



**UNIVERSITY
OF TURKU**

Turku School of
Economics

Value Added Tax treatment in Project Procurement drop shipments

Operations and Supply Chain Management

Master's thesis

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31.8.2023

Turku

The originality of this thesis has been checked in accordance with the University of Turku quality assurance system using the Turnitin OriginalityCheck service.

Master's thesis

Subject: Operations and Supply Chain Management

Author: Joonas Warpenius

Title: VAT treatment in Project Procurement drop shipments

Supervisors: Ph.D. Vesa Kilpi, Professor Lauri Ojala

Number of pages: 103 pages + appendices 4 pages

Date: 31.8.2023

Procurement has been evolving during the recent decades from mainly administrative function towards more value adding and strategic. This development trajectory has its roots in accelerated trends of globalization, digitalization, and outsourcing. Moreover, increased market liberalization and cost pressures have affected the procurement function's overall positioning. In the thesis case company Metso Outotec Finland Oy, a subsidiary of Metso corporation, project procurement has a distinctive business operating model while acting in an intermediary position between manufacturers or suppliers and customers. Direct goods drop shipment deliveries are arranged from Finland between aforementioned parties without them having any direct connection. This can be seen as a practical application of global value chains.

Considering the current operating model with multiple stakeholders and cross-border movements of goods, the value added tax treatment is understandably challenging. Consequently, the thesis has its focus in identifying economically and operationally crucial phases and situations as well as risk mitigating opportunities from project procurement point of view in value added tax context. In addition, reasonable contractual aspects in the case company's various supply chains are suggested. Based on the conducted research literature overview, supply chain management and legal or fiscal objectives have not usually been aligned in logistics domain, which is a relevant research gap from the thesis point of view. Thus, combining the procurement, logistics and legislation forms the basis and theoretical framework for the thesis. In addition, the strategic usage of Incoterms® is only rarely considered topic in scientific publications. This is another interesting aspect to which this thesis is contributing.

Value added tax seems to be a secondary object of attention even though it is identified potentially causing considerable additional costs for projects, irrational logistical arrangements, delays and even reputational damage and sanctions. As the value added tax is not based on voluntariness the compliance must be ensured and supported with internal alignment, division of responsibilities, information technology capabilities and corporate level guidelines for instance. Moreover, for personnel determining value added tax treatment the sufficient level of knowledge and competence should be assured as there exist large number of factors affecting the overall treatment. Among these, for example, prevailing trade conditions, legislation under which the power to dispose is transferred, parties organizing transportations and conducting goods clearances, contractual factors such as chosen Incoterms® clauses in the chain and potential existence of value added tax registrations.

The European Union model of value-added taxation is central in this review as a dominant model for indirect tax applications globally. However, the lack of harmonization among European Union member states is causing additional issues and challenges from legislation point of view due to value added tax relying solely on directives in European Union and having some overlapping points with customs legislation. Central aspects seem to be related to the tax collecting method taking place in multiple phases and emphasis on the destination principle. Also, the possibility to apply zero rate only once in the chain of transactions unless intra-EU trade is further combined with export procedures is a determining feature.

Key words: project procurement, VAT, EU-legislation, Incoterms®, logistics, tax aligned supply chains, global value chains

Pro gradu -tutkielma

Oppiaine: Toimitusketjujen johtaminen

Tekijä(t): Joonas Warpenius

Otsikko: ALV-kohtelu projektihankinnan suorissa tavarantoimituksissa

Ohjaajat: FT Vesa Kilpi, professori Lauri Ojala

Sivumäärä: 103 sivua + liitteet 4 sivua

Päivämäärä: 31.8.2023

Hankinta on viime vuosikymmeninä kehittynyt hallinnollisesta toiminnosta kohti arvoa luovaa strategisempaa roolia. Tämä kehityskulku liittyy erityisesti kiihtyneeseen globalisaatioon, digitalisaation luomiin kyvykkyyksiin ja ydinosaamisen keskittymistä seuranneeseen ulkoistamiseen. Lisäksi hankintafunktion asemaan ovat erottamattomasti vaikuttaneet markkinoiden laaja vapautuminen ja kasvaneet kustannuspaineet. Tutkielman toimeksiantajalla, Metso konserniin kuuluvalla tytäryhtiö Metso Outotec Finland Oy:llä, on erottuva liiketoimintamalli projektihankinnan osalta toimiessa valmistajan tai tavarantoimittajan ja loppuasiakkaan välissä. Tässä toimintamallissa suorat tavarantoimitukset organisoidaan Suomesta käsin ilman, että aiemmin mainituilla tahoilla on minkäänlaista suoraa linkkiä keskenään. Tämä voidaan käytännössä nähdä eräänlaisena globaalien arvoketjujen ilmentymänä.

Kohdeyrityksen nykyiseen liiketoimintamalliin liittyy tyypillisesti useita sidosryhmiä sekä rajat ylittäviä tavarantoimituksia, minkä vuoksi arvonlisäverotus on haastava osa-alue. Tutkielma keskittyykin tunnistamaan taloudellisesti ja toiminnallisesti olennaisia vaihteita ja tilanteita sekä kartoittamaan riskinhallintamahdollisuuksia projektihankinnan osalta arvonlisäverotuksen kontekstissa. Lisäksi yleispäteviä toimitusketjuihin soveltuvia sopimusteknisiä seikkoja kartoitetaan ja ehdotetaan kokonaistarkasteluun pohjautuen. Kirjallisuuskatsauksen perusteella toimitusketjujen johtaminen ja oikeudelliset tai verotukselliset tavoitteet sekä linjaukset eivät tyypillisesti ole yhtenäisiä logistiikkafunktiossa sovellettaessa. Tämä on myös tutkielman kannalta keskeinen tutkimusaukko. Hankinnan, logistiikan ja lainsäädännöllisten näkökulmien ja tarpeiden yhdistäminen muodostaakin tutkielman teoreettisen viitekehyksen. Myös Incoterms® -lausekkeiden strateginen hyödyntäminen on harvinainen aihe tieteellisten julkaisujen kohdalla. Tämä onkin toinen mielenkiintoinen puute, johon tutkielma pyrkii omalta osaltaan vastaamaan.

Arvonlisäverotus vaikuttaa jäävän jossain määrin toissijaiseksi huomionkohteeksi, vaikka siihen liittyvät potentiaalisesti huomattavatkin kustannusvaikutukset, epärationaaliset logistiset järjestelyt ja myöhästymiset sekä jopa mainehaitat seuraamuksineen. Arvonlisäverotus ei ole myöskään vapaaehtoinen asia, minkä myötä sääntelyn noudattaminen on varmistettava ja tuettava esimerkiksi sisäisellä yhtenäisyydellä, selkeällä vastuunjaolla, riittävillä tietojärjestelmäkyvykkyyksillä ja korporaatiotason linjauksilla. Lisäksi on perusteltua huolehtia arvonlisäverotuksen kanssa tekemisissä olevan henkilöstön osaamisesta ja kilpailukyvyistä, koska sääntelyn noudattamisen toteutuminen riippuu hyvin monista kokonaisuuteen vaikuttavista tekijöistä. Näihin lukeutuvat esimerkiksi vallitsevat kaupan ehdot, määräysvallan siirron kohdalla sovellettava lainsäädäntö, kuljetuksia ja tavaraselvityksiä tekevät tahot, sopimustekniset asiat esimerkiksi Incoterms® -lausekkeiden muodossa ja mahdolliset arvonlisäverorekisteröinnit.

Euroopan unionin malli on keskeinen tarkastelun kannalta, koska se on maailmanlaajuisestikin hallitseva ja sovellettu perusta arvonlisäverotuksen toteuttamiselle. Lainsäädännöllisiä haasteita aiheuttavat kuitenkin harmonisoinnin puute jäsenmaiden kesken arvonlisäverotuksen perustuessa EU:n direktiiveihin sekä päällekkäisyydet tullilainsäädännön kanssa. Keskeisiä määrittäviä tekijöitä vaikuttavat olevan arvonlisäveron määräytyminen useissa arvonluonnin vaiheissa ja kohdeperiaatteen painottaminen tarkastelussa. Lisäksi määrittävä tekijä on vain yhden nollaverokannan soveltuminen pitkissä ketjuissa EU:n sisällä, ellei ketjuun sisällytetä vientiä.

Avainsanat: projektihankinta, ALV, EU-lainsäädäntö, Incoterms®, logistiikka, verotuksen huomioivat toimitusketjut, globaalit arvoketjut

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1 Introduction

1.1 Background and practical motivation

Metso is a Finnish corporation focusing on products, technologies and services related to aggregates production, minerals processing and metals refining. The corporation took its current form in 2020 when Outotec Oyj and Metso Corporation were merged and from May 2023 onwards the official corporation's name was shortened to Metso. The corporation has described its purpose being enabling modern lifestyle, which is supported by current megatrends such as urbanization and electrification. The corporation also has a strong and strategic focus in sustainability approach that is having concrete appearance, for example, in the expanding product offering of its Planet Positive portfolio. Metso is conducting its business in more than 45 countries and has over 16,000 employees worldwide. The sales for 2022 was 5.3 billion Euros.

The author started working for the corporation subsidiary Metso Outotec Finland Oy (from 1st September 2023 onwards Metso Finland Oy) for Project Procurement under Minerals Business Area in early May 2022. In 2022, the subsidiary in question had 2.2 billion Euros in sales and approximately 2,300 employees. During summer 2022, the Director of Project Procurement briefed the author about challenges related to value added tax treatment in Metso Outotec Finland Oy's Project Procurement as division of responsibilities related to value added tax treatment had changed after the merger. Some uncertainty was related to knowledge of what kind of risks might be related to value added tax treatment in practice and whether the current approaches were appropriate and efficient. Due to these introduced circumstances, the interest towards exploring the issues thoroughly started to emerge.

Another impressive aspect is the truly global business of Metso as project deliveries have taken place worldwide during its history. This is also making the number of different logistical combinations remarkably large. As there is not a single operating model nor centralized production facilities, there has been a need to evaluate each supply chain separately. For this reason, it is important to find effective operating models and best practices for handling these activities in Project Procurement direct deliveries also from the value added tax perspective. Even though value added tax may not be the primary

concern in business implementation, taking it into account is essential due to prominent cost effects and general compliance requirements.

1.2 Research objectives and questions

The nature of the value added tax in global drop shipments is identified as a rather complex topic in the case company. As introduced later in this subchapter, they refer to an operating model where the goods are sent directly from the manufacturer or supplier to the end customer without these two parties having any direct linkage. Instead, there is an intermediary making the arrangements in contractual relationship with both. (Wethekam & Schiller 2015, 27–28.)

Henkow and Norrman (2011, 879) have discovered that in the literature supply chain management and legal or fiscal objectives are not usually aligned in logistics domain. Here the supply chain management is referring to a comprehensive management and organization of the chains whereas logistics is related to physical goods transportations. This can be seen as a research gap, especially as interrelation between the listed areas seems to be evident and inevitable in global business context. In practice, poor linkage between tax and supply chain functions can clearly create barriers for tax efficient supply chain pursuit (Bronsky 2006, 20). Historically, it has been apparent that the cooperation has not generally been too functional between those representative experts, and still taking into consideration the relevant aspects from both business areas might lead to the logistical arrangements having irrational forms. (Henkow & Norrman 2011, 879.)

Another research gap is related to International Commercial Terms (Incoterms® 2020) usage from a strategical perspective, which has been a very limited topic in scientific publications. Incoterms® is a uniform three-letter abbreviation of defining the responsibilities and risks related to cargo movements in trade contracts (Davis & Vogt 2021, 2). The seemingly limited research regarding the topic is surprising while considering effects on costs, obligations, risks, and formalities that are often determined by the chosen Incoterms® clause in the international trade. While Incoterms® could be utilized as a more strategic and effective management tool, they appear to be often underestimated. (Hajdukiewicz & Pera 2021, 35–36.) The Incoterms® topic has grown in importance due to the risen number of diverse and complex contracts in international trade followed by the trends of globalization and internalization. More harmonized

Incoterms® ruling can therefore improve clarity and mutual understanding among business partners. (Hajdukiewicz & Pera 2021, 38.)

Hoek, van and Mitchell (2006, 269–270) have stated that the lack of internal alignment in companies is threatening the overall supply chain management, which is requiring cross-functional operations to work appropriately. Especially, sales function has been considered as a critical area affecting the efforts in supply chain. In today's business environment it is considered as a potential source for competitive advantage if functional barriers can be reduced and greater integration and alignment created instead. Still, even the current literature seems to have a research gap in terms of established practices between logistics and other relevant internal functions. A typical need for more comprehensive legal support appears to be related especially to import-export regulation. (Hoek, van et al. 2008, 111, 120.)

Research question one:

Which phases or situations in Project Procurement are crucial economically and operationally from value added tax perspective and how can the related risks be mitigated?

There are penalties by tax authorities for late payments and late submissions of value added tax returns, which might be determined by fixed price or interest on annual rate. When it comes to noncompliance and incorrect reporting, the penalties are even stricter and in form of punitive tax increases. (EY Tax Guide 2022, 594.)

The first research question has a target of assessing possible risks related to the current operations in the case company's Project Procurement function. This means having a deeper understanding on how risks are being created currently and what is the risk magnitude in form of economic and operational impact. Economical and operational cruciality here is referring to value added tax related cases potentially leading to exceeding the budgets or causing delivery delays.

