc xlink:title="ProfitLossFromOperatingActivitiesBeforeInterestTaxesDepreciationAndAmortisationExpense" xlink:href="74370058MTRLEDOCHV67-2020-12-
            31.xsd#PIH_ProfitLossFromOperatingActivitiesBeforeInterestTaxesDepreciationAndAmortisationExpense" xlink:type="locator"
            xlink:label="ProfitLossFromOperatingActivitiesBeforeInterestTaxesDepreciationAndAmortisationExpense"/>
```

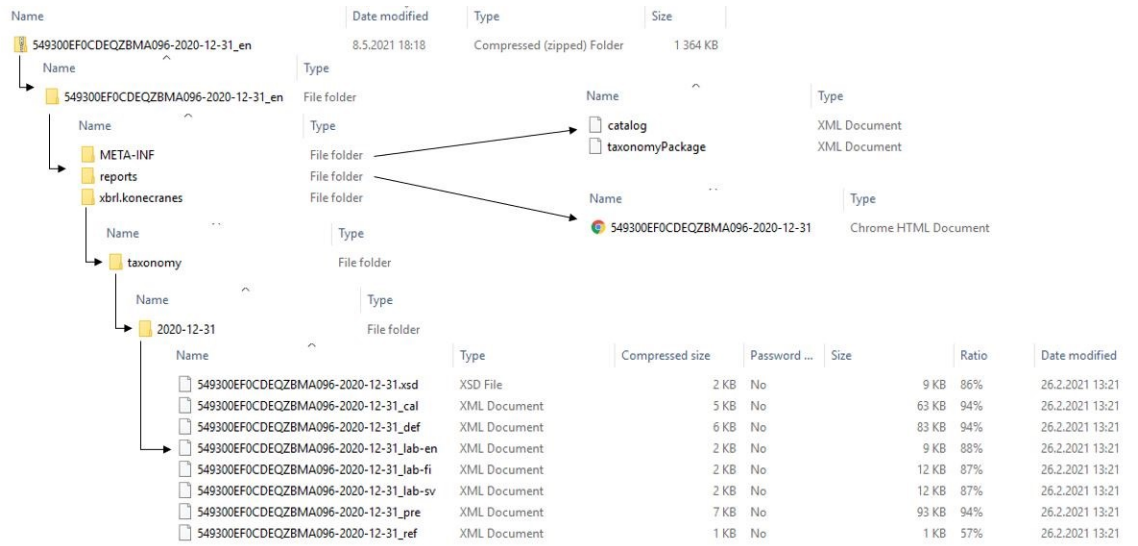
PICTURE 2. Example of XML language from Pihjalalinna Oyj's calculation XML file.

The XBRL taxonomy defines the structure of the XBRL reports and it consists of "schema" and "link base" configuration files. The taxonomy aims to ensure that reporting entities include relevant information in reports in a standardized manner. However, the same taxonomy cannot be used everywhere because almost every state has its own accounting law. As a result, there are several taxonomies, but different taxonomies can be mapped against each other, allowing reliable comparisons of the financial statements and key figures of companies in different countries (Koskentalo 2012). The taxonomy can follow either a specific accounting method, such as IFRS (International Financial Reporting Standards) or FAS (Finnish Accounting Standards), or it can also be customized (Finanssivalvonta 2020). Taxonomy can be thought of as acting as an interpreter between transmitting and receiving systems, and so XBRL reports can easily be utilized with a variety of computer software. Thus, the XBRL markup language effectively enables data from different systems and charts to be compared and analyzed. (Lahti & Salminen 2014, 176).

Inline XBRL (iXBRL) is the mechanism for exporting XBRL files to an XHTML (eXtensible Hypertext Markup Language) document. XHTML language is commonly used to create websites. This is the format in which ESEF requires European listed companies to report their annual financial reports and statements starting from the 2021 annual accounts. (Pelkonen 2018)

Thus, XBRL files are single files in the file system and are therefore vulnerable to file system corruption. Therefore, special attention should be paid to the integrity of the files, and XBRL files should be counted for checksums. For example, it can be checked that the total revenue equals to the sum of revenue subtotals. Also, the files should only be transferred via an encrypted path. (Iivari 2011.)

Below is an example of an ESEF file structure. The HTML document is responsible for the visuality of the report and is easy for humans to read, other files are in code languages and easy for the computer to understand. A total of 133 Finnish listed companies have published their 2020 annual reports, of which 74 published an ESEF report and a PDF report and 59 published a PDF report alone. Most of the published ESEF reports can also be found as zip files on the companies' own websites. However, little use has been made of the Inline Viewer version of the ESEF report (Matka ESEF:iin - maaliviivan jälkeen 2021). The appendix 1 provides an example of what the reports look like in the inline viewer version.



PICTURE 3. Konecranes Plc's Annual Report 2020 ESEF file structure.

3.2 XBRL deployment techniques

The deployment of the XBRL standard has significant impacts to the reporting entity, but the extent of these depends on the implementation strategy. There are many ways to implement XBRL and create XBRL documents. The choice of appropriate method will depend on the type of report, the systems in use, the recipients and users of the information. The XBRL International website outlines five ways to implement XBRL. (XBRL 2020b.)

1. **Forms offered by regulator or third party**
   Some regulators provide templates or forms, in which company user has to fill in the required sections by transferring data from their own system. Then the data is saved and processed in XBRL format. The forms may be available online or the regulators may provide a suitable software. Users log in to the system using an appropriate authentication method. The advantages of this method are simplicity and low cost of deployment for the user company. The downside, in turn, is that data often has to be manually transferred from one system to another. It is time consuming and error prone. (XBRL 2020b.)
2. **Embedded production with existing software**
   In this method, software vendors already used by the client company provide an update or add-on solution to their system to support XBRL-formatted data processing. The advantages of this method are cost-effectiveness and it only requires a minimal process changes in reporting. The main disadvantage of this method is that usually only the main reports can be formed in XBRL format, for example financial statements, tax documents,

statistics and risk reports. Reports may still require a lot of manual work if data is collected from a variety of programs and sources. (XBRL 2020b.)

3. **Outsourcing**
   The construction and production of XBRL reports is outsourced to a third party. This method is especially suitable for companies that find it difficult or risky to modify an existing process. The advantage of outsourcing is that it is often cost-effective and reduces the work involved in preparing reports for XBRL versions. In some cases, outsourcing can also be seen to have a risk-isolating effect when regulatory reporting is done by an outside company. On the other hand, outsourcing also includes its risks and it can cause problems with the accuracy and timeliness. (XBRL 2020b.)
4. **In house "bolt on" tools**
   Companies may have sophisticated reporting processes and systems that would be impractical and expensive to change. Such companies often choose a separate bolt on solution which has only little or no impact on the processes and systems in use. This also allows company to retain complete control over its reporting process. The problem is the emergence of an additional step, often in already tightly scheduled reporting. (XBRL 2020b.)
5. **Embedded "Disclosure Management" and "Regulatory Filing" tools**
   The new generation programs will be fully integrated into the entire reporting process. These systems can significantly save time and costs and improve the quality and reliability of reports. The challenges of these tools are often the high costs and the need to redesign the entire reporting process. (XBRL 2020b.)

According to another approach, there are three different deployment strategies for XBRL: bolt-on approach, built-in approach and deeply embedded approach (Garbellotto 2009a).

In **the bolt-on** deployment strategy, financial reports are produced in traditional formats and according to the old reporting process and converted to XBRL by external tools or services. Thus, XBRL is not integrated into processes (Ernst & Young 2009, 4). The bolt-on approach is a quick and easy way to implement XBRL. The weakness of the deployment strategy is that the reporting process does not change, and its only added value is meeting the XBRL reporting requirement. (Garbellotto 2009a.)