This review is based primarily on the data collected from survey provided for Project Procurement personnel and secondarily from other relevant internal data sources.

Literature review is expected to provide useful information on possible risk realization consequences as well as ways to avoid value added taxation related risks in case company's Project Procurement function.

Research question two:

What kind of contractual aspects in various supply chains are justified to apply so that the value added tax treatment is efficient and yet without compromises in general business operations?

So called drop shipment transactions are a common way of operating in the case company project business. Drop shipment operating model is illustrated in Figure 1. It is triangular model where the manufacturer is shipping the goods to the customer. However, instead of those two parties having any direct connection, there is an intermediary receiving the order from the customer and subsequently placing a corresponding order towards its own manufacturer or supplier. Therefore, from value added tax perspective there are at least three parties participating in the arrangement even though the physical goods transportation only takes place between two of them. (Wethekam & Schiller 2015, 27–28.)

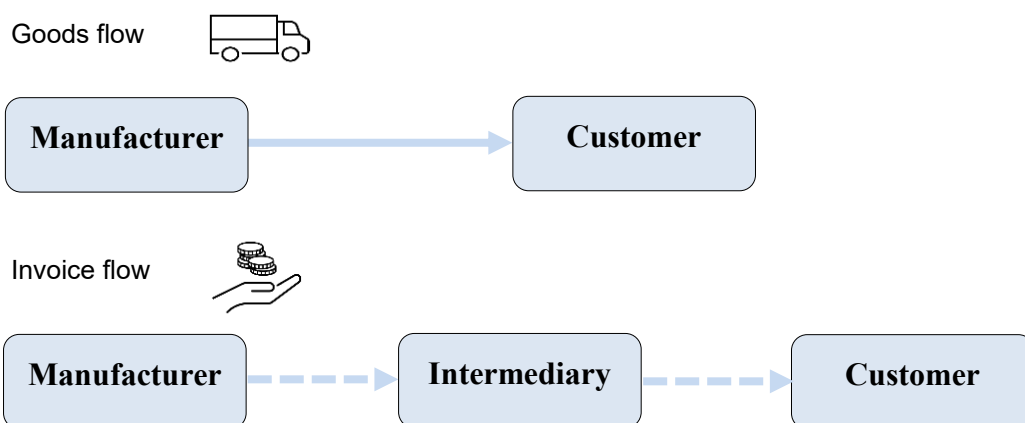


Figure 1 Goods and invoice flows in drop shipment operating model

The second research question aims to assess suitable contractual combinations that would cover majority of transportation needs in case company's Project Procurement supply chains while working as an intermediary. This might include suggesting appropriate transit countries based on, for example, legislation, favourable value added tax treatment or current case company tax registrations. Also, favourable Incoterms® solutions and combinations from value added tax and the case company logistics perspectives are considered and assessed. Compromises in the general business operations in this question refer to the situations where contractual terms or supply chain in general needs to be modified solely to accomplish compliant value added tax treatment.

1.3 Thesis structure

In the first chapter, the assigning case company to whom the research is conducted is briefly presented. Also, some background information and characterizations as well as key figures related to corporation's operational environment are introduced. This is then followed by presenting the research questions. Those are divided to two with the first one having a focus in identifying economical and operational risks as well as the ways for mitigating them. Another research question is having more practical approach in recognizing and assessing the justified contractual aspects in the case company's supply chains.

The thesis is consisting of three separate theoretical chapters. This delimitation is based on identified relevancy from both academic literature review and practical review from the case company's perspective. In the second chapter, procurement as a corporate function is presented. In this context, procurement's steadily incremental development trajectory from mainly an administrative function to the current more strategically relevant state is introduced. Diversity related to the concept definition is also grounded to assist the reader to understand the terminologically varying scope of existing acquisition activities. Followed by this, the concept of project procurement is specified. Even though some common procurement principles do apply there as well, certain level of uniqueness, uncertainty and complexity seem to be among differentiating factors.

The third chapter is focusing on legislation and trade compliance from the value added tax point of view. The value added tax in general and then its applications in more detail both in European Union and in Finland respectively are introduced. Overall, the European model of value-added taxation is central in this review as a dominant model for indirect

tax applications globally. In this main chapter also the concept of Incoterms® is introduced comprehensively as it is closely related to legislation as part of the trade agreement universally. Based on Incoterms® the responsibilities and obligations are determined between business partners, and they are also decisive in terms of handoff location for the goods.

In the fourth chapter, the central concept of drop shipments is introduced. This logistical and contractual arrangement refers to triangular operating model with manufacturer or supplier, intermediary and customer. However, the goods transportation is taking place only once here, which is challenging aspect from value added tax perspective. Followed by this, the focus is on tax aligned supply chains, which have become a desired outcome and a source of competitive advantage for many multinational companies due to globalization and outsourcing. Here also the theoretical framework for thesis is introduced and justified based on both the findings from academic literature and the case company requirements.

The fifth chapter is focusing on the thesis methodology and beginning with justifying the choice between qualitative and quantitative research approach. Moving further, the choice of intensive case study research is grounded mainly based on rather unique case company operating model, exceptionally global operating environment and research nature as a revelatory case. In addition, the data gathering, and research process is explained in detail. The chapter is concluded with research quality assessment and ethical considerations.

In the sixth chapter, both interview and survey results are reviewed from the most relevant parts. Firstly, the interviews of procurement, logistics and legislation representatives are decoded in the summative text form. Secondly, the supply chain survey results based on the answers from project procurement personnel are introduced. Both interview and survey structure can be found as thesis appendices. The seventh chapter is presenting internal case company guidelines and instructions closely related to the value added tax mainly based on internal company documentation.

Chapter eight is valuable as the research questions are answered and thesis conclusions and results concluded in a comprehensive manner. In addition, argument and evidence is bind together in form of theoretical contribution and managerial contributions. More critical evaluation regarding the thesis is taking place in limitations and future research section.

2 Procurement function

Procurement has become a more commonly known topic and an independent functional party in many organizations during the last decades. It has also gone through an interesting development trajectory, which has been described more in depth by for example Rozemeijer (2008), Tassabehji and Moorhouse (2008), Roberta Pereira et al. (2014), Chick and Handfield (2015) and Rane et al. (2020). The purpose of this second chapter is to help the reader to understand procurement as a function and its importance in supporting the comprehensive organizational functionality.

2.1 Development and current state of procurement

Over the years, the role of procurement has evolved greatly and its position as a secondary business function does not seem accurate in today's standards (Rane et al. 2020, 257–258). Basically, the idea and need for procurement has remained the same: the internal operations require resources from external parties, procuring of which is the main responsibility for the procurement function. However, procurement's role as a more fundamental function is a more recent trend, which is partly due to its positioning and functional role as a linkage between internal and external parties with capabilities in spanning these boundaries. (Roberta Pereira et al. 2014, 627–628.)

Historically, procurement has its roots in materials management with the purpose of reducing costs, supporting centralization, and leveraging volumes (Chick & Handfield 2015, 1). Followed by the greater interconnections, the competition has increased, which can be seen in the search for cost minimization from low-cost jurisdictions (Allevato 2019). This is evident in the rapid development of outsourcing activities followed from increased globalization and cost pressures in various businesses. Hence, in procurement the share of business is more apparent nowadays as a greater proportion of company revenues are bound in this specific function. For this reason, the procurement has developed towards a more strategic function in many companies. (Dong et al. 2018, 1751–1752.)

The development has been seen taken place only relatively recently, and for this reason variation between companies exist. However, in some cases, procurement still remains as a rather low priority function. (Chick & Handfield 2015, 2.) Also, the inextricable linking of cost minimization efforts to the procurement function's obligation has remained valid

to this day. In many cases though, focusing only on procurement department and optimizing end-to-end procure to pay process may create prominent financial success (Stattler & Grabel 2020, 190).

Weele, van (2018, 12) has quantified the importance of purchasing to organizations by comparing its share to the cost of goods sold. Among manufacturing companies, the ratio is typically between 50 and 80 percent. Hence, managing and exploiting those external resources is clearly crucial in acquiring competitive advantage (Iloranta & Pajunen-Muhonen 2018, 21–22). Purchasing for primary business activities or production needs should be seen as direct procurement. On the contrary, indirect procurement is limited to the purchasing of Maintenance, Repair and Operations (MRO) equipment and the services that are not related to production directly but should be seen more as general business expenses. (Weele, van 2018, 6.)

Digital transformation and market liberalization are crucial trends in enabling even more businesses to develop into multinational enterprises (Allevato 2019). The difference compared to the situation a couple decades ago is clear, especially while having a look at the earlier established view on Porter's (1985) well-known value chain model as illustrated in Figure 2.

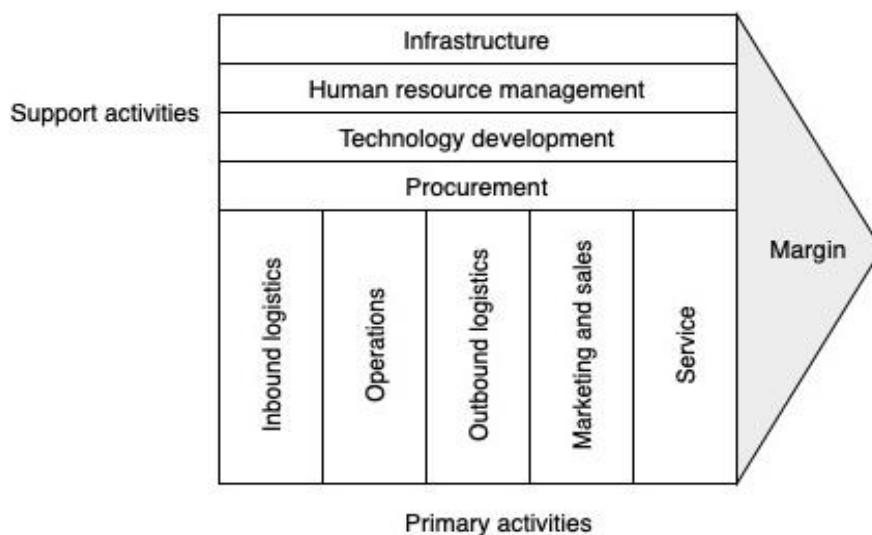


Figure 2 Value Chain Model (Porter 1985)

In this model, the procurement is listed under support activities, which is relevant to be challenged due to the more recent development and previously listed changes in the business environment and company operations. In fact, Porter (1985) as well did share a view of procurement potentiality as a source of competitive advantage. Monczka et al. (2009, 7) have emphasized the important role of purchasing as especially in the manufacturing sector these activities are defining over half of incurred expenses. According to them, it is therefore understandable why purchasing was earlier seen mainly as a tool for cost savings and its functional role in, for example, relationship building has become more central only later.

The changing role of procurement could be described as incremental change from the administrative function towards more value adding and strategic. However, the level of procurement involvement in decision making has commonly wide variance between the companies. Highly developed skill set among procurement professionals is one major factor in acquiring stronger management support. (Tassabehji & Moorhouse 2008, 61–62, 65.) A more strategic approach in the procurement is related, for example, to developing entire supplier markets to better suit company needs, procurement early involvement and cross-organizational cooperation (Iloranta & Pajunen-Muhonen 2018, 151).

Increasing amounts of cultural dimensions should be considered in teams, especially if the operating field is global. Own ethical norms and stances, experiencing fairness, shared values and attitudes towards power distance are some examples of the aspects influencing team's collaboration as well as functionality. They might also pose other challenges unless attention will be paid on the overall compatibility. (Walker & Lloyd-Walker 2015, 62.) However, different paths, priorities and side agendas are natural to exist internally, but the goal of delivering the project in question should remain the same for all (Walker & Lloyd-Walker 2015, 63). When it comes to the external fitness, more capabilities and softer skills are beneficial while moving from the traditional delivery forms towards alliancing in procurement (Walker & Lloyd-Walker 2015, 76).

It has been noted that the procurement related activities are among the first ones to be restricted and centralized in the maturing companies (Fleming 2016, 7). Nowadays the variety of responsibilities in the procurement function also appear being more versatile than ever before. Basically, the main outcome targets can be roughly summed up as

follows: getting the right quality and quantity for the right price in the right place, at the right time and from the right source. (Monczka 2009, 8.) According to Chick and Handfield (2015, 1) the common challenges within procurement are related mainly in managing talent and earning executive recognition in companies. On the other hand, challenges related to overall operating environment and external factors in the modern corporations are accelerated globalization, increased governmental regulation and complexity of extended supply chains.

2.2 Content and scope in procurement

Various acquirement activities may take place with varied scopes in the tactical and operational sectors. Regardless of the intended scope, in normal everyday life and spoken language these activities might even be seen and treated as interchangeable even though differences do exist. According to Weele, van (2018, 8) in Figure 3, the tactical and operational aspects are part of the main categorization in the spectrum of activities. For example, supply and buying are concepts laying more towards operational side of these activities, whereas sourcing appears being firmly on the tactical side. Clearly, the widest and most versatile role seems to be with procurement, which according to Weele, van (2018, 8–9) covers both tactical and operational aspects in full and encompassing the activities from the supplier all the way to the final customer. For this reason, according to Weele, van (2018, 9), total cost of ownership perspective is very relevant in terms of procurement as it centrally focuses on costs incurred during the whole lifecycle of the product instead of focusing solely on the sales price.

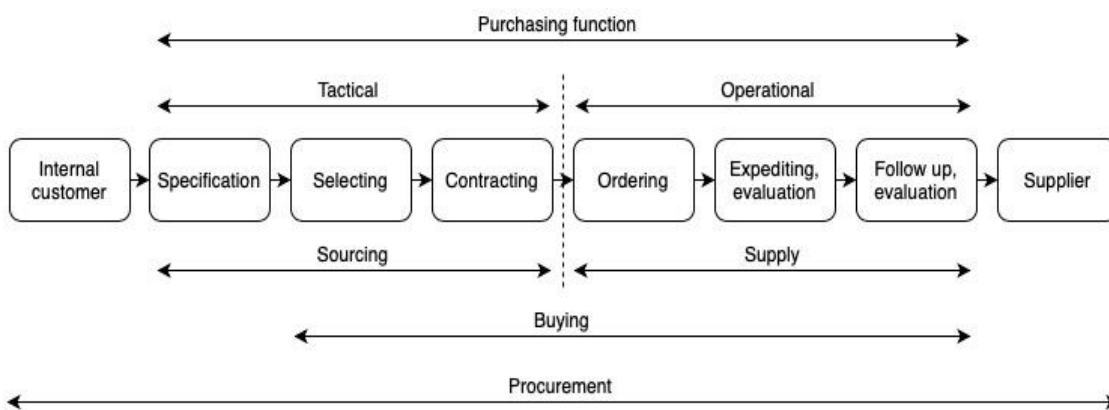


Figure 3 Linear Process Model for acquirement activities (Weele, van 2018, 8)

According to Chick and Handfield (2015, 15), the procurement should be seen being at the core of supply chain management, which is referring to managing entire chains with multiple layers of supply from end-to-end. The main focus for procurement is actually on the upstream part working with the suppliers. Moreover, a sound balance between different procurement activity levels is critical in ensuring the whole procurement entity working in the desired manner and enabling competitive advantage creation through the function. (Rozemeijer 2008, 206.)

Iloranta and Pajunen-Muhonen (2018, 49–50) have also discovered the problematics related to terminology and its mixed usage but describing procurement containing all the actions and steps required to get product from the supplier to its final destination. Hence, this perspective seems to be well in line with the linear process model from Weele, van (2018, 8). Supply chain management instead should be seen as managing the entire chain from the perspectives of information, knowledge, know-how and financial resources (Iloranta & Pajunen-Muhonen 2018, 51).

The various purchasing activities can simply be divided under three broad levels, which are strategic, operational, and tactical. The strategic activities are something influencing company's competitive position. On the tactical level activities such as defining, selecting, and contracting take place both internally as well as in cooperation with external stakeholders. The operational level instead includes activities related to expediting and purchasing. (Rozemeijer 2008, 205.) In addition to existence of the earlier listed three broad levels, Iloranta and Pajunen-Muhonen (2018, 59) have recognized five main categories for the procurement. Those are procurement for the needs of repetitive production, procurement for project-nature production, innovation procurement, indirect procurement, and procurement for traded goods.

According to Stattler and Grabel (2020, 190–191) there are certain characteristics related to world-class procurement organizations. Those naturally cover the cooperation with suppliers in terms of cost cutting and innovation. However, procurement department's capabilities in providing market insight, understanding business requirement drivers as well as capabilities in risk avoidance are also central.

2.3 Project procurement

When combining procurement and nature of project business, there are certain distinguishing factors. According to Fleming (2016, 3) projects, for instance, have both beginning and end, the extent is defined as well as limited and the entity is formed in cooperation with the internal and external resources. Dixit (2020, 1537) emphasizes the uncertainty, discontinuity, uniqueness from multiple perspectives as well as complexity due to the vast number of activities and stakeholders in project driven business compared to the more repetitive context of manufacturing business. Walker and Lloyd-Walker (2015, 52) have defined that the procurement choice can be either tame, messy, or wicked. According to them, clearly defined objectives with quantitative determinants most likely lead to relatively tame procurement choice, whereas choices with more qualitative objectives, for example, complying with EU directives might make the choice messier.

While working in the project environment, it is a common responsibility for the project managers to define unique process needs and after this proceed with a purchase requisition towards the procurement function (Fleming 2016, 9–10). Project procurement should be seen as a complex entity, management of which requires taking into consideration the nature of the external project environment and assessing the required resources based on this. Moreover, understanding and following stakeholder expectations and accomplishing task-related details are also required. (Walker & Lloyd-Walker 2015, 8.) Related to the project nature style of work, Dixit (2022, 1537) has stated that managing the procurement side will have a significant effect on project, for example, in terms of costs and schedule. This is due to the fact that procurement function is overlapping in many project phases, which has to be considered in sufficient sharing of information and supplier integration. Therefore, the project procurement could be seen as a social construct with an aim in obtaining relevant and required resources (Walker & Lloyd-Walker 2015, 2).

In their study of mining mega-projects, Brahm and Tarzijan (2015, 1852) discovered that there is typically a development phase in complex capital goods deliveries, which is then later followed by an implementation phase. In the development phase the focus is on broad level design for budgeting purposes with major choices related to evaluating and determining the design. In the implementation phase there is a more detailed specification, and project execution will start. This phase also lasts until the project is

completed. In addition, Araújo, de et al. (2017, 353) have stated supplier selection and evaluation being critical steps in project procurement process and essentially affecting the outcomes in general. Even though different projects have differing priorities and needs depending on the project characteristics, some key factors in supplier selection can be listed. For example, in capital projects among the highest valued factors are time, price or cost and logistical aspects such as storage, transport and delivery. (Araújo, de et al. 2017, 357–358.)

Even though there are some unique characteristics related to the project procurement, the general liabilities of procurement do apply there as well. However, if projects are fast paced, relatively short and unique in their nature, the similar planning and implementation in procurement might be inadequate for achieving good results. For example, due to little experience and insufficient market research there might be further consequences in form of compromised negotiation position towards the suppliers. Hence, the successful and professional procurement work input may have great impact in the overall success in project environment. (Iloranta & Pajunen-Muhonen 2018, 332–333.)

It is normal that projects might take place anywhere in the world and for this reason there might also be differences in local supplier markets on constant basis in addition to the varying project needs and requirements. Normally, there is a need for three consecutive procurement processes. Firstly, a preliminary investigation regarding potential suppliers and cost levels during preparing an offer, secondly a thorough procurement process after locking the project and thirdly multiple supplementary purchases during the project implementation. (Iloranta & Pajunen-Muhonen 2018, 60–61.)

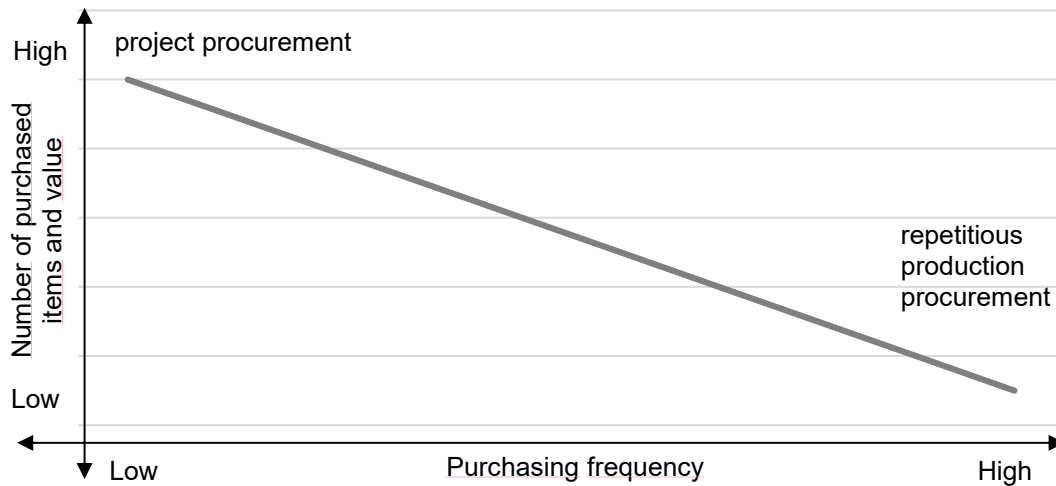


Figure 4 Relation between purchasing frequency and the number of purchased items and value (Tossavainen 2022, 18)

Tossavainen (2022, 18) has characterized the project procurement with high number of purchased items and value combined with low purchasing frequency as presented in Figure 4. Other special features related to the project procurement are for instance products manufactured to drawings, wide variety of items and difficulties in applying category purchasing or even bundling volumes. In addition, predictability is difficult, and needs vary significantly over times. (Gaggl 2022.)

Iron triangle or triple constraint is also a concept linked to project business. It consists of three variables, which are cost, schedule, and quality. These aspects are interrelated and therefore a change in one directly affects the two others. Consequently, two aspects can be simultaneously achieved but the third one needs to be compromised at least on some level. (Morris & Sember 2008, 65–67.)

3 Legislation and trade compliance

3.1 Value added tax – VAT

Value added tax is unique in nature, as it is directed on final consumption but collected in multiple stages based on the value added by each taxable business related to the supply. However, tax credit is paid for each party for its VAT paid on intermediate inputs. The VAT is not typically only one specific rate as especially in the European countries reduced tax rates apply to some commodities. (Morrow et al. 2022, 3.) When it comes to the collection method of this indirect tax form taking place in each stage of production process, the actual advantage is securing the revenue and still not affecting decisions related to production. (Bird & Gendron 2010, 10.)

Controversially, value added taxation has been experienced being harmful for economic development on some occasions due to its nature in encouraging informality of business and reducing governmental revenues. In terms of import, border controls are an efficient way in VAT enforcement and ensuring compliance, so the above-mentioned issues might be even more related to the domestic production. (Morrow et al. 2022, 1, 3.) It also must be noted that VAT is not only a single type of tax, but many different applications worldwide do exist under this main term. However, the EU model is a dominant one in those terms and widely followed globally. (Bird & Gendron 2010, 15.)

Mobility and intangible sources of income characterize profitable businesses in today's world. This should be seen as a challenge to tax legal framework, which is mainly relying on cross-border transactions. In many senses, there exists possibilities to exploit the current system by structuring the supply chains and carrying out aggressive tax planning. (Allevato 2019.) One way in evaluating the tax system is its effectiveness in resisting tax evasion. Kowal and Przekota (2021) have come across a phenomenon where the increase in basic VAT rate does not fully translate into effective rates. This appears to be a clear sign of consequential increasing unhealthy tax avoidance and also leading to unfair competition as the gap between compliance and non-compliance is enlarging. In addition, the greater number of VAT rates seems to create more complexity in the system and appears as a reduced VAT efficiency (Kowal & Przekota (2021, 13).

In European Union, the member states are not subject to border controls in the trade that is taking place inside EU. Instead, the reverse charge system does apply in business-to-

business environment meaning that purchaser is not paying VAT on imports in other member states and does not get input tax credit for the imports either. Instead, the import value is subject to tax in full when the goods are sold to the final customer or consumer. (Morrow et al. 2022, 10.) However, if a non-established party does voluntarily register for VAT purposes, the reverse-charge rule does not automatically apply, except in some certain more limited cases (EY Tax Guide 2022, 582). According to Ebrill et al. (2001, 49) the overall importance of imports is commonly significant in terms of VAT revenues as the largest part of the collected VAT is realized through imports, which therefore form crucial points in the production chain.

In terms of VAT, an essential point of view is destination principle, on which this form of indirect tax is relying. It guarantees the value added tax being charged on domestic consumption and with a rate in use according to jurisdiction in the actual destination where each sale is taking place. Basically, the destination principle is followed in such way that exports are not under review in terms of VAT but imports, on the contrary, are fully reviewed. This should be seen as an international norm that is being followed uniformly. (Ebrill et al. 2001, 176–177.) In accordance with the destination principle, a zero VAT rate should be applied for goods where they are being supplied (member state of dispatch) and a taxable event takes place only where the goods are delivered (member state of arrival). (EY Tax Guide 2022, 567.)

For the future, the interjurisdictional issues are likely to occur, for example, due to the globalization and economic integration as finding an optimal functional model does require compromises. (Ebrill et al. 2001, 178.) For example, the globalization has enabled flexible supply chains and production where it is most effective and allows minimizing total tax payments. Instead, fiscal domain in terms of tax policy has a national perspective and aspiration of protecting domestic society. In this sense, the focus is different making the matter challenging as certain interrelations exist. (Norrman & Henkow 2014, 759.) The usual critique is related to the complex nature of VAT, which is not only challenging from taxpayer's perspective but from the authorities' point of view as well. The gap is especially large between record-keeping capabilities in developing countries and requirements set by legislation. Some evident problems related to VAT are also various possibilities for fraud in refund system and relatively high compliance costs in particular for smaller companies. (Bird & Gendron 2010, 20, 51.)

It is necessary to record value added tax in a correct way since the beginning. If this has not been ensured, the accounting records might not be reliable. Many problems are usually related to the human workforce authorizing and administering payments. (SAIPA Tax Committee 2012, 18.) Conducting business usually requires informing details of trade to the local VAT authorities on regular basis even if the company is not liable for VAT registering. (EY Tax Guide 2022, 582.) For this reason, Intra-Community supplies and exports must be supported by acceptable proof such as customs documentation or consignment notes. Otherwise, there might be a risk for not qualifying. (EY Tax Guide 2022, 568, 591.)