The built-in approach integrates XBRL with the enterprise reporting process, so the reporting software must support XBRL. Creating reports in XBRL format, among traditional formats, can be seen as a natural extension of the reporting process. This approach is more complex, but it can also deliver greater benefits including: a single reporting process, easier response to changes in reporting requirements, and easier transition to more extensive use of XBRL. (Garbellotto 2009b.)

In **the deeply embedded** approach, the entire reporting process is standardized all the way from the first source of information. This is the most extreme

and complex off all the approaches, but it can also achieve the most significant cost savings. (Garbellotto 2009c.)

3.3 XBRL implementation process

All deployment strategies can be outsourced to an external service provider or implemented internally in a reporting company (Sledgianowski, Fonfeder & Slavin 2010). Due to the technical complexity of XBRL, deployment internally can be quite challenging and requires more time and internal work than outsourcing deployment. The most often mentioned benefits in internal implementation are full control of the XBRL document creation process and the obtain of XBRL knowledge and expertise. In outsourced XBRL deployment, on the other hand, the service provider acts as the project manager and handles the creation of XBRL documents on behalf of the company. The benefit of outsourcing is the utilization of the service provider's experience and thus the reduction of the risk of errors. However, it should be noted that the company must devote considerable time to review the final documents. (Harding 2010; Henderson et al. 2012; Janvrin & No 2012.)

According to Janvrin and No (2012), the XBRL deployment process includes four key steps:

1. deployment planning,
2. tagging financial items, selecting a suitable taxonomy, and extending taxonomy where appropriate,
3. validating, evaluating, and visualizing XBRL-formatted documents and
4. reviewing and sharing XBRL documents.

The XBRL deployment process begins with acquiring sufficient XBRL knowledge, setting up a deployment team, and creating a deployment plan. The next step is to decide whether to produce XBRL documents internally or outsource the process to the service provider. (Janvrin & No 2012.)

If the company decides to produce the documentation internally, the company will have to choose a suitable deployment strategy. Then the company have to select appropriate taxonomy, tag the financial information to it and extend the taxonomy if needed. Taxonomies can be extended by creating new tags. After these steps XBRL document can be created. If the process is outsourced, then the company has to oversee all these different steps and ensure proper implementation. (Janvrin & No 2012.)

In the third step, the company conducts validation tests to ensure that the information and appearance of the XBRL document is correct and that the document meets the XBRL specifications and regulatory requirements. Finally, the company can share and publish its XBRL documents. (Janvrin & No 2012.)

3.4 The potential effects of XBRL use

The introduction of XBRL has many potential effects (Baldwin, Brown & Trinkle 2006). The benefits of XBRL to investors and regulators have been clearly stated, but the added value for reporting companies is not as clearly expressed (Cohen 2009). This thesis focuses on the potential effects taking place in reporting companies. Potential effects are viewed from three different perspectives: costs, quality of information and other effects.

3.4.1 Costs and cost savings

Deploying XBRL can generate costs and cost savings to the company. The most common costs consist of software investment, staff training and time use. Cost savings arise mainly from time savings. (Enofe & Amaria 2011; Steenkamp & Nel 2012; Weirich & Harrast 2010.)

There are different opinions about the initial cost of deploying XBRL. According to Baldwin et al. (2006), the initial cost of deploying XBRL is significant, while Alles and Gray (2012) suggest that the initial cost of deployment is not particularly high. As described in Chapter 3.3, the deployment process has several stages and costs are also incurred before and after XBRL is deployed.

The acquisition of software and software services that support XBRL incurs costs for the company. In addition, the introduction of new or updated software versions also incurs costs. (Enofe & Amaria 2011; Weirich & Harrast 2010.)

The first time-consuming costs arise when companies have to spend time evaluating their XBRL capabilities and defining a deployment strategy. Companies should ensure that they have the appropriate knowledge and skills to understand XBRL taxonomies and that staff is trained to use appropriate XBRL software. (Cohen, Schiavina &Servais 2005; Weirich & Harrast 2010.) According to Harding (2010), detailed knowledge or experience of XBRL, its implementation, use and reporting requirements are still rare and therefore companies need to invest in educating their personnel. Using XBRL may require both in-depth technical and accounting knowledge. In particular, deploying XBRL internally requires in-depth accounting expertise, as staff must understand how to incorporate company information into elements of a suitable taxonomy and how to create XBRL documents (Henderson et al. 2012). It is time consuming to expand the taxonomy and integrate the company data into the taxonomy, so it takes a lot of time to produce the first reports in XBRL format (Harding 2010; Janvrin & No 2012; (Weirich & Harrast 2010.) In summary introduction of XBRL requires additional work and staff training (Tuovinen 2013; Zhenkun 2015).

On the other hand, with the introduction of XBRL, the company's costs could decrease because XBRL can be used to automate previously manual work. XBRL can potentially eliminate the need for manual data entry and allow automatic data validation (Enofe & Amaria 2011; Iivari 2011). Thus, the use of XBRL

could streamline company's reporting process and reduce the time required to complete reporting tasks and processes (Baldwin & Trinkle 2011).

3.4.2 Quality of information

Information quality characteristics include consistency, comparability, reliability, usability, relevance, usefulness in decision-making, and transparency. Implementing XBRL could potentially improve all these features (Baldwin et al. 2006, 101). The use of XBRL could increase consistency and comparability between different companies and time periods. However, if companies do not use common taxonomies but create their own extensions or use inappropriate taxonomy, some of the comparability will be lost. The reliability and usability of the reports are improved when the automation of data processing eliminates error-prone processes, and in addition, the accuracy of the data can be checked with the help of software. (Baldwin et al. 2006; Iivari 2011; Steenkamp & Nel 2012.)

Though the complexity of taxonomies can also cause errors in the reporting process (Baldwin et al. 2006). According to Zhenkun (2015), XBRL does not immediately increase the quality of data, but the quality improves year by year, and so the quality could be expected to increase. XBRL can also potentially increase the usefulness of information in decision-making, as the use of XBRL can increase companies' ability to provide real-time information and thus speed up the acquisition of relevant information. In addition, XBRL is seen as a way to improve the transparency of financial information. However, the complexity of taxonomies can reduce the comprehensibility and usefulness of reports, especially among ordinary users. (Baldwin et al. 2006; Steenkamp & Nel 2012.)

3.4.3 Other effects

The introduction of XBRL also has other potential effects. According to Iivari (2011), the use of XBRL may require enhanced security control, as XBRL can be vulnerable to security risks, and the structure and data content of an XBRL file can potentially be corrupted during data transfers. XBRL applications can usually be used to check the integrity of files, but not the data content itself. Thus, a completely intact-looking XBRL file may contain false or falsified information during data transfer. Therefor companies should pay special attention to ensuring the security of XBRL. (Iivari 2011.)

Baldwin and Trinkle (2011) think that XBRL makes reporting easier and faster. Once the company data has been linked to the selected taxonomy and the necessary extensions have been made to it, financial data can flow into the reports automatically (Weirich & Harrast 2010).

Steenkamp and Nel (2012) argue that the use of XBRL attracts international investors, as reports in XBRL format can be easily converted to the required language using language files and thus can be read and analyzed in more languages than usual. They also highlight potential challenges to the compatibility of XBRL software with other software and systems.