3.1.1 VAT regulation in European Union

Value added tax is a consumption tax applicable to nearly all goods and services. Even though European Union has standard rules on VAT, they are being applied in various ways in each member state. For example, the VAT standard rate has a minimum of 15 percent and in reduced rates the minimum level is five percent. In addition, some special rates having their roots in the times before EU exist as well. (Your Europe 2022.) Since a single market in the EU was introduced in January 1993, the goods have been able to move freely in the member states. Also, terms import, and export are discarded in intra-EU trade and instead Intra-Community supplies and Intra-Community acquisitions are referred correspondingly while cross-border transportations are taking place solely in the EU territory. (EU Tax Guide 2022, 565.)

Overall, there exist four transaction types that are applied in accordance with European Union VAT regulation. The first one is when a taxable party is supplying goods for consideration within some member state territory. The second one is when an Intra-Community acquisition of goods for consideration is taking place in some member state. The third one is in question when a taxable party is supplying services for consideration within some member state territory. The fourth is simply when there is importation of goods within the EU territory. (EY Tax Guide 2022, 564.)

Intra-Community sale of goods or Intra-Community supply is a relevant concept in European Union from the VAT perspective and refers to a supply and transportation of goods inside EU territory from one member state to another. It does not matter whether the supply will be organized by the seller, buyer or some third party on their behalf. On the other hand, Intra-Community acquisition is referring to the purchase of goods under

those same limitations. (Tax Administration 2017a.) It is also necessary to understand that Intra-Community supply and Intra-Community acquisition cannot be separated from one another, but they will always go hand in hand. However, these arrangements cannot take place between private individuals or while having one as a participating party. (Janssen 2020, 1156.)

The main difference between the arrangements from the tax perspective is that Intra-Community supplies are taxable only in the destination, but Intra-Community acquisitions are taxable in both member state ends participating in the arrangements. However, the acquirer might be entitled to deducting the input VAT resulting in zero VAT total. (EY Tax Guide 2022, 567–568.) According to Janssen (2020, 1156) the requirement for Intra-Community acquisition of goods is that the right to dispose has been transferred to whom is the acquiring party. Moreover, the goods need to have been physically transported or dispatched from one EU member state to another so that cross-border transportation has taken place and evidence of this can be provided.

The VAT will not be subject in cases where the transfer of goods will take place in a single legal business entity as long as also the member state remains the same. This is relevant especially in bigger companies and corporations having multiple established locations and for those making so called branch transfers. If cross-border movements will take place, these must be treated as Intra-Community supplies or Intra-Community acquisitions. (EY Tax Guide 2022, 568.) A common rule is as well that the VAT incurred from the purchases can be deducted if the goods will later be taxed in one's own further transactions related to those goods in question. However, a direct link between input and output should be apparent. (EY Tax Guide 2022, 575.)

In the case of export to a country outside EU, the VAT is not charged. Instead, the VAT is charged in the country of import, but this is not usually requiring any VAT declaration from the exporter's side. However, it is necessary to preserve some documentation as a proof of exporting. Without evidence, the right to the VAT reimbursement from earlier transactions related to the export in question, may be lost. (Your Europe 2022.) The required documentation might include tax invoices, proof of import or export in form of customs documents and reasoning for applying zero-rate (SAIPA Tax Committee 2012, 18). It is also necessary that the dispatch or transport is arranged by the vendor, some

party on behalf of the vendor or the customer who is not established in the goods departure country to have the right for applying zero-rate for the export. (Wolf 2012, 34).

Some of the latest reformation in EU value added tax took place from July 2021 as from that on all the commercial goods imported to EU have been subject to VAT regardless of their value. Earlier the low-value imports were not VAT liable. (EY Tax Guide 2022, 566, 584.) As part of the harmonization efforts, Quick Fixes for intra-Community trade in goods was applied from January 2020 onwards. There it was outlined that when the goods are supplied multiple times, a zero-rate can only take place once in this chain of transactions whereas all the other transactions must be treated as local sales of goods from the VAT perspective either in the departure or arrival country in the EU territory. A requirement for realization of this arrangement is that the goods are transported or dispatched within EU territory so that cross-border chain transactions take place. Also, the party applying the zero-rate has to be an intermediary operator. (EY Tax Guide 2022, 570–571.) Janssen (2020, 1158) emphasizes the idea of Quick Fixes being that the exempt Intra-Community supply is designed to be the one made by the intermediary party in the chain of transactions. According to her, the earlier supplies in the chain including the Intra-Community supply itself are VAT liable in the departure country whereas the following ones in the destination country.

3.1.2 VAT regulation in Finland

A general rule for collecting tax is that the business should take place in the territory under the laws of which the collection is taking place. In Finland it has been determined that supply of goods and services, import of goods and Intra-Community acquisitions are tax liable while taking place in Finland. Therefore, unless the reverse charge mechanism is taking place, the seller must pay VAT in Finland for all sales in Finnish territory. (Tax Administration 2017b.) A distinctive feature in Finland is Ahvenanmaa province, which is not included in normal value-added taxation, but is still part of Finland and European Union customs territory (EY Tax Guide 2022, 580).

In Finland, a basic VAT rate is 24 percent for services related to restaurant and catering services, for food and animal feed the rate is 14 percent. The lowest rate of 10 percent is applicable for passenger transport, hotel accommodation and sale of books for instance. (Tax Administration 2017a.) On some special occasions, tax reliefs are used as a means of support from state. This seems to have been the case with originally 24 percent VAT

rate reduced to 10 percent on electricity between December 2022 and April 2023 as well as complete VAT exempt instead of normal 10 percent rate in passenger transportation for the whole year 2023 (Tax Administration 2022).

Foreign businesses may have a right to have their VAT included in the refunded purchases under certain conditions. In these cases, the entity in question cannot have a business-related fixed establishment for VAT purposes in Finland. Same applies if in supply the reverse charge is applied, state of Finland is the only purchaser, or it is concerning sale of transportation services and ancillary services related to them that are designated tax-free. (Tax Administration 2017a.) The threshold for VAT registration requirement in Finland is 15,000 Euros in sales for established businesses or those businesses having otherwise a fixed establishment in Finland. However, businesses with a turnover between 15,000 and 30,000 Euros will be entitled to a gradual tax relief. (EY Tax Guide 2022, 580.)

Due to European Union membership, the export of goods from Finland to outside EU is free of VAT. However, this requires that either the seller or some external transport company will organize the transportation, and the goods must be delivered directly outside EU territory. VAT exemption might take place also if the purchaser is organizing the transportation of goods, but this requires business foreignism and missing VAT registration in Finland from the purchaser side. Also, when the seller is not established in purchaser's country and does not have registered for VAT purposes in the country in question, the reverse charge system applies. In practice, if a Finnish company is the seller and the supply is taking place in some other country in the EU territory where this company does not have fixed establishment nor VAT registration, the purchaser must take care of the VAT fulfilment in its country of residence on behalf of the Finnish company. (Tax Administration 2017b.)

3.2 Incoterms®

Incoterms®, or International Commercial Terms, are a uniform way of defining the responsibilities and risks related to the cargo movements with a target in creating convenience and unified vision. In practice, these three-letter abbreviations are unequivocally determining which party will organize and pay for which stage of transport or preparatory work and when the risks are being passed in the buyer-seller relationship. (Davis & Vogt 2021, 2.) Moreover, they may address liabilities related to documentation,

storage, packaging, inspections, insurance as well as duties and dues. Incoterms® could therefore be described as a bridge between logistics and trade. (Stojanovic & Ivetic 2020, 217.)

Incoterms® were released already in 1936 and since that there have been multiple updates to meet the evolving trade procedures with the latest version currently being Incoterms® 2020. It is necessary to recognize that Incoterms® are applicable only in the buyer-seller relationship, and responsibilities towards any involved third parties should be agreed separately. (Iloranta & Pajunen-Muhonen 2015, 402–403.) It should also be noted that Incoterms® do not regulate all the obligations in the trade agreement but are only a part of the trade agreement (Iloranta & Pajunen-Muhonen 2015, 404–405).

The usage of Incoterms® in trade is not obligatory but instead an optional solution in agreeing on certain responsibilities in case chosen to be applied by the contractual parties (Hajdukiewicz & Pera 2021, 36). Railas (2020, 36) has listed the priority order for commercial law rules. On highest level is the mandatory legislation followed by trade contract with Incoterms® ruling included. Also, trade practices must be considered, but only following the two earlier listed. Incoterms® choice is influenced by both external and internal factors. Legal regulation and geographical distance are the most determining external factors. On the other hand, the costs related to transportation and warehousing are the most decisive internal factors. (Hajdukiewicz & Pera 2021, 48.)

Davis and Vogt (2021, 3) have emphasized the most determining phase being already the stage of concluding the sales contract. Hence, in the very beginning of the process many contractual matters are agreed on, which is limiting the options and freedom of action further in the process. Incorrect usage of Incoterms® might predispose organizations to operational, financial, or legal risks, which may materialize in additional costs or inoperable contracts for instance. In addition to these aspects, while properly utilized, Incoterms® might work as a strategic tool in reducing delays, costs, and risks in the supply chains. (Davis & Vogt 2021, 1.) According to Hajdukiewicz and Pera (2021, 35), this potential competitive advantage from using Incoterms® as a strategic tool is still widely underestimated.

Table 1 Incoterms® 2020 (Davis & Vogt 2020, 2–3)

Rule	Description	Handoff location	Transport mode
EXW	Ex Works	Seller's premises	All
FCA	Free Carrier	Domestic to seller	All
CPT	Carriage Paid To	Point between parties	All
CIP	Carriage and insurance paid	Point between parties	All
DAP	Delivered at place	Domestic to buyer	All
DPU	Delivered at place, Unloaded	Domestic to buyer	All
DDP	Delivered Duty Paid	Domestic to buyer	All
FAS	Free Alongside Ship	Quayside for export	Water
FOB	Free on Board	Loaded on board	Water
CFR	Cost and Freight	Between parties	Water
CIF	Cost, Insurance and Freight	Between parties	Water

In Table 1 the descriptions for Incoterms® 2020 are introduced, which is already indicating some aspects related to responsibilities and transport mode in question. Handoff location here is referring to the point where physical goods are being handed over to the business partner. Railas (2020, 155) is clarifying that transport contract has to be concluded by the purchaser in case of EXW, FCA, FAS and FOB. While with CPT, CIP, CFR, CIF, DAP, DPU and DDP this is to be concluded by the seller. Among central aspects not highlighted nor specified in Table 1 are insurance needs regarding C-class terms. CIP and CIF terms are also determining the division of responsibilities related to the cargo insurance but as this has no direct effect from the value added tax treatment point of view, the main focus is not in this area. (Davis & Vogt 2022, 1274.)

From the VAT perspective, a necessary consideration is that Incoterms® choice also affects which party can and will be the importer in cross-border transactions and therefore responsible for carrying the VAT (Rees 2004, 48). As it has been addressed, the obligations for the seller are the lowest with EXW term where seller is only making the cargo available in their premises for the buyer. However, the obligations are increasing gradually with F and C rules that are also so-called shipment contracts and progressing all the way to D clauses that are called arrival contracts. (Stojanovic & Ivetic 2020, 218–219.)

In their study, Davis and Vogt (2021, 6) came across the phenomenon that the main selector for the utilized Incoterms® remains typically with the procurement or logistics function. However, the sales function choosing the appropriate Incoterms® is not uncommon approach either. Among majority of respondents there appeared being only one or at the most two Incoterms® options in standardized usage. A significant 40 percent share of the respondents was also believing that the Incoterms® were regularly used in an inappropriate way.

EXW is standing out from the listing in the most unfavourable way in terms of export compliance as it leaves the seller completely unaware of the cargo movements. This might even lead the goods to be transported to restricted destinations while still leaving the seller side an involved entity. The challenge becomes valid as EXW does not require supply export documentation from the seller's side. Thus, EXW is an inappropriate delivery term in international trade and should be used only in domestic trade. Moreover, it's suitability in usage regarding heavy cargo should also be questioned due to the potential need for special lifting equipment from the purchaser's side. (Davis & Vogt 2021, 7, 12.)

According to Stojanovic and Ivetic (2020, 225) at least some of the popularity among EXW and FCA terms may be related to their relative simplicity instead of the actual competitiveness. In case one business partner is large and having higher bargaining power towards the other, it might be tempting to take advantage over this power in determining favourable Incoterms® clauses. This could partially explain the popularity of EXW term in export transactions and DAP term in import transactions as applying these terms are minimizing effort, risks, and obligations. (Hajdukiewicz & Pera 2021, 43, 48.)

Contrary to EXW, a relevant aspect is that DAP, DPU and DDP apply specifically to international trade. However, it must be considered that the seller side will be able to carry all its responsibilities for fulfilling the contractual obligations in these cases. For example, in the USA only domestic parties are permitted to handle customs clearances. (Davis & Vogt 2021, 9, 11.) The same issue applies for parties without a fixed establishment in EU. Liability for export clearance is related to EXW term but it is not possible to enforce without local forwarder there. (Railas 2020, 225.) Some common mismatch scenarios are also related to the usage of water-only rules FAS, FOB, CFR, and CIF for other transport modes, which is creating issues for example in terms of risk transfer undoubtedly related to operating with the ship (Davis & Vogt 2021, 8). It must be noted that those clauses

should not be used in containerized multimodal transportation either even though waterborne transportation of goods would be partially applied (Hajdukiewicz & Pera 2021, 40).