4 DATA AND METHODOLOGY

This study utilizes a qualitative approach and case study to find answers to the research questions. The aim of the case study is to collect comprehensive material from an individual case, which aims to achieve an in-depth understanding and a diverse picture of the subject of the study. Several research methods can be utilized in a case study. (Kananen 2015, 76, 128; Silverman 2013, 142.) The case study is suitable for this thesis, as the subject of the study is an individual case and phenomena. A qualitative approach was chosen for this study, as the aim was to study unknown phenomena that could still be studied systematically (Jonker 2009 & Pennink: 77). Utilizing a quantitative approach may not add value to the research, as according to Kananen (2008, 24–25), it may be almost impossible to explain complex processes and phenomena by quantitative means.

4.1 Data collection and analysis methods

Data collection methods are used to produce data to solve a research problem (Kananen 2015, 80). Qualitative research requires continuous interaction between data collection and analysis. The collected data is analysed all the time and the results are used to assess when the data is sufficient. (Kananen 2015, 146.)

Thematic and free-form interviews, written documents and observations are used as research data collection methods. A thematic interview is a semi-structured interview method that proceeds according to pre-defined themes. The thematic interview was chosen as the interview method because the topic is not known so well that precise questions could be formed to achieve a sufficiently accurate understanding. In a thematic interview, the discussion progresses freely within pre-planned themes. This is to ensure that all aspects of the phenomenon are addressed and that the issues raised during the debate can be addressed immediately. The thematic interview progresses from a general discussion of the topic to more detailed. The material collected and analysed can create new questions and lead to a new interview. (Hirsjärvi & Hurme 2008, 47–48; Kananen 2015, 143, 148–151.)

The first phase of the study introduces the company's current reporting process and software through an interview with the group accountant. See Appendix 4 for the thematic interview frame. This is the secondary data of the study, with which the researcher obtains sufficient information about the starting points of the object under study. Based on this material and literature review, the first thematic interview frameworks are created. The body of the forthcoming thematic interview utilizes the results of previous interviews. The primary data, i.e. the material collected from the field for this study, consists of interviews, observing and service solution offers. (Kananen 2015, 132; Silverman 2013, 210.)

The data is analysed by means of content analysis by reading, summarizing and thematizing. Non-verbatim notes are made from the interviews and the data subsequently analysed. If necessary, additional questions will be sent by e-mail. Elements of thematic analysis were employed to identify key elements and themes. Once all the interviews are completed the data will be re-analysed once again to gain a more comprehensive understanding of the features. (Jepsen & Rodwell 2008: 655.)

Primary data collection began with mapping of possible solutions on a large scale by observing the RTE's (Real Time Economy) XBRL conference. The program of the event and the exhibitors are presented in Appendix 2. This was seen as a good starting point, as the event provided up-to-date information about XBRL and there were several software service providers present. All software service providers, total ten, were briefly interviewed and asked to present their own software and service offerings. Five to fifteen minutes were spent on each interview and the interviews were either individual or pair interviews. The thematic framework of the interviews can be found in Appendix 5. As a result, software service providers could be roughly divided into different types of solutions. The research was then continued to find out which type of solution would meet the needs and expectations of the target company. These criteria were clarified, and the software service providers selected for closer examination were selected through a group interview. The group interview was attended by two representatives from the advertising agency and four representatives from the target company, two from communications and two from financial administration. The target company interviewees were selected from the employees whose work will be most affected by the changes in the reporting software and process. This was followed by separate online meetings with three software service providers. During the meetings, the software service providers presented the service solutions of their offering and made a targeted offer to the case company. In addition to representatives of software service providers, representatives of the target company's financial administration and communications were present at the meetings. The themes covered in the presentations can be found in Appendix 6. After these meetings, XBRL event organised by Sihteeri Suomen IR-yhdistys was followed, where the latest information on XBRL reporting was again shared and several software service providers presented their solutions, see Appendix 3. The purpose of this was to re-evaluate the need to further explore more software solutions. In the last group interview, the software providers, software features, service offerings, and offers were reviewed. This was done by presenting the summary table of service solutions, which will be presented in chapter 5.4.4., after which the interviewees were asked to present their views. The interview was attended by four representatives from the target company, two from financial administration and two from communications. The purpose was to evaluate the importance of the features to the target company.

Thus, a total of research material was collected from one individual interview, five group interviews, three of which included presentations and demos

from software service providers, and three offers made by different software service providers to the target company and two observations at XBRL events, one of which also contained ten small pair and individual interviews.

4.2 Reliability and validity of data

The reliability review assesses the rationale, correctness and adequacy of the choices made at the various stages of the study. No specific reliability review has been defined for the case study as it does not exclude any methods of data collection or analysis. Thus, the reliability of the study is examined using the reliability criteria of the research methods used in the study. (Kananen 2013 114–115.)

The reliability of this study is evaluated only on the basis of qualitative reliability criteria, as qualitative research methods have been used in the study. Reliability refers to the permanence of research results, i.e. if research were carried out again using the same methods, the same result would be reached. Validity indicates the validity of the research results, i.e. the correctness of the results. Utilizing different research methods can lead to different results. Qualitative research targets a unique phenomenon, and therefore the reliability and validity of research can be difficult to verify. The most important thing in assessing the reliability of qualitative research is to assess the reliability of the research process. (Eskola & Suoranta 1998, 210–211; Eriksson & Kovalainen 2008, 290.)

Reliability criteria must be taken into account already in the planning phase of the research and continuously as the work progresses. In retrospect, improving the reliability of the study is impossible. In reviewing the reliability of a qualitative study, it is important to be able to demonstrate the rationale, correctness, and completeness of the conclusions. (Kananen 2013, 116–118.) There are no direct quotes from the interviews in the text on the research results, because the case company requested it.

Interviewing as a method can involve many potential sources of error or shortcomings. These possibilities should be considered before the interviews take place and it should be considered in advance how to avoid them. The structure of the interview should be well planned, and possible in-depth questions should be considered. The interviewer must be independent and avoid introductory questions or other methods to distort the results. In group interviews, attention should be paid to ensuring that the views of all parties will be expressed. (Hirsjärvi & Hurme 2008, 63, 185; Kananen 2013, 119.)

The reliability of the study can also be improved by triangulation. This means combining different research and data collection methods and perspectives in research. The reliability of a study increases when several different sources are used to obtain information and their results can be compared. (Sarajärvi & Tuomi 2009, 143–144.) In this study, triangulation occurs when research material is collected through both interviews and written material.

5 RESULTS AND ANALYSIS

This chapter discusses the research conducted. First, the background factors that led to the study are described and the case company is introduced. After this, the current reporting process of the target company is reviewed. Next, the starting points for comparing service providers are examined. This is followed by three options to be examined in more detail. Finally, the research results are presented as a summary of the service solutions.

5.1 Research background and baseline

The shares of the case company are listed on Nasdaq Helsinki Oy. Thus, the new ESEF regulations apply to the company and they therefore must implement these new regulations in their reporting by the deadline. XBRL, its implications and deployment strategies and opportunities were not clear, and more information was needed. It was decided to carry out the study to meet these needs in order to be able to choose a suitable deployment strategy.

The company is the parent company of the international Group. The company is headquartered in Finland, but it also operates in eight countries on three continents. The company is a market leader in the field of engineering in Finland. The company is a growth company and its turnover in 2020 was approximately EUR 260 million, of which operating profit (EBIT) is approximately EUR 22 million, or approximately 9%. In 2020, the Group employed an average of 3,300 people, of whom about 2,000 were in Finland.

5.2 Reporting process

The study started by mapping the current external reporting process and the software used in it. The aim was to obtain information about the starting points for new software needs and to identify key personnel in the process. In the case company, the group accountant produces financial figures and tables for the financial statements, so it was natural to start research with her interview.

Accounting data is transferred from accounting software electronically through software interaction to the Clausion FPM (Financial Performance Management) reporting software. The group accountant prepares the consolidated financial statements and transfers the data to Microsoft Excel and forms financial figures and tables.

The text and the visual appearance of the financial statements and the annual report are produced by the company's Communications and Marketing Department in cooperation with the advertising agency.

The text is produced with using Microsoft Word and Adobe InCopy and the financial figures and tables are imported into Adobe InCopy from Microsoft Excel. The final and publishable version is produced, and the style edits are implemented in Adobe InDesign.

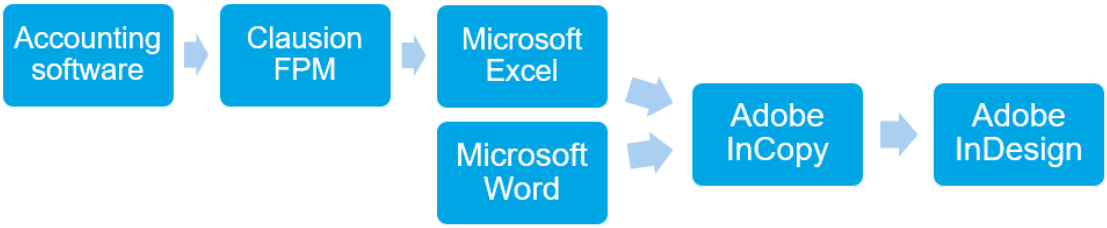


FIGURE 1 The current reporting process from a software's perspective in case company.

5.3 Starting points for comparison of service providers

With a quick survey, it became clear that it was too early to map all the wishes and needs or expectations of key personnel for the new software, as it was not yet clear what it could offer. Though major changes in reporting process were not desired and there was also no interest to change the current reporting software. Because major changes were seen as risks and in addition, larger and more complex software is usually more expensive to implement and maintain. At this stage, the benefits were not yet seen to be high enough in terms of investment and risk. However, some selection criteria were identified, and a broad-line delineation could be made.

Regarding the delimitations, it could be stated that only a bolt-on type software solution meets the requirements as the company's software does not support XBRL reporting and new software is not desired, so the built-in and deeply embedded solutions are excluded. There was also a consensus among the interviewees that there was no desire to outsource XBRL reporting entirely because there was a desire to maintain control over reporting within the company. The risks of outsourcing were seen as schedule risks and information accuracy risks. The reporting schedule was felt to be tight and time management was desired to be maintained within the company and to keep reporting as smooth as possible. It was also felt that the external service provider may not have sufficient knowledge of the company's reporting practices, and if there is not enough expertise within the company, it is more difficult to check the accuracy of the information. So, the delimitation could be further refined to in house bolt on tools. In addition to the limitations mentioned above, the following were identified as important selection criteria on the basis of the interviews:

- Price
- Deployment support and assistance
- Previous user experience and references
- How the software fits into the current reporting process and can the software even develop it.

Getting to know the software service providers and their software started at RTE's (Real Time Economy Conference) XBRL event. There were ten software providers present and they were quickly interviewed with a few questions and some also presented a small demo of their software. Each interview lasted five to fifteen minutes and the interviews were either individual or pair interviews. In addition, several service providers provided brochures and more information was also found on their websites. User experiences of different software are very variable and very limited in terms of ESEF reporting. However, user experiences and references were considered an important selection criterion because it was seen to increase the reliability of the software and service provider.

A solution for user experience evaluation of the software was found at Milton Oy's advertising agency. They have already been part of producing several publishable financial statements working with XBRL supporting software from several different service providers. Miltton provided important and useful information and ideas regarding both XBRL reporting in general and also confirmed the views of previous reviews on the providers to be selected for a more detailed final comparison. After all, there weren't very many lightweight bolt-on software solutions. Miltton e.g. recommended the publication of a financial statements report in PDF format in addition to the ESEF report, for better accessibility for all users. In addition, PDF files are so far easier to share and are less susceptible to corruption than ESEF files.

It was decided to continue the study with three software service providers. Because a lightweight bolt-on software solution was desired and such software was available with the current reporting software provider, it was natural to request a demo and offer from the current software provider Clausion. Offers and Demos were also requested from CtrlPrint and Parseport.

5.4 Introduction of the service providers

This section introduces the three software service providers and their solutions for ESEF reporting. At the end a comparison of software providers is summarized.

Initially, the software service providers were free to present their own software solutions, and after the demonstrations, they provide brochures on their solution and gave the target company an offer. It was also ensured that the target company's reporting process and the software used in it were compatible with the service provider's software. On the basis of the presentations and offers, a table on the features of the software and the content of the service offering was

compiled in Excel, where these could be compared. If any point remained unclear after the presentations, then clarification was requested by email.

5.4.1 Clausion's solution

The solution proposed by Clausion will be viewed first. Clausion Oy was founded in 2018 when Basware sold its financial management business. So, despite the age of the company, Clausion has 25 years of experience in the software solutions and services business. The target company already has Financial Performance Management (FPM) software provided by Clausion, on which Clausion has built a new add-on module to support XBRL reporting. Enabling XBRL reporting in FPM would require the company to implement FPM version upgrade and additional XBRL functionality. Clausion's XBRL add-on module is new and has been released 2020, so there's little user experience and references.

As an initial investment, Clausion's solution was quite expensive, but the operating costs were significantly lower. Clausion provides training in the use of the software and support for its implementation. Clausion's system has IFRS taxonomy and tagging works based on Excel. The target company is responsible of the tagging. Clausion has automatic tagging enabled, but because the target company does not have a DR balance sheet feature in use, this feature is disabled. The target company is also responsible for making extensions and anchoring them. Tagging can be done in advance, for example by using the previous year's financial statements as a template. The software does not enable automatic checks of the iXBRL file, so it needs to be checked manually. The system can be set up on behalf of the service provider very quickly, but a lot of time must be reserved for doing the tagging's and checking the reports. The exact duration cannot be estimated.

In this solution, the ESEF report is created separately and would add a new step to the current process. The appearance of the ESEF report would mainly correspond to an Excel file, and its visual appearance can be hardly affected.

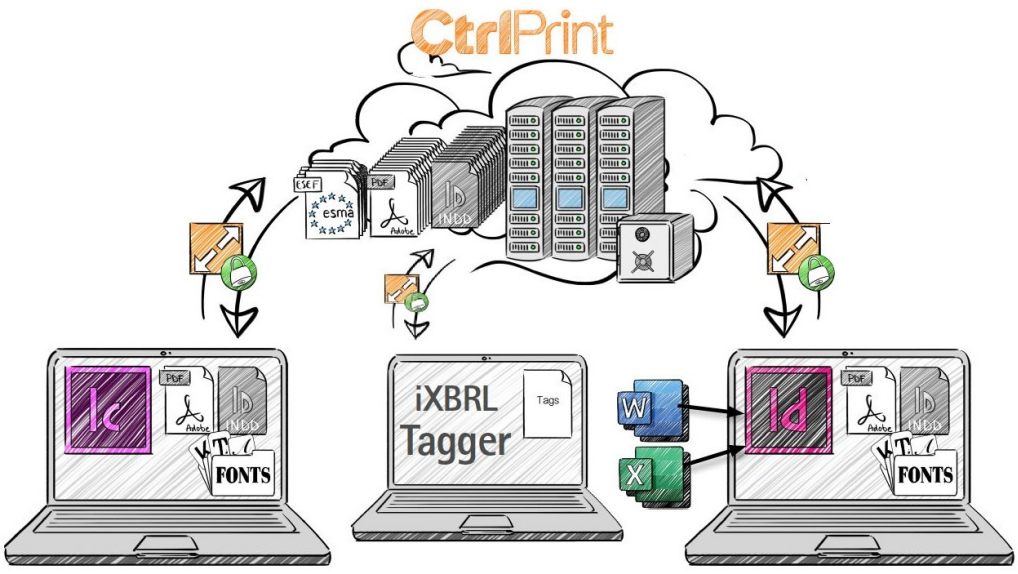
5.4.2 CtrlPrint's solution

CtrlPrint has 20 years of experience in assisting and supporting financial communications and in 2019 its services were used by approximately 650 reporting companies and organizations. CtrlPrint is not a completely new tool, although it has certainly been updated over the years, but iXBRL has only become a new print file format for reports, alongside for example PDF. CtrlPrint does not require system integration, but it requires Adobe InCopy or Adobe InDesign. In addition, the software has a link to Microsoft Excel and often some texts are produced in Microsoft Word.