Rees (2004, 48) encourages to consider landed costs, which are based on true realized costs including, for example, customs duties and freight costs as well. One aspect to be observed is whether the VAT will be recoverable or should be considered as an expense too. Even financial risks may exist if tax professionals are not involved in Incoterms® decisions and failures are at least likely to realize as missed opportunities. (Rees 2004, 48.)

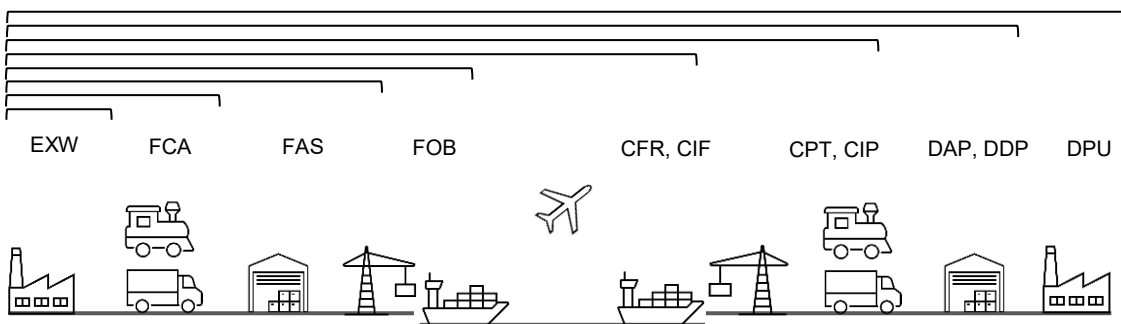


Figure 5 The scope of seller's cost obligations (Stojanovic & Ivetic 2020, 219)

In Figure 6 the obligations from the seller side are visualized. However, the review is conducted only from a cost perspective. In terms of risk as well as import and export formalities the responsibilities may differ on some occasions. As Stojanovic and Ivetic (2020, 219) have in their original illustration presented, the Figure 6 shows the handoff location for the goods from the seller to the buyer. Further, the ports on both sides of the sea are here representing the soil of different states, which should be considered as a relevant aspect for the examination.

In the supply chain there might be a situation where the same goods are sold multiple times and the goods may end up to some other party than the actual buyer. If the same Incoterms® are being utilized repeatedly, the effect is straightforward and uniform between all business parties. There might be some complications related to the costs if various Incoterms® are applied in the chain and in some cases the existence might be even inevitable. (Railas 2020, 413–414.) Other relevant aspect is that in terms of time and

geographical location, the latter delivery must naturally follow the first one as earlier time or location cannot be achieved. Moreover, the seller's obligations defined by the Incoterms® choice have to be at least on the same level in the following deliveries as they have been with the first delivery. (Railas 2020, 417–418.)

4 Project procurement logistics

4.1 Drop shipments

In cross-border trade, chains of transactions where the same goods are supplied multiple consecutive times is an increasingly common practice (Janssen 2020, 1157). This practice also has a close relation with global value chains, that are consisting of multiple value-adding stages taking place in different countries. This approach is heavily relying on specialization and began to rise substantially from the 1990s onwards. (The World Bank Group 2020.) While the search for growth from the new markets has accelerated, also supply chains have become more complex. Partially changes in the product specifications in terms of more customizable selections and more specific logistical requirements compared to earlier have affected the overall situation as well. (Chick & Handfield 2015, 28–29.)

Drop shipment refers to a solution where the goods are delivered to the end customer directly from the manufacturer. The process is triggered after the customer has placed an order, which consequently leads to this order-winning party to placing an order to the third-party or manufacturer. The benefits in this kind of solution are essentially savings in warehousing and inventory costs. Although the idea of this triangular operating model may seem clear, it can be problematic from the sales and tax points of view. (Wethekam, & Schiller 2015, 28.) Also, Wolf (2012, 34) is addressing VAT complications related to chain of transactions in the triangulation. These facts and findings should not be ignored as taxation has become more central aspect and for multinational companies a tax effective supply chain us seen as a beneficial objective (Kim et al. 2018, 97).

Another common way of calling this kind of operation model with triangular structure is supply chain sale or supply chain transaction. While taking place in EU territory, the only actual supply with transport should then be considered as an Intra-Community supply from the seller's perspective. Therefore, it is also issued with 0 % VAT. Normally this operation requires the intermediary having VAT registration in the destination country, where the local VAT will also be charged from the end customer. Some exemptions may

take place if simplification scheme or reverse charge mechanism will be applicable. (European VAT desk.)

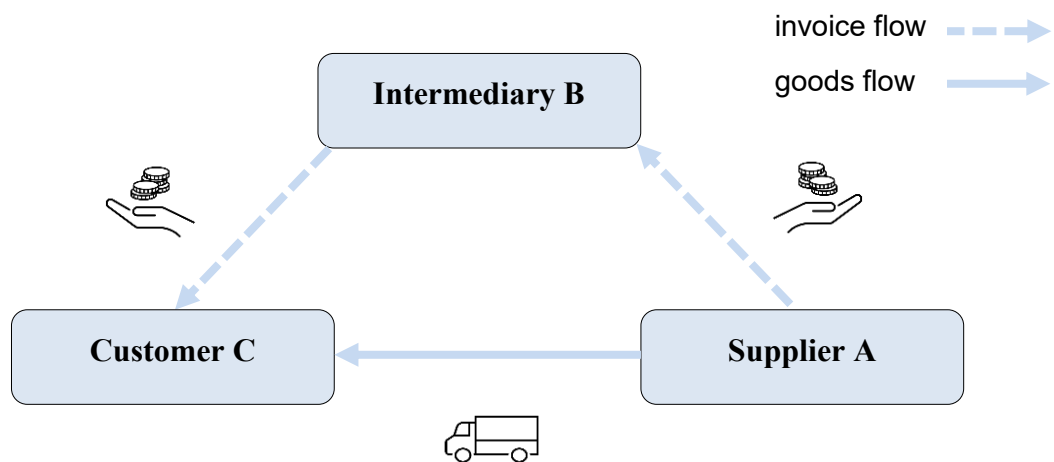


Figure 6 Triangular operating model

In Figure 7 there is a simple illustration of the triangular operating model where the goods flow is very straightforward. From contractual and invoicing perspective there is an additional party in the chain of transactions. According to Janssen (2020, 1157) these kind of trade arrangements where there exist multiple goods supplies in the chain from VAT perspective, but only one physical transportation of goods, have become more common in international trade.

According to Wolf (2012, 34) from VAT perspective all the parties in the chain are constituting to the supply, which should be considered as relevant even though the goods are not following this order. This approach is based on each link becoming the owner of the goods and receiving the right to dispose at some point. However, from VAT perspective only one transport must be linked to the supply. This has been justified, for example, with the objective to transfer tax revenue where the final consumption is taking place, which could in practice happen with only one supply.

In EU legislation the problematics related to the triangular operating model have been noted and further harmonization has been an objective from January 2020 onwards with so-called Quick Fixes for Intra-Community supplies of goods. An introduced triangular simplification takes place when there are three parties with the VAT registering in different member states and the arrangements have been agreed and organized between A and B parties in this ABC transaction illustrated in Figure 7. In normal cases B will

have to make an Intra-Community acquisition in C's country, but if the simplification rules can and will be applied, the VAT responsibility is directed to C and in this case, B will not have to register for VAT purposes in this member state in question. The usage of the simplification rule must be indicated in the invoices and may also be informed to local VAT authorities depending on the member state. (EY Tax Guide 2022, 570–571.) However, it has to be noted that the simplification rule can only be used when the supplier will arrange the transportation to the country of the customer and only after they transfer the disposal power to the intermediate who will then sell the goods to the customer (Wolf 2012, 38).

According to Article 31 in the VAT Directive, in a situation where the goods are not actually transported nor dispatched, the location should also be held as constant in where the supply is taking place. If the goods on the other hand are transported or dispatched by the supplier, the location of supply taking place is the country where these activities have begun. After these aspects have been considered, the appropriate VAT treatment is dependent also on the final destination of goods. (Wolf 2012, 34.)

Based on the review conducted by Wolf (2012, 36) there exist two different approaches within EU territory while dealing with the triangular operating model. The first one is having an Intra-Community supply in the destination country, which is then followed by the domestic supply in the same country. Second option is having the domestic supply in the departure country, which is then followed by the Intra-Community supply in the final destination. Either way, this operating model should be considered as a combination of Intra-Community supply and domestic sale from the VAT perspective, with the order depending on at which end is the power to dispose transferred between the supplier and intermediate. (Wolf 2012, 36–37.) Also, Janssen (2020, 1157) has tried to clarify these operating models by stating that the supplies taking place before the exempt Intra-Community supply are VAT liable in the departure country, whereas supplies subsequent from the Intra-Community supply are VAT liable in the destination country.

The biggest countries in terms of Intra-Community supply of goods in 2021 were Germany, the Netherlands, Belgium, France, and Italy. Concentration is strong in the EU, which is highly visible in only nine biggest members accounting 81 percent of the total Intra-European supplies of goods in 2020. The evolution in recent years has been relatively sharp as monthly seasonally adjusted Intra-Community supply of goods did

increase from 121 billion euros to 314 billion euros between January 2002 and December 2021. (Eurostat 2022.)

4.2 Tax-aligned supply chains

In addition to direct savings in production costs, also tax reduction might speak in favour of offshoring or outsourcing, and even in this respect competition exists between countries. Taking advantage of the opportunity might take place in locating the production facilities to a low-tax country and further allocating the profits to those countries with transfer pricing. (Kim et al. 2018, 88–89.) Nowadays, in many modern companies outsourcing ratio can be something between 70 and 80 percent, and on some occasions even higher. This certainly requires strong management capabilities from procurement and taken actions might have a considerable effect on bottom line performance. (Chick & Handfield 2015, 25.)

According to Chen et al. (2017, 390) the strategies related to tax havens are among valid operating models targeting in tax rate reductions. However, they also emphasize the challenges related to combining the optimal supply chain structure and corporate structure effectiveness in terms of taxation. The best outcomes in these kinds of approaches are reached when both the suppliers and the customers are having subsidiaries in tax havens and when the companies are operating from high marginal tax locations (Chen et al. 2017, 379).

Creating a tax-aligned supply chain is consisting of two separate initiatives. The first one is related to having efficient supply chain operations, stable cash flow and comprehensive asset utilization. These objectives are affecting pre-tax cost reductions and improving net income. Another core initiative is efficient tax planning as independent from the supply chain activities to maximize after-tax returns from the earlier listed arrangements. Together these two initiatives are creating the desired tax-aligned supply chains. (Irving et al. 2005, 57–58.)

Banker (2009, 44) has recognized that it is typical for a multinational corporation to operate around the globe and then allocate revenues for tax efficient purposes, which usually affects deferred revenues increasingly. Also, Irving et al. (2005, 58) have identified the tax-aligned supply chain being especially attractive option for companies operating in several countries or going through significant changes that might lead to

opportunities of relocating their facilities and operations. Taking advantage over the international tax architecture may even require relatively little effort from the multinational companies, especially if pricing between affiliates can be easily matched with general industry level (The World Bank Group 2020, 92).

Bronsky (2006, 18, 20) emphasizes the validity of applying tax efficient supply chain management as a consecutive step in competition after other possible cost lowering operations have been adapted and optimal supply chain efficiency otherwise reached. Comparing just the unit prices is rather short sighted and instead considering the tax perspective as well may lead to higher-quality decision making support (Gattorna 2009, 337).

Procurement should be seen as a key area in integrating supply chains and tax programs. One opportunity is having the procurement function as a separate unit in some low-tax jurisdiction and then charging the other corporate entities for their services. This way the incomes passing through the procurement unit are subject to lower tax rate than other functions possibly located in high-tax jurisdictions. (Irving et al. 2005, 59.) Bronsky (2006, 19) emphasizes that aligning all the company supply chain functions with tax objectives will not be necessary as exploiting this kind of operating model with some key functionalities should already enhance profitability.

Centralized procurement can also be well-aligned with tax planning in terms of physical goods flows in the supply chain. This might take place, for example, through indirect taxation or value added taxes more specifically. However, planning might be more challenging as it requires full visibility on the supply chains as well as capabilities in both capturing and conveying information along the way. (Irving et al. 2005, 59–60.) When it comes to indirect taxes such as VAT, tax registrations in different countries may have cash flow effects. Savings resulting from the improved efficiency are usually financial benefits that will be realized already in short-term. (Gattorna 2009, 343–344.) According to Rees (2004, 48), an average transaction tax rate is internationally 15 percent, which is indeed a significant share from the bottom-line result.