The implementation of CtrlPrint did not have its own cost, but the same license fee is always paid for the use, which meant that the costs of first year were average and the operating costs were high. The price was affected for example

by the size and number of reports, the number of language versions and the number of users of the software. CtrlPrint provides training in software and support for deployment, but the client is responsible for making the tagging's, extensions and anchoring. With CtrlPrint software, automatic tagging is possible, allowing the software to create suggestions for tags which the user can accept or change. Tagging's also can be done in advance. The software also checks and validates the report, for example calculates subtotals and their correspondences to totals. This software also can be set up on behalf of the service provider very quickly, but a lot of time must be reserved for doing the tagging's and checking the reports. The exact duration cannot be estimated.

This software could potentially streamline the current reporting process and it could also produce ESEF reports as a seamless part of the financial reporting process. The software allows the report to be divided into several different files, allowing more people to work on the report at the same time. The file is downloaded for editing, which means that meanwhile no one else can edit it, and when the edits are complete, the file is downloaded back to the system and any changes made to it can be traced. Also, comments can be added. This ensures that there is always the latest version in use, and it eliminates the need to send files back and forth. Read and edit permissions for system users can also be managed in different sections of the report. Editing a folded version of a report normally takes place in Adobe InCopy and InDesign, but it also allows to copy the folded version and use it as a new template. PDF and ESEF report are identical, also visually. In addition, the ESEF report can be printed immediately and simultaneously with the PDF file.



PICTURE 4. CtrlPrint software solution. (CtrlPrint presentation material)

5.4.3 Parseport's solution

Parseport was founded in 2010 and has been doing XBRL reporting to listed companies since 2012. They also have a lot of large international companies on their

reference lists, and it can be said that they have a strong experience in XBRL reporting.

Parseport software deployment costs were average and operating costs were as well. The price of the service was a fixed annual price and in addition to the financial statements and annual report, the software would also make it possible to implement interim reports in XBRL format. No software integrations are required to use the software, just a PDF file and Microsoft Excel. The Parseport service package includes software, training in its use, tagging as a service, knowledge and consulting of IFRS taxonomy, extensions and anchoring. The tagging's are made in advance using previous reports. Their system also performs check calculations and warns of inconsistencies. The system will take about four to six weeks to set up, after which it will be fully operational. In the future, the service provider will also make changes to the tags, which should be reserved for one to three days.

For the current target company reporting process, the implementation of this software would bring a new additional step to the reporting process, where a PDF file and an Excel file would be uploaded to the system and then an ESEF file would be downloaded from the system. Otherwise, the reporting process would remain completely unchanged and PDF and ESEF reports appearance would be completely identical.

PICTURE 5. Parseport software solution. (Parseport presentation material)

5.4.4 Summary of the service solutions

The table 1 summarizes the key features of the previously introduced software and the content of the services. The information in the table is collected from interviews, demos, offers and websites of software service providers. The key features were selected according to recurring themes and features in the interviews. Some have been chosen so that the new software works with software already in use and fits into the current reporting process. Some key features were selected based on interviews with the target company's personnel. These interviews highlighted some desirable features of the new software and service content of service

provider. In addition, a few risks related to the reporting process were also highlighted, most importantly time-consuming risks. Some, on the other hand, have been selected from interviews with software service providers and their materials. Many of these features were identified in all of these areas but some only in one. Differences and similarities are discussed after the table.

TABLE 1 Service solutions.

	Clausion	**CtrlPrint**	**Parseport**
Price for the first year	*****	****	***
Operating price	*	*****	**
Price formation	Fixed price	The price will increase if the size of the report increases or more reports are made per year (e.g. quarterly and interim reports) or the number of users increases.	Fixed price
Supports the IFRS taxonomy	Yes	Yes	Yes
Figures can be imported using Excel	Yes	Yes	Yes
Content of the service	Software and training for its use.	Software and training for its use.	Software and training for its use, tagging service and consulting of ESEF reporting.
Automatic tagging	No, because the DR balance sheet feature is not in use.	Yes	No, but it is taken care of by the service provider.
Tagging in advance	Yes	Yes	Yes
Changes to tags	Customer's responsibility.	Customer's responsibility.	Included in the service, it can take up one to three days.
Extensions and anchoring	Customer's responsibility	Customer's responsibility	Provided by the service provider

Automatic checks	No	Yes	Yes
Compatibility with existing processes	The iXBRL report must be created separately. Would add a new work step in the reporting process and in addition two separate financial statements to be published.	Potentially could streamline the current reporting process.	Would add a new step to the reporting process.
ESEF report appearance	Numbers only	Identical with folded version	Identical with folded version
Duration of implementation	The software is available almost immediately, but before it is ready for reporting, the customer needs to build the reports and do taggings. The time it takes is difficult to estimate.	The software is available almost immediately, but before it is ready for reporting, the customer needs to build the reports and do taggings. The time it takes is difficult to estimate.	Four to six weeks.
Cloud platform	Yes	Yes	Yes
References	No	Yes/no	Yes
Other features worth noting		Eliminates the need to send reports back and forth. Changes made to reports can be tracked and previous versions can be found. In addition, comments can be added to reports.	IFRS and ESEF consulting are part of the service and it is also possible to implement other reports (e.g. interim report or quarterly reports) in iXBRL.

Price information is marked with stars from one to five. The starring has been done by comparing the offers of the software service providers under consideration. So, it does not take into account other software on the market, nor their pricing. As it can be seen from the table, the costs for the first year are the cheapest at

Parseport and the most expensive at Clausion, but the differences are not very significant. In operating costs, the differences are greater, with CtrlPrint clearly standing out as the most expensive option.

All of the three software support the IFRS taxonomy and in all software the figures can be exported to the software using Microsoft Excel. This feature was perceived as important because Microsoft Excel is an important tool in the target company's reporting process.

In addition to the software, the content of the service included training for its use in all three. Creating tags in advance was also possible in all options. The content of the Parseport service was the most extensive and the content of the Clausion and CtrlPrint service were very close to each other, the CtrlPrint software only contained more automation. Parseport offers tagging entirely as a service, which includes making all tags, extensions and anchoring and making changes to tags. These are reviewed together with the client company. Parseport also provides advice and consultation to ESEF reporting. In Clausion's and CtrlPrint's solution, creating tags, making changes, extensions, and anchoring were entirely the customer's responsibility. To make tagging easier, CtrlPrint's software has automatic tagging feature. However, it is clear that it cannot make tags to all figures and the tags have to be checked. With Clausion's software, automatic tagging would have been possible if the target company had used the DR balance sheet feature in the other software that Clausion offers. Neither Clausion nor CtrlPrint's service included consulting on the correctness of tags. CtrlPrint and Parseport software also performs a computational check on reports when creating an iXBRL file.

CtrlPrint's software was the only one of the three that could have potentially streamlined the target company's reporting process. In the solutions of Parseport and Clausion, a new additional step would come to the reporting process where the XBRL file will be generated. In addition, it was not possible for Clausion's software to generate a visually impressive report, which is why the target company should therefore generate two different-looking financial statement reports.

Clausion and CtrlPrint software were available on a very fast schedule. It was very difficult to estimate the total deployment time, as the customer must first create tags and reports in the software before they are ready for reporting. Parseport promised a deployment period of four to six weeks, after which the client company will be fully prepared for ESEF reporting.

During the study, only Parseport had reference companies that have already reported under ESEF regulations. CtrlPrint software has been on the market for a long time, but the XBRL reporting format is a new feature. Clausion's XBRL feature is completely new, and there were no reference companies yet.

Other noteworthy features in CtrlPrint's software were precisely those features that could have an effective effect on the target company's reporting process. Such as eliminating the need to send reports back and forth, tracking changes, managing versions, and adding comments. The strength of Parseport, on the

other hand, was the scope of the service, which also included consulting on ESEF matters.

5.4.5 Discussion about the service solutions

The above results were presented to the target company in a group interview. The interview was again attended by four representatives of the target company, two from financial department and two from communications. The results were walked through in the order of the table and the discussion was allowed to flow freely. Finally, all participants were asked to indicate which features they felt were most important in selecting a software service provider. Reasons were also asked for these choices as to why they were perceived as important and why others were not perceived as so important.

For the company's communications department, the appearance of the report was considered very important and two separate reports were by no means desirable. In fact, this feature was seen so crucial that they said that from their point of view, Clausion's solution could be excluded from the comparison. According to the representative of the communications department, how the company communicates to stakeholders is very important and the visual appearance of the reports is part of the company's public image. Furthermore, Clausion's solution did not offer a significant price difference or other significant features that were only part of its solution, so that the representatives of the finance department also considered that this solution could be rejected.

After this, there were only two software service providers left to compare. All interviewees agreed that price is one of the most important criteria, as the solution was sought only to meet the new reporting regulations. On top of that, everything else the software could offer would be just a plus. Because CtrlPrint's software had much higher operating costs, all interviewees felt that its software should really provide added value compared to Parseport's solution.

Little attention was paid to the features found in both options, as there was nothing to be compared. However, these features were significant and if they had not been found in the software, it could have been a significant shortcoming and a major impact on the outcome. Features considered mandatory were software support for the IFRS taxonomy and the ability to export figures from Microsoft Excel. Really important features were seen as automatic computational checks, the ability to make tags in advance, and references. Although CtrlPrint had fewer references to present on XBRL reporting than Parseport, none of the interviewees saw this difference as significant, as both have successfully produced financial statements based on XBRL technology. The duration of the implementation was also not considered to significantly affect the solution, as no time-consuming risks were seen here.

In both solutions, the service package included the software itself and training in its use. Parseport provides tagging as a service and all tag-related changes and extensions are included in the content of the service. While in CtrlPrint, the client company has to do all the tagging themselves. All company interviewees

found the support provided by Parseport for IFRS taxonomy very meaningful. Here, the representatives of the communications saw an opportunity to guard the reputation of the company, as this service could help to ensure that no mistakes were made in the selection of tags. Especially with this matter, Parseport's references were seen as a competitive advantage, because they already have experience in selecting tags also in Finnish companies. Representatives of the finance department also felt that support for the choice of tags would be useful. However, risks were also seen in the tagging service. If the client company has control over the tags, then making last-minute changes is quick. This may take significantly more time for the service provider and there is usually no time to waste in the reporting phase.

With the Parseport solution, there would be a new step in the reporting process right at the end of the process, where the Excel file and PDF file are loaded into software that converts them to an XHTML. This therefore provides no added value other than compliance with the new regulations. The potential of the software provided by CtrlPrint to improve the reporting process was seen as an interesting opportunity, especially on behalf of communications representatives. Financial department is not so much involved in writing the texts of financial statements as it mainly provides the tables and figures, which is why the changes would not have such a significant impact on their work. However, all interviewees felt that CtrlPrint software could streamline the current reporting process. The biggest advantages are that there is no need to send files back and forth, there is always the latest version, and in addition, XBRL is just one output format among others.

In summary, the good options for the target company were CtrlPrint and Parseport. With CtrlPrint, the target company's reporting process could evolve, and more efficiency could be achieved. The weakness is the higher operating costs, which would also increase further if more users were needed or other reports were also published in XHTML format. Parseport's strengths are comprehensive service, most importantly ESEF knowledge and consulting and it also reduces the time required from the target company for the implementation, and at a very competitive price. On the other hand, this solution does not achieve any benefits other than meeting ESEF requirements in financial reporting. The choice depends entirely on what features the target company emphasize as the most important.

6 CONCLUSIONS

This study examined what changes the introduction of ESEF reporting requires to the financial reporting operations and accounting work of the listed case company. Another objective of this thesis was to find the service provider and software that fills the needs of the case company in order to meet the ESEF financial reporting requirements. Of the several options available on the market, three could be delineated for further consideration. Of these three, two were recommended to the case company based on the study.

Initially, company interviews were conducted to outline the key personnel, the current financial reporting process and to identify key software requirements. With these, it was already possible to make some delimitations and recognize CFS's of the project. In this case, the CFSs are the system itself and its service provider. The software must be compatible with the existing reporting tools and, in addition, the features of the system and the scope of the service should meet the wishes of the key individuals. The role of management is not so highly emphasized as a critical success factor in this case because this reporting change affects only a very few and all of them were involved in the system selection process. Also, this change is mandatory and not at the discretion of corporate management. The choice of ERP system has very wide-ranging implications for company's operations and work of the personnel while these bolt on XBRL reporting systems respond to a very specific need and affect the work of only a few employees, so it is no wonder that in this case the system itself was emphasized more as a CSF than management.

An interview that was important for the study was conducted when the opportunity arose to get an interview with an advertising agency that works with companies that process their XBRL reports using various software. This can be considered significant as the views were both from outside the target company and independent of the different service providers. After that, the options could be limited to only three. Targeted quotations and private demos of the software were requested from these three service and software providers. From these presentations and offers, information was collected on price, software features, service content, and potential impacts on the current reporting process. The data was then themed and transferred to the table.

Finding a good solution and evaluating competitors is very complex, although the criteria are defined. One software meets the other criteria better than the other software, and vice versa. As a result of the comparison, two service providers could be recommended for the case company. The features of the software, the content of the service and the price level are so different from each other that both options are worth of recommending. Parseport offers broader service content with more competitive price, but its solution would not develop the target company's reporting process. The CtrlPrint solution, on the other hand, is

more expensive, but the software it provides could streamline the current reporting process.

The changes in the reporting process are small for both solutions selected for closer examination. This was one of the starting points for the target company in choosing the software, so the result was not surprising. The tools already used in the reporting process will not change in either solution. However, CtrlPrint software provide a platform for better management of the use of these tools. With CtrlPrint's software, printing an ESEF report is only one file format for printing a financial statements report, e.g., alongside a traditional PDF file. The solution of the Parseport, on the other hand, requires an additional step in which the PDF and Excel files are converted into an ESEF report.