Among the challenging aspects in creating the tax-aligned supply chains appears to be the confrontation of logisticians and legal or fiscal experts. In many cases both previously mentioned professionals are having own communities separate from each other with shared attitudes, values, and objectives. Moreover, this is combined with a knowledge

gap between the domains. In general, innovation is a valued trait in logistics, which is typically taking place in form of creative solutions such as drop shipments. The reason is mainly the need to create competitive advantage by focusing on processes and flows as well as taking advantage over synergies. On the contrary, legal professionals tend to value certain level of conservatism to support foreseeability, legal certainty, and equality. (Norrman & Henkow 2014.) According to Norrman and Henkow (2014, 759–760) the potential solution might be related to affecting both action-oriented system and belief system. This could take place by redesigning logistics structures and processes aligned with the principles of both logistical and legal or fiscal domains as they are highly interrelated functions in international trade. Also, joint policies and guidelines need to be considered to avoid additional costs, legal risk realization and unnecessary flows (Norrman & Henkow 2014, 760).

Global value chains have challenged the international tax system as the place where value is created might be difficult to identify due to significantly fragmented production. The vast intrafirm trade taking place has recognisably enhanced the opportunities for tax avoidance and various ways of manipulation. A problematic aspect from the international tax point of view is that these practices may be questionable but potentially not illegal. The situation is not promoted by the tax competition between countries, which is evident in corporate income tax decrease to half since 1990. In addition, locational shifts followed by changes in tax policy appears to be greatly facilitated in modern trade. (The World Bank Group 2020, 92–93.)

4.3 Theoretical framework

This thesis theoretical framework is consisting of three separate theoretical chapters. The first one is focusing on procurement especially in project nature context. The second chapter is reviewing value added tax as a concept as well as introducing VAT legislation specifically in the European Union, which has been identified as a relevant operating environment in Metso Outotec Finland Oy's business from VAT perspective. Also, Incoterms® ruling is introduced due to its relevancy from contractual perspective. The third chapter is moving towards combining the earlier defined concepts as they are crucially affecting drop shipments, which are concrete logistical processes actuated by project procurement when fulfilling their obligations. Moreover, the concept of tax-

aligned supply chains is introduced as it appears to be an ultimate state-of-art structure in combining taxation and supply chain management in a favourable way.

Chapter 2.1 is describing development in procurement function during the last decades. Over the years the major change from mainly administrative towards more strategic input and more visible role is apparent. Porter (1985) has in his well-known value chain model considered procurement as a support activity, which was the key starting point for procurement as a corporate function. However, followed by increase in outsourcing activities due to globalization and intensified competition, there has been a need to involve and resource procurement function in a more comprehensive way than earlier. (Dong et al. 2018, 1751–1752.) Hence, procurement is truly a central value contributor both internally and externally in many modern organizations (Iloranta & Pajunen-Muhonen 2018, 14).

Chapter 2.2 is focusing on the content and scope of procurement activities. Multiple levels and varying terminology can be identified from there and especially the ideas of Weele, van (2018) are utilized in this reviewing. In chapter 2.3 the focus is on project procurement specifically. According to Dixit (2020, 1537) the characteristics cover, for example, complexity, uncertainty, and discontinuity. Iloranta and Pajunen-Muhonen (2018, 60) have also emphasized the challenge of working in a hurry and in a tricky negotiation position for purchaser being related to the project procurement.

Chapter 3.1 is focusing on European Union value added tax and its applications in cross-border trade. It is essential as this particular VAT approach is the dominant model and followed widely also outside EU (Bird & Gendron 2010, 15). An important source of information for this chapter has been EY Tax Guide (2022) for EU level and Tax Administration (2017a; 2017b) for Finland specifically. Moreover, Incoterms® is a topic for chapter 3.2 due to their uniform applicability in defining responsibilities in the buyer-seller relationship. Here the main source for information is the research conducted by Davis and Vogt (2021).

Drop shipments are the main topic in chapter 4.1. They are referring to an arrangement where the goods are delivered to the end customer directly from the manufacturer even though there are not any contractual liabilities between these two parties. Instead, there is an intermediate in contractual relationship with both earlier mentioned parties and thus orchestrating the entire process. (Wethekam, & Schiller 2015, 28.) Relevant observations

from Wolf (2012, 34) are that each of these parties will act as the owner of goods at some point in the chain, but from the VAT perspective there is only one physical goods transportation to be linked to the supply.

Chapter 4.2 is introducing tax-aligned supply chain, the state-of-art solution combining the earlier discussed topics. Here the research conducted by Irving et al. (2005) is discovered as relevant. In ensuring the favourable outcome, efficient supply chain operations for creating pre-tax cost reductions should be combined with efficient tax planning for maximizing the after-tax returns (Irving et al. 2005, 57–58).

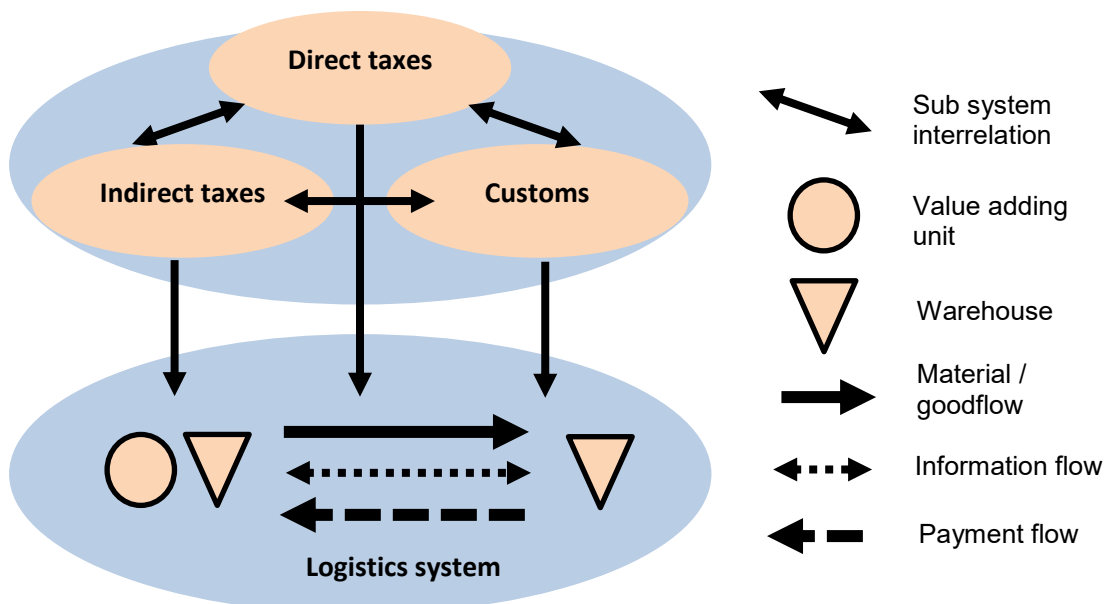


Figure 7 Combined framework for logistics and fiscal mapping (Henkow & Norrman 2015, 882)

Figure 8 presents a visual model by Henkow and Norrman (2015). They have conducted research on combining logistics and fiscal systems, which is relevant also for this thesis. In their study, the fiscal system is separated into three subsystems: direct taxes, indirect taxes, and customs. In the logistics system there are flows related to materials or goods, information, and payment. The main objective for this function is to guarantee these cross-functional flows being organized in an efficient and effective way. (Henkow & Norrman 2015, 881.)

When it comes to taxes, the direct taxes are referring to the corporate income taxation that is based on widely common OECD model tax convention. In addition, the framework is

including the indirect taxes in form of value-added taxation and sales taxes. VAT system here is relying on VAT treatment in the European Union as the same basic principles have been applied in the world at large. The third aspect in the fiscal system is a customs subsystem, which is relevant while conducting imports and exports outside EU customs union. Usually, customs reporting obligations and VAT applicability are going hand in hand. (Henkow & Norrman 2015, 882–883.)

Forming an appropriate framework and research questions should take place in the early beginning of research. Framework can be presented either in narrative or graphical form and it should introduce the key variables, construct factors as well as relationships amongst them. As this phase is guiding the process, it should be seen crucial to have the research questions as well defined as possible. (Voss et al. 2002, 199.)

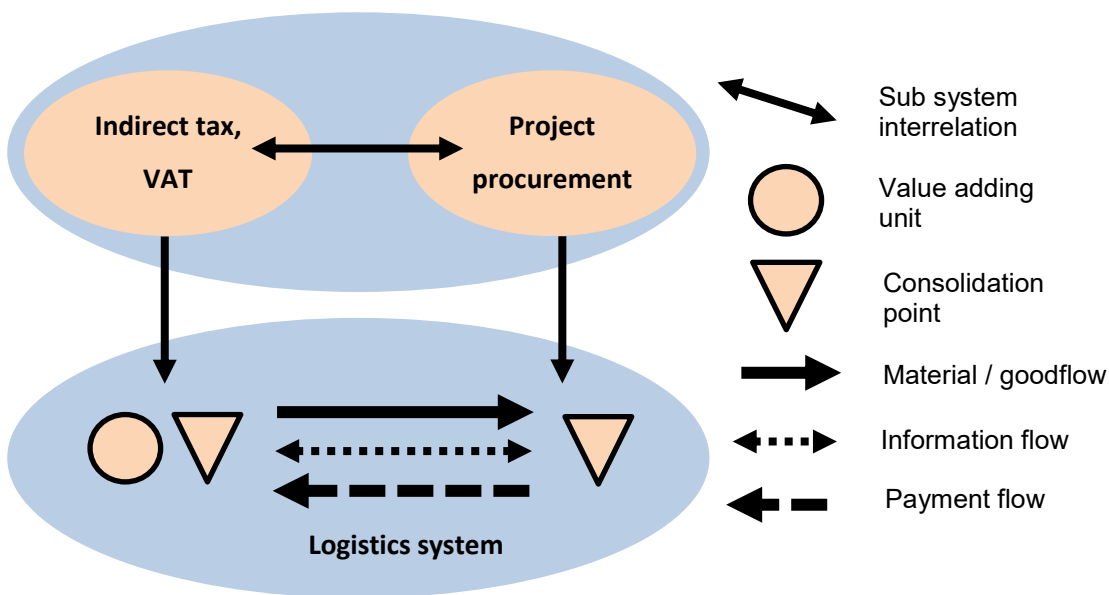


Figure 8 Combined framework for VAT, procurement and logistics

In Figure 9 the framework for the thesis is introduced. Based on the earlier observations and relevant aspects from the existing literature, combining value added taxation, project procurement and logistics system in the Metso Outotec Finland Oy's natural operating environment should be seen as desirable and beneficial approach.

There are requirements but also restrictions from the perspective of each of the functions that need to be considered and combined for efficient and valid operating. For example,

as procurement is linking internal and external parties and therefore spanning those boundaries, it must notify business requirements from both perspectives in finding the prospective solution (Roberta Pereira et al. 2014, 627–628). Value-added taxation instead is not based on any voluntary actions but is strictly determined by legislation as is discussed in chapter 3.1. From logistics perspective the efficient goods flows should be seen as a relevant objective, but they are also depending on procurement negotiating efforts as well as VAT legislation including current company VAT registrations worldwide.

5 Methodology

5.1 Case company

Mining industry and mined materials are having an important role in building societies especially in the emerging and developed nations. In the future, the demand for them is only about to increase due to population growth, increased physical standards and interest towards mining of seabed for instance. (Hodge et al. 2022, 588, 593.) The cultural environment for mining industry is characterized as heterogenous and complex (Hodge et al. 2022, 601).

Mining should be seen as an industry based on projects. However, a special feature for these project lifecycles is the length, which can vary from a few years up to centuries and even decades. The projects typically consist of multiple phases starting from exploration and discovery for possible sites. From there on, investigating, estimating, and designing site follows. Also, reviews as well as approvals from regulatory authorities are required. Later, the operation phase can start and eventually lead to closure and post-closure phases. (Hodge et al. 2022, 589.) On the other hand, obtaining metals and minerals create a product life cycle beginning with exploration leading to identification of reserves which are then transformed into concentrates. After these steps some further processing takes place and eventually final products are created. (Hodge et al. 2022, 590.)

According to Adams et al. (2019, 1–2) there are several challenges in the mining industry. Long cycles in both constructing the mine and remaining productive are complicating the investment decisions. In addition, demand for mined commodities and their prices is highly volatile. Moreover, mining operations in general are unsustainable and having a negative environmental impact. Also, the geographical specificity must be taken into consideration as the sites cannot be relocated if some social or political risk realizes.

Hodge et al. (2002, 594) have estimated that currently there exists around 25,000 mining companies which are operating in 140 countries. Only about 14 percent of those are identified as major companies, the actions of whom greatly exceed the share of them in quantity. Due to the global operations, cultural norms, and rules in both legal base as well as in regions and countries where the operations take place needs to be considered. Usually, the role of different governments has been relevant from legislative, regulatory, political, and strategical points of view. (Hodge et al. 596–597.)

Some uniqueness is also related to the site locations for mining as the operations are taking place in extreme locations surrounded by wilderness. Some common critique towards the industry is related to environmental harm and accidents in those previously described less controlled conditions. (Hodge et al. 2022, 599.) Mining companies are interrelated with the most vulnerable and poor communities, but leading companies are also committed in supporting these communities as the industry is well resourced (Kemp 2010, 11).

Mining companies are in the core of the global mining community. However, the overall ecosystem is both interdependent and intertwined. Those having additional interests and driving overall performance are, for example, equipment and service providers. (Hodge et al. 2022, 588.) In this field, Metso Outotec Finland Oy has an important global role. The spread of purchasing volumes for implementing this role are assessed in a representative example in Figure 10. The purchasing volumes from Finland, China and central Europe are important as depicted in the form of larger spheres.



Figure 9 Representative example of Metso Outotec Finland Oy's purchasing volumes global spread in the beginning of 2020s

The merger of Metso Minerals and Outotec, which was completed in 2020, led to the formation of one of the leading global technology suppliers serving companies in minerals processing. The reasoning of merger was justified mainly by synergies and complementary advantages of those two companies. (Industry Newswatch 2019, 10.)

In Metso Outotec Finland Oy's project nature business, the procurement is essentially part of the implementation phase in the process as illustrated in Figure 5. It is also necessary to understand that the implementation process is starting only after the sales phase, which has not been included in the figure. In a bigger picture procurement is a single operational phase taking place after engineering. Later, it is followed by manufacturing, logistics, installation, and commissioning. In project procurement balancing between costs, schedule, quality, and technical fitness is typical and the first mentioned is not the dominant factor. (Gaggl 2022.)

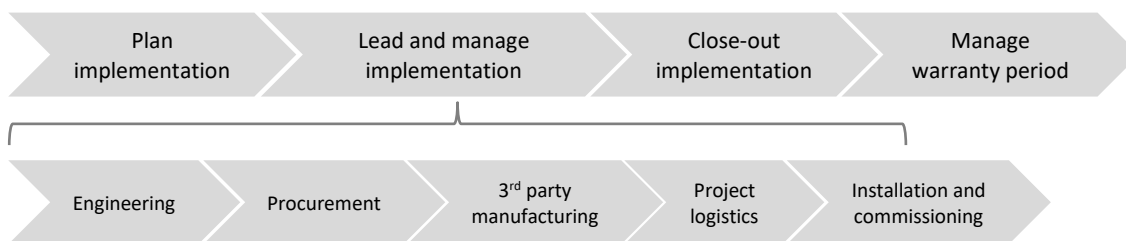


Figure 10 Process overview of proprietary equipment delivery at Metso Outotec (Gaggl 2022)

Through this positioning illustrated in Figure 5, the procurement can be seen having a truly cross-functional role. This is taking place mainly through actively managing focal company's supply base through purchasing activities and contractual aspects depending on the various needs and requirements from the company. These management purposes are contributing to costs, risks, responsiveness and even innovation in the company and therefore affecting the company's overall competitiveness. Naturally, the situation is also depending on chosen strategies and the level of relationship between suppliers and the company. (Choi & Krause 2006.)

Changes at the organizational level along the years have also caused differences in the operational level. While interviewing company representatives from procurement function, it turned out that determining VAT treatment in form of applied tax codes for Metso Outotec Finland Oy was earlier the responsibility of the invoice processing

personnel. Before the merger, the VAT treatment was only adjusted after receiving the invoice from purchased goods and services based on information in the invoice provided by the suppliers. However, after the company merger this responsibility for more comprehensive VAT treatment was shifted as the responsibility of procurement personnel and has been specified already in the order phase from there on.

5.2 Research approach

5.2.1 Qualitative approach

Initial research decision is related to a choice between qualitative and quantitative approach. The first mentioned is described being a valid option while conducting research in natural real-life context where the phenomena are taking place and when there is a need for interpretation and understanding. Also, the capabilities in adapting a reflexive and critical view are merits of qualitative research. On the other hand, quantitative approach focuses on explaining, analysing, and testing hypotheses without capabilities in observing social constructions and cultural aspects. (Eriksson & Kovalainen 2008, 4–5.)

Qualitative methods are not capable of answering on any quantitative terms nor evaluating statistical relationships between the variables. Instead, they can help making visible the mechanisms in linking the existing variables. (Barbour 2008, 11.) As it has been discovered that, for example, combining supply chain management and legal or fiscal domain have not commonly been an aligned topic in logistics according to Henkow and Norrman (2011, 879), there seems to be a need for overall understanding on the phenomena and the affecting variables before it will be possible to focus on more detailed relationships.

When conducting research related to the phenomenon based on actions of individuals, corporations, and societies, choosing qualitative approach is relatively natural. Also, as the value added tax treatment in the case company is an equation of multiple different interests and requirements from legislation, logistics and procurement, it is justified to have a wider research perspective, especially as a single correct operating model in each case does not exist. Hence, there is not any structured problems, but instead a more flexible and exploratory approach as well as holistic understanding is a requirement. Achieving them is a strength in qualitative approach. (Eriksson & Kovalainen 2008, 5.)

The objective for this research is to aggregate relevant elements and variables affecting value added tax treatment in Metso Outotec Finland Oy's Project Procurement function and to examine relationship between them. The assumption is that the approach will support in creating the holistic understanding on the operating environment in terms of value-added taxation. Moreover, this should be considered as a necessary phase before proceeding with any quantitative testing of hypotheses or evaluating statistical relationships between the existing elements, variables, or combinations of them, if this is necessary at all.

5.2.2 Intensive single-case study

In operations management the main way of developing new theories has taken place through case research. The advantages of the case research are related to freedom from models and questionnaires, which might create high value for practitioners with creative solutions. However, there are also challenges related to this particular form of research in terms of timely requirements, needs for skilled interviewers and coming up with generalisable conclusions. (Voss et al. 2002, 195.) While related to the business context, the case study research is rather practical, but they can also have normative point of views (Eriksson & Kovalainen 2008, 116).

According to Benbasat et al. (1987, 370) there are three distinctive strengths related to the case research. The first one is its capabilities of studying as well as observing the phenomenon in its natural environment. This will support coming up with more relevant and meaningful case theories. The second strength is related to capabilities in using open questions such as how and why, which assists in capturing full understanding from the operating environment and related complexity. Thirdly, the case research is valuable in terms of more exploratory issues, especially if the phenomenon and variables are not completely known nor understood. In addition, Voss et al. (2002, 209–210) have stated determining the link between cause and effect being among the advantages of case research, finding of which cannot be taken as granted in survey-based studies.

In the case research natural controls exist, some factors are left unchanged while with others some natural variation is allowed. Instead of choosing and controlling the variables, it is the phenomena that should be chosen at early stage. (Meredith 1998, 448.) The case research should be seen as a process during which concepts, themes and even relationships are emerging. Data from each case is then consequently reviewed against

various frameworks, themes, and hypotheses. Therefore, the theory is formed in an iterative process. (Voss et al. 2002, 216.)

Intensive case study research has its focus on understanding the unique case from inside. As an output, a holistic and thick description in contextualized form is provided. Intensive, or alternatively classic case study research has its focus on understanding of the case and emphasizing interpretation by utilizing perspectives of the people internally involved. (Eriksson & Kovalainen 2008, 118–119.) The case study as a research strategy is also flexible option as it may include both qualitative and quantitative evidence as its basis (Yin 2003, 15).

There exist a few rationales for choosing a single case study according to Yin (2003, 39) and in this research two of those rationales are evident. First one is unique nature of the company operational model and exceptionally global operating environment. This is due to operating without own manufacturing or storage in project business of Metso Outotec Finland Oy, which is requiring drop shipments directly from manufacturers and suppliers to customer's project sites. Another rationale is the research being a revelatory case with researcher having an opportunity of investigating and observing complicated business nature with an access on insight due to the employment relationship. (Yin 2003, 40–42.)

5.2.3 Data gathering

According to Yin (2003, 9) choosing an appropriate research strategy depends on the situation. On some occasions usage of multiple strategies might be justified and, for example, the case study can be accompanied with a survey. On this basis, partial data for this research is collected with a survey for acting Project Procurement personnel with an objective of collecting relevant data in estimating current know-how and competence level related to the tax treatment in Project Procurement function. The survey consists of supply chains with various drop shipment deliveries and the task for respondents is to define the correct tax treatment approach. It is expected to find certain weaknesses, challenges, and gaps in current know-how, based on which identifying crucial phases or situations in the process might be possible.

In case research, the usual data collection is taking place through interaction, and both structured as well as unstructured interviews. In addition, more informal discussions, observing, and reviewing archival sources may offer valid material in terms of the

research. So called funnel is a common format for interviews, which refers to starting them with open and broad way of asking questions and then progressively moving towards more detailed and specific ones. (Voss et al. 2002, 204–205.)

In the core for the research protocol, in addition to internal company documentation and survey, are standardized open-ended interviews where main subjects related to the VAT treatment in the case company are covered from each related function perspective respectively. This data collection method is systematic and minimizing interviewer effects as well as judgements as the same questions are asked from each interviewee. It also makes the data analysis more convenient due to the specific interview structure. (Patton 1990, 285.) A proper preparation with structured questions is an important phase and it is also beneficial to let the interviewees to familiarize themselves with the discussed topics already in advance. Especially, if there are how and why questions, a single right answer may not exist and in this case interviewing multiple persons might be justified and enhancing the research reliability simultaneously. (Voss et al. 2002, 205.)

According to Yin (2003, 59) there are many skills required from the researcher while conducting the case study. First of all, the researcher should be able to ask good questions and have capabilities in interpreting the answers. Also, it is necessary to be a good listener and personally unbiased. Moreover, adaptiveness and flexibility are considered as merits here, as well as having a wide and firm understanding of the issues under review in the study. The main sources for data gathering in the case studies are records in archives, observation both directly and as a participant, interviews, and some physical artifacts (Yin 2003, 85).

5.3 Research process and design

In case research the research questions are constructed in an iterative process and the question scope as well as specificity is developed further along the overall process (Eriksson & Kovalainen 2008, 117). Therefore, the research process should be seen as a continuous interplay between empirical data and theory (Eriksson & Kovalainen 2008, 121).

Conducting the case research is a process with multiple consecutive steps. In their generic model in Figure 11, Stuart et al. (2002, 420) have recognized five process steps beginning

with defining the research questions and ultimately ending up with dissemination of findings from the conducted research.

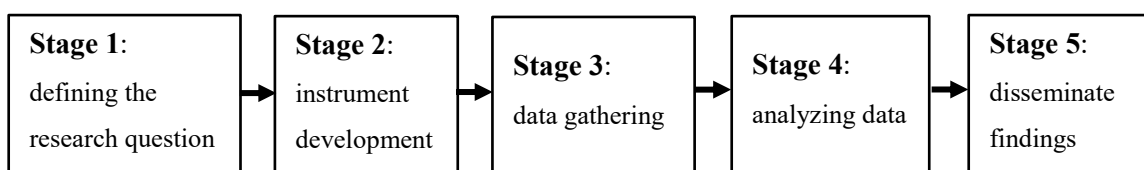


Figure 11 Case research process model (Stuart et al. 2002, 420)

In the first stage there is a need for defining the research question or questions. Closely interrelated to this is build-up of a knowledge base and coming up with an explanatory theory. (Stuart et al. 2002, 420.) When it comes to operations management, the complexity through different layers and related subsystems is making it difficult to capture all the relevant objectives and conditions. However, the case studies are potential in discovering meaningful observations and contributions for the knowledge base. (Stuart et al. 2002, 421.)

In this research, the starting point is very practical in relation to concrete challenges in terms of value-added taxation. As the phenomena is not well understood in the case company and the existing literature is rather modest, the focus is on higher level understanding. Thus, identifying the crucial phases and situations as well as the related risk mitigation opportunities were a natural approach since the beginning. In addition, committing into utilized contractual aspects in supply chain implementation was a natural way of taking the gained understanding another step forward. This approach was recognized potentially affecting the actual creation of value at a practical level. However, the research question layout has also varied with the knowledge build-up due to the close interrelation referred by Stuart et al. (2002, 420).

The first chapter of the thesis is presenting the background including practical motivation, research objectives and questions as well as the thesis structure. Chapters two, three and four are building the knowledge base through theory while having focus on existing literature regarding sub-areas considered as relevant. In chapter two, the focus is on procurement function from historical, current and project nature business perspectives. Chapter three has its focus in legislation and trade compliance especially in the European Union, which is seen as a global trendsetter in this sense. Fourth chapter instead is

presenting the project procurement logistics where key concepts are drop shipments and tax-aligned supply chains.

The second stage of the research process is instrument development, which focuses on creating a case study protocol (Stuart et al. 2002, 424). The objective here is to design the process so that the initial research questions established in the earlier phase can be answered. The target is to gain understanding from the value added tax treatment by combining value added tax standards from legislation perspective, project procurement requirements and needs guided by company principles and logistics system where all these aspects are being implemented and brought together while goods are being transported. In subchapter 4.3 this research entity is illustrated as the research framework.

Overall, several independent factors seem to affect the entity. According to Janssen (2020, 1157) these factors include Incoterms®, VAT ID:s applied for invoicing purposes, who will be organizing the transportation or on whose behalf it will be organized, contractual matters, when and under which legislation power to dispose is transferred and prevailing trade conditions. As the focus in this study is to gain understanding, some flexibility should be allowed. For example, unnecessarily highly structured interviews may not allow uncovering all necessary aspects. Overall, the means of measuring should be valid and multiple evidence sources to be utilized. (Stuart et al. 2002, 425.) In chapter five the choices made from the research methodology perspective are explained and justified.