Financial reporting is a key part of a company's external communication and thus also its image, so it is especially important that these reports are of high quality. ESEF financial statements reporting requirements are complex and technically challenging. Consulting and tagging the ESEF taxonomy of the Parseport is likely to be such a great advantage now in the first years of ESEF reporting that this, combined with a lower price and good references, will make it a stronger candidate.

In addition, XBRL reporting will also bring software-independent changes to the reporting process. Changes to rows in the tables in the annual report must also be taken into account in XBRL tags. If necessary, change, delete or add tags. There is also a need to add another new step to the reporting process to validate the ESEF report. This step is considered necessary because XBRL files are vulnerable to corruption. The ESEF report also needs to be audited by an audit firm, in addition to the normal audit practice. The necessary new steps in the reporting process, independent of the software and service provider, would therefore be the maintenance of XBRL tags, the validation of ESEF reporting and its audit. In addition, there is one more step in the Parseport solution, which is the conversion of a PDF and Excel file to ESEF format.

XBRL reporting will increase the costs of the target company at least at this stage. The costs consist of the software implementation fee, the software usage fee, and the time spent by staff in selecting the software and preparing and validating the ESEF report. An audit of an ESEF report also brings additional costs to the audit process of the target company. Other impacts are very difficult to assess at this stage, as they will only become apparent with the full implementation and use of XBRL reporting.

Regarding the achievement of sufficient saturation of the research material, it can be stated that the research results collected from different sources were consistent with each other and in cases of unclear or incomplete information, clarification was sought. Research material was collected in various forms from several different sources, including independent sources. Research material was collected through interviews, observation, offers, and service providers' websites. Thus, it can be argued that the reliability and validity of the study have been considered at different stages of the study and thus it can also be concluded that

these are at a reliable level. This study is a unique case, which makes it very difficult to compare its results with previous studies. In addition, two of the options considered were very new to the market. However, it can be stated that the case company chose the most common way to implement XBRL for financial reporting in Finland. As a survey that was conducted in collaborations between Aalto University School of Business, XBRL Finland and the Finnish Financial Supervisory Authority (2020) shows, most companies adopt a bolt-on type software solution. The survey was administered by Esko Penttinen from Aalto University.

Jenni Tuovinen (2013) studied the effects of the introduction of XBRL from the perspective of reporting companies. The effects of the introduction of XBRL were found to be relatively small, which is also in line with the results of this study. Tuovinen states in her research that from the companies' point of view, the introduction of XBRL requires some staff training, takes some time at the beginning, causes relatively little costs for companies, requires little enhanced security controls, reduces reporting time and costs a little bit, and increases the quality of reported data little. For the target company of the study, the impact of the introduction of XBRL will be rather small, at least at this stage. Implementation will be time consuming and there will be costs associated with it and software acquisition. The impact on the reporting process will be relatively small.

Wang Zhenkun (2015) studied the impact of XBRL financial reporting on the accounting profession. The study concludes that the accounting profession has not been directly affected by XBRL, but initially its implementation requires additional work. XBRL has not significantly increased the quality of the data at first, but the quality has improved year after year, so the quality of the reports can be seen to increase. At this stage, the impact of XBRL was still seen to be small, but in the future, it may have implications for the accounting profession and the quality of the data reported. In this case, it was found that the implementation of XBRL reporting has required additional work from the target company but has had only a very minor impact on the job descriptions of the accounting staff within the case company. Changes in data quality cannot yet be addressed in this study.

This thesis looks at the potential effects of the introduction of XBRL and the actual effects that can be verified already at this stage in the implementation of XBRL in the case company. Not all impacts can yet be reliably assessed. In addition, ESEF reporting and the software that supports it are constantly being developed and development can still be expected to be rapid, as the introduction of ESEF reporting is still just in the beginning. This could be a very interesting area for further research, as the verified and identified impacts have been little studied, at least from ESEF reporting. There are high expectations for XBRL reporting and monitoring their fulfilment includes very interesting opportunities for further research from the perspective of both reporting companies and external stakeholders.

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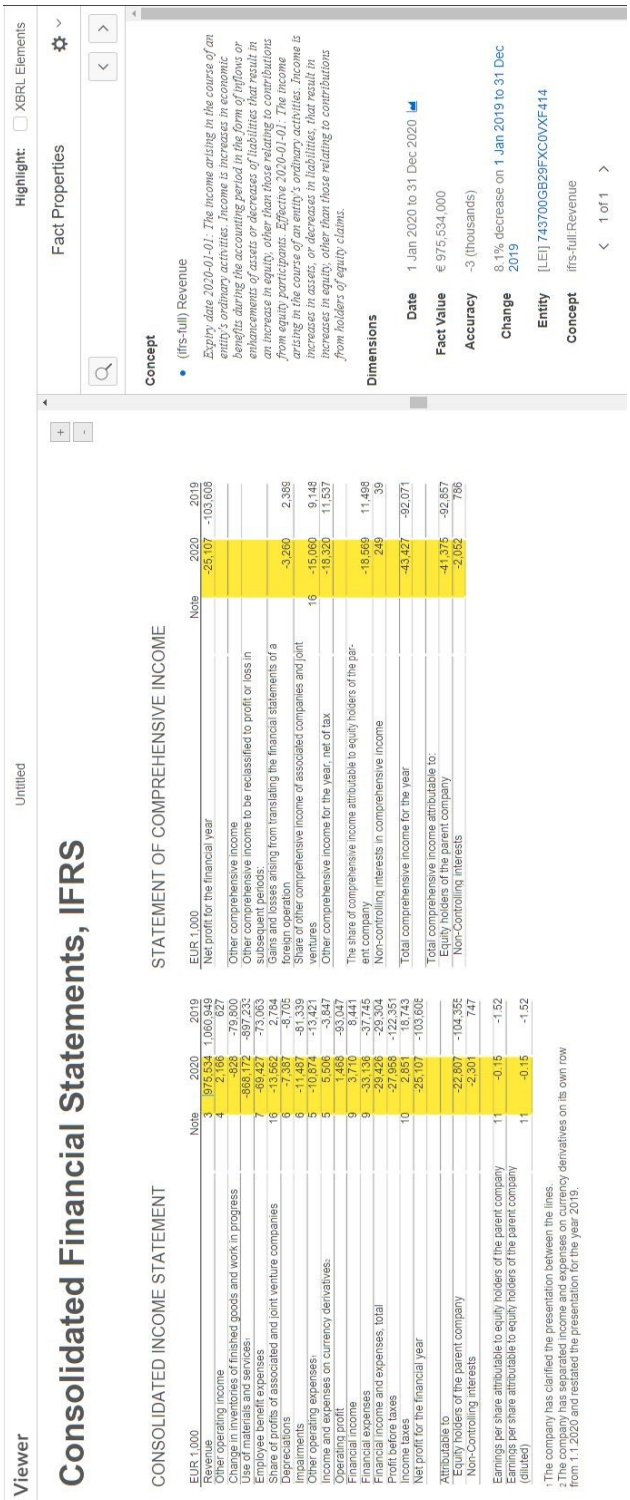
APPENDIX 1 CAPTURE IMAGE OF SRV GROUP PLC'S IXBRL FINANCIAL STATEMENTS.