The third stage is data gathering, which in the case research is commonly related to conducting interviews and transcribing them in written format. From interviews, other records, and internal company documentation there is a possibility to provide a more holistic view of the operating environment. In the fourth stage this collected data is then analysed and interpreted. (Stuart et al. 2002, 427.) Possible structured patterns, observations and relevant variables are brought together in chapter six in a mainly summative form based on enlightened vision and understanding from earlier research process steps and accumulated knowledge.

Table 2 Interview summary

Function and task level	Interview length	Interview date
Procurement, Director	59 min	31.3.2023
Procurement, Manager	54 min	4.4.2023
Logistics, Manager	41 min	20.4.2023
Logistics, Director	1 h 21 min	25.4.2023
Tax, Senior Manager	1 h 46 min	27.4.2023

Table 2 is representing the overview of interviews. All five interviews were conducted within one month and their length varied relatively much starting from 41 minutes up to 1 hour and 46 minutes. The wide variation is related to representatives' personal characteristics, the proximity of the topic among the representatives and additional questions outside the initial interview framework. The interviews were designed to conform with the overall framework of the research and for this reason representatives from procurement, logistics and legislation functions were chosen. All the representatives were chosen internally from Metso Outotec Finland Oy as the organizational focus was a central dimension in this research. However, it was understood that the results would most likely be widely applicable due to the inevitable role and importance of VAT matters regardless of the organization.

The conducted interviews were recorded as the permission from each interviewed representative was received. According to Voss et al. (2002, 209) this is an important procedure regardless of the method used in transcribing the collected data. Special attention has been paid on question formulation to have them expressed in truly open-ended way to capture respondents' personal views as encouraged by Patton (1990, 295). Enough data has been collected after the existing research cases can be addressed in a satisfactory manner and after returns from the additional interviews have diminishing returns (Voss et al. 2002, 10). Overall, interviews as data collection method are well targeted with direct focus on topic and insightful as they bring up causal inferences (Yin 2003, 86).

Another relevant data gathering method was the case survey, which consisted of eight different supply chains. A total of 21 participants were invited to complete the anonymous survey but in the end 14 persons participated. The invited procurement professionals were

requested to provide a valid VAT ID and tax code for each case. The survey layout and results are reviewed in chapter six. In addition to the interviews and survey, also internal documentation, instructions as well as guidelines in written format were utilized in line with Stuart et al. (2002, 427).

The fifth stage is about disseminating the research findings and exposing them to criticism. (Stuart et al. 2002, 428–429). The choice for conducting the case research has been justified throughout the research and those reasonings are here related to very modest earlier knowledge, nature of the existing research problem and single company scope. In chapter seven the overall usability of the research is evaluated. In this research, the interviewed representatives were offered one week time to review the summaries based on their interviews. An objective here was to provide the representatives a chance to question researcher's judgement and discretion for the summaries. Also, this procedure made it possible to correct potential misunderstandings and factual errors before research publication.

According to Voss et al. (2002, 206) it is essential to receive senior support from the organization where the data for case research is collected. This includes finding the persons that are best informed related to the research topics and ensuring the required time and commitment from the company side. For this research the process was rather straightforward, and these aspects were ensured since the beginning as the researcher has an employment relationship with the organization and the need for the research originates from the case company itself. The senior support was received in form of various arrangements and required timely resources. Moreover, an interesting topic and the uniqueness of the research supported the process for their own part.

Followed by the interviewing, there is a phase of documenting and coding the collected data. In terms of documentation, it is necessary to take time for it quickly after collecting the data to support recalling and facilitating the process further. Coding the data and observations into categories is supporting creation of evidence for the research. (Voss et al. 2002, 212). It is essential to ensure that data will be in the manageable form of a single case record. There all the pieces of information are brought together with some logic and even utilizing some software in this process might be beneficial, especially if the case record is large. (Eriksson & Kovalainen 2008, 128.) In this research, the interviews were transcribed in written form. This was then followed by creating summaries from relevant

aspects considering the initial research questions from both conducted interviews and supply chain survey. In chapter eight all the research data is brought together and combined with the theory from literature review of chapters two, three and four. Ultimately, this enabled proceeding to disseminate the final results and suggestions as well as answering the initial research questions.

In the analysis of the case data there is a need for finding causalities or explanations and this can be facilitated by constructing an array or display from results so far, in which data is in more structured and even visually arranged form (Voss et al. 2002, 213). Guided by this advice, Table 5 in chapter eight was constructed based on the interview summaries related to recognized risks and their mitigation in the VAT treatment. While developing theory, it is important that existing literature has been used as a foundation for this as unfolding of the literature is essentially relevant from both validity and quality perspective in conducting the research. (Voss et al. 2002, 216–217.) According to Eriksson and Kovalainen (2008, 131), the overall main task for the case study is binding together both argument and evidence while following the logic of providing answers to the existing research questions. These viewpoints are summarizing the aspiration for the entire chapter eight enclosing also theoretical contribution and managerial implications as well as limitations based on the collected evidence throughout the thesis process.

5.4 Research quality

Usage of multiple sources of empirical data is a usual way for enhancing accuracy, versatility, and richness of case studies. These objectives are also supported by triangulating the existing data and pursuing cross-checking for providing the overall picture. (Eriksson & Kovalainen 2008, 126.) In this research, these dimensions were supported by collecting data with the interviews and supply chain survey as well as from various internal company documentation. In addition to the fact that data was collected from many sources, there was a focus on achieving descriptive and sufficiently broad sampling. In the research, this was assumed to ensure more justified generalizations and improving capabilities in understanding the bigger picture.

In general, fewer cases are creating opportunities for more in-depth observation. When it comes to single case studies, they are commonly appropriate for longitudinal research. An important aspect for case research is ensuring triangulation through multiple data collection points. This is to support rigorousness and relevancy of results regardless of

the research being about new theory creation or testing and refining an existing theory. If the case research is utilized in theory testing, it is usually accompanied with some survey-based research to ensure proper triangulation. (Voss et al. 2002, 195–196, 199.) However, the generalizations can be made even based on one case if only the results lead to valid broader theory (Stuart et al. 2002, 430).

Also in this research, the realization of sufficient triangulation was an essential subject under review. To support this, two representatives were interviewed for both procurement and logistics function. This same approach would have been applied with legislation function if only suitable candidates understanding the relevant aspects from the case company perspective would have existed. It was evident that the same themes began to recur, although the perspectives varied depending on the function. This phenomenon is clear also in the summative Table 5 from the interview findings in chapter eight. Also, from the survey perspective, the main outline was clearly conveyed, which made it possible to take a stand on relevant challenges.

Relying only on single case might limit the generalizability of conclusions and it must be carefully considered not to exaggerate or make misjudgments on insufficient grounds (Voss et al. 2002, 201–202). Also, while having a retrospective case and using historical data, the participants might be prone to biases due to not remembering the whole truth or doing post-rationalisation. It must be taken into consideration that the situation and available information may have differed substantially back when the case was still in active phase. (Voss et al. 2002, 202.) Here cross-checking and usage of multiple sources are the key steps in validating the data and it must be considered that the researcher himself might have strong interests in the research area and consequently potential and even substantial biases too (Voss et al. 2002, 210). In this research, the researcher was aware of his potential to influence, but consciously avoided speaking, expressing his own thoughts and generalizing, while mainly relying on the clear instructions provided. This is how the message of the key parties was assumed to be disclosed as authentically as possible.

Replicability is an essential aspect in achieving rigor and with case studies it can take place by testing the resulting theory in different conditions as achieving the precisely same set of conditions is impossible. For this same reason, also the generalizability of the case research results is rather problematic due to results being exactly valid only in single

case conditions. However, theory might be applicable in similar conditions, or even with totally different conditions with differing results. In general, the generalizability in case studies can be enhanced through extensive triangulation and depth of observation. (Meredith 1998, 449–450.) Moreover, it should be noted that even though the case research and qualitative nature are usually interrelated, there should still be an aspiration for researcher to find objective data (Voss et al. 2002, 208). In this research, the replicability has been ensured by providing clear and gradually progressing process, which can be easily implemented. In addition, the results are presented in general format without extensive organizational focus making it easier to interpret and apply them in other relevant contexts as well.

In evaluating quantitative research, the concepts of validity and reliability are essential criterion. However, there is some variation among the researchers and method books in evaluating whether these concepts are relevant in terms of qualitative research. The degree of consistency and replicability are closely related to reliability as an evaluation criterion, and on the other hand truthiness and certainty are related to validity in a similar sense. (Eriksson & Kovalainen 2008, 292.) Yin (2003, 17) emphasizes the need for systematic procedures in case studies, which has not historically been taken for granted and therefore being part of the reason for common experience of the approach in question as softer research. This aspect was well recognized and therefore process steps were planned and implemented precisely.

According to Stuart et al. (2002, 430) having multiple data sources, establishing a chain of evidence, and having some key informants to review the study report before publishing are means by which construct validity can be supported. In addition, internal validity can be supported by adhering that proposed patterns can be replicated in similar cases with matching patterns as a result. Another approaching angle is the opposite where the patterns are not valid for dissimilar cases. External validity refers to the level of generalizability of the results, which is relying on analytical generalization instead of a more statistical approach where the generalizations are made from samples to populations. Stuart et al. (2002, 430) have also stated that in supporting the research reliability the primary actions are creating and following the chosen case study protocol as well as maintaining database for materials related to the research.

5.5 Ethical considerations

In ensuring responsible conduct of research, the guidelines of Finnish Advisory Board on Research Integrity (TENK) were considered and followed. These guidelines are created to prevent any misdemeanors in research, and on the other hand promoting research integrity. They are also aligned with the international codes of conduct. The basic principles here are reliability, honesty, respect, and accountability. (TENK 2023.) These different principles have been considered by the researcher on regular basis in conducting the thesis, which is seen as an essential approach in providing quality process and results. The principles have enhanced trustworthiness of the thesis and guaranteed the researcher's will to take responsibility for the output, which is a result of inputs from many other participated stakeholders as well.

In addition, while the thesis has been conducted in the form of an assignment for internationally operating Metso Outotec Finland Oy, some additional ethical considerations have been followed. This is evident in not individualizing all the data sources and not revealing any restricted materials that have been used as a support in justifying the case company operating guidelines wherever absolutely necessary. Moreover, as this assignment was carried out as part of the employment relationship, the treatment of employer's business and professional secrets have been considered separately in a confidential employment contract.

Data collection and retention were implemented in accordance with European Union's General Data Protection Regulation (GDPR). In practice, this means that consent for the temporary storage and processing of collected material was requested and obtained. Additionally, it was made sure that the related parties understand what they are agreeing to, who is processing data, for what purposes as well as when and how the data will be disposed. Moreover, they have been given an opportunity to withdraw their consent at any stage of the process. (GDPR 2022.)

To avoid any issues related to personal information, the researcher conducted the material collection without a need to present any of such information in transcribed material, in file names or thesis content in general, unless otherwise agreed. Furthermore, not any direct quotations nor expressions have been presented as the linkage to a certain employee might be recognizable within the case company. The key parties have also the right to review the produced thesis material including the results and have them corrected or

supplemented without delay. All the data is password protected in both personal hardware and cloud storage service. The interview recordings have been disposed immediately after transcription and all the other documentation will be disposed after the thesis is finalized.

6 Interview and survey results

6.1 Procurement representatives

Two managerial level representatives were interviewed from the case company procurement function. Both have an extensive background from the company already before merger. Currently, they are leading teams consisting of procurement professionals who are also responsible for placing purchase orders towards the suppliers and defining VAT ID:s as well as tax codes for those. Other representative's daily responsibilities contain mainly strategic procurement and management tasks internally whereas another representative is mainly focusing on operational procurement activities. The main stakeholders for both representatives consist of project managers, controllers, logistics as well as sourcing personnel. Also, engineering is mentioned although the cooperation is less active compared to the earlier listed stakeholders.

6.1.1 Challenges and risks

When purchasing from Finland, the value added tax is not appearing much of an issue but instead while operating with other countries, it is necessary to consider the effects and consequences. It was also brought to interviewer's attention that the current drop shipment operation model is a special feature and was more familiar for legacy Outotec operations. Instead, in legacy Metso operations the goods were more commonly purchased for own production needs. Overall, the value added tax is seen as a mandatory thing, which cannot be much influenced. Unfortunately, it also appears as a rather distant and mainly legal matter. In addition, the value added tax treatment is characterized being confusing, complicated, and unclear, but also important from both representative's point of views.

There was a clear consensus that ultimately procurement is responsible and in the key role for ensuring the appropriate value added tax treatment. This is due to the fact that procurement personnel are defining the VAT ID:s and tax codes in each placed purchase order and also processing the received invoices for purchases. However, especially the role of sales function has been highlighted as they are defining the sales delivery terms towards the customer. Therefore, they are also influencing and even restricting the options further in the chain, especially if company guidelines are not followed. It is recognized that the goods can be circulated either through some other country with VAT registration

or outside the European Union to avoid value added tax. Some problematic is still related to the overall chain as previously described additional transportation of goods might be unjustified, unpractical, or even impossible from logistics point of view due to size and weight of the equipment.

The related risks in terms of value-added taxation are primarily cost-related and even relatively significant as the value added tax percentages are commonly relatively high percentage wise. Unless VAT requirements are understood, the project budget will not be adjusted accordingly either. In these cases, it seems to be clear that own company as an intermediary will have to cover the additional costs. Other harmful indirect aspects for VAT challenges appear