Inline Viewer

Untitled

Highlight: XBRL Elements

Consolidated Financial Statements, IFRS

CONSOLIDATED INCOME STATEMENT

EUR 1,000	Note	2020	2019
Revenue	3	975,534	1,060,949
Other operating income	4	2,166	627
Change in inventories of finished goods and work in progress		-828	-79,800
Use of materials and services:		-868,172	-897,233
Employee benefit expenses	7	-89,427	-73,063
Share of profits of associated and joint venture companies	16	-13,562	2,784
Depreciations	6	-7,387	-8,705
Impairments	6	-11,487	-81,339
Other operating expenses	5	-10,874	-13,421
Income and expenses on currency derivatives:	5	5,506	-3,847
Operating profit		3,466	-93,047
Financial income	9	3,710	8,441
Financial expenses	9	-33,136	-37,745
Financial income and expenses, total		-29,426	-29,304
Profit before taxes		-25,960	-122,351
Income taxes	10	2,861	18,743
Net profit for the financial year		-25,107	-103,608
Attributable to:			
Equity holders of the parent company		-22,807	-104,355
Non-Controlling interests		-2,301	747
Earnings per share attributable to equity holders of the parent company	11	-0.15	-1.52
Earnings per share attributable to equity holders of the parent company (diluted)	11	-0.15	-1.52

1 The company has clarified the presentation between the lines.
2 The company has separated income and expenses on currency derivatives on its own row from 1.1.2020 and restated the presentation for the year 2019.

STATEMENT OF COMPREHENSIVE INCOME

EUR 1,000	Note	2020	2019
Net profit for the financial year		-25,107	-103,608
Other comprehensive income			
Other comprehensive income to be reclassified to profit or loss in subsequent periods:			
Gains and losses arising from translating the financial statements of a foreign operation		-3,260	2,388
Share of other comprehensive income of associated companies and joint ventures	16	-15,060	9,148
Other comprehensive income for the year, net of tax		-18,320	11,537
The share of comprehensive income attributable to equity holders of the parent company		-18,569	11,498
Non-controlling interests in comprehensive income		249	-39
Total comprehensive income for the year		-43,427	-92,071
Total comprehensive income attributable to:			
Equity holders of the parent company		-41,375	-92,857
Non-Controlling interests		-2,052	786

Fact Properties

Concept

- (ifrs-full) Revenue

Expiry date 2020-01-01: The income arising in the course of an entity's ordinary activities. Income is increases in economic benefits during the accounting period in the form of inflows or enhancements of assets or decreases of liabilities that result in an increase in equity, other than those relating to contributions from equity participants. Effective 2020-01-01: The income arising in the course of an entity's ordinary activities. Income is increases in assets, or decreases in liabilities, that result in increases in equity, other than those relating to contributions from holders of equity claims.

Dimensions

Date	1 Jan 2020 to 31 Dec 2020
Fact Value	€ 975,534,000
Accuracy	-3 (thousands)
Change	8.1% decrease on 1 Jan 2019 to 31 Dec 2019
Entity	[LEI] 743700GB29FXC0VXF414
Concept	ifrs-full:Revenue

< 1 of 1 >

APPENDIX 2 RTE CONFERENCE 14.11.2019 PROGRAM AND SERVICE PROVIDERS PRESENTED

Program and slides

The program for the RTE conference is provided below. The language of the seminar is English (except for one demo). All presentations will be held in TU2. Each 30-minute session will consist of a 15-minute presentation followed by a 15-minute Q&A session moderated by Esko Penttinen and Elina Koskentalo.

During the whole day, there will be several service providers presenting their solutions. So far, we have confirmed:

Clausion (https://www.clausion.fi/),

Corefiling (https://www.corefiling.com/),

CtrlPrint (https://web.ctrlprint.net/),

Intito (https://intito.fi/),

Invoke (https://www.invoke-software.com/),

IRIS (iriscarbon.com/eu),

Oracle (https://www.oracle.com/applications/performance-management/products/narrative-reporting.html),

Parseport (https://parseport.com/),

UBPartner (https://www.ubpartner.com/),

Workiva (https://www.workiva.com/) as service providers to showcase their solutions.

Time	Talk	Speaker(s)
9:00-9:30	Welcome and introduction to RTE – results of a recent survey on ESEF implementation	Esko Penttinen, Aalto University School of Business and XBRL Finland
9:30-10:00	Review of ESEF reporting – recent developments and steps going forward	Riitta Pelkonen, Financial Supervisory Authority (FIN-FSA)
10:00-10:30	Coffee break	
10:30-11:00	Update on XBRL data storage to be maintained by NASDAQ Helsinki	Roberto Moretti, NASDAQ
11:00-11:30	Experiences on XBRL-based financial reporting – dos and don'ts	Sini Halla, Nokia
11:30-13:00	Lunch	
13:00-13:30	Review of the recently opened SME voluntary reporting of XBRL-based financial reports	Franck Mertens, Finnish Patent and Registration Office
13:30-14:00	Demo on SME voluntary reporting (video of Fennoa demo from last spring can be found here, please go to min 29:20 to see Mikko's demo)	Mikko Kalliovaara, Fennoa
14:00-14:30	Future of financial accounting services – Digitalization roadmap	Janne Fredman, Association of Finnish Accounting Firms
14:30-15:00	Coffee break	
15:00-15:30	Keynote on XBRL-based municipality reporting	Denis Galkin, Ministry of Finance
15:30-16:00	Demo on municipality reporting	Jarmo Nieminen, CSC
16:00-	End of conference – Cocktail event	

APPENDIX 3 SIHTEERI SUOMEN IR-YHDISTYS VIRTUAL XBRL EVENT 11.6.2020 PROGRAM AND SERVICE PROVIDERS PRESENTED

Ohjelma:

klo 14:00 ESEF/xHTML ja XBRL sääntelyn näkökulmasta

Riitta Pelkonen, Fiva ja **Elina Koskentalo**, Tieke

klo 14:30 Case: Kemiran osavuosikatsausprosessin muutos ja XBRL

Marjo Taajamaa ja **Tiina Huoponen**, Kemira

klo 14:45 Keskustelua

klo 15:00-16:30 Palveluntarjoajien esitykset. Voit tutustua samalla joidenkin markkinoilla toimivien palvelutarjoajien esittelyihin.

15:00-15:15 Intito

15:15-15:30 Invoke

15:30-15:45 Ctrl+Print

15:45-16:00 Workiva

16:00-16:15 Toppan Merrill

16:15-16:30 Clausion

APPENDIX 4 INTERVIEW THEMES FOR THE GROUP ACCOUNTANT INTERVIEW

1. Current reporting process
    a. Key persons
    b. Software in use
2. Current knowledge of XBRL and ESEF reporting
3. Wishes and needs for a software and service provider

APPENDIX 5 INTERVIEW THEMES FOR SOFTWARE AND SERVICE PROVIDERS AT RTE'S CONFERENCE 14.11.2019

1. Service offering
    a. Compliance with case company's financial reporting process
    b. Software compliance with case company's current financial reporting software
    c. Software compliance with IFRS taxonomy
    d. Demo
2. References
3. Price

APPENDIX 6 THEMES TO BE COVERED IN PRESENTATIONS AND DEMONSTRATIONS OF SOFTWARE SERVICE PROVIDERS TO THE CASE COMPANY

1. Compatibility with existing processes
2. ESEF report appearance
3. Content of the service
    a. Support and train for the software
    b. Support with tag selection
4. Tagging features
    a. Automatic tag suggestions
    b. Extensions and anchoring
    c. Tagging in advance
5. Automatic calculation checks
6. Duration and course of implementation
7. Price
    a. Implementation price
    b. Operating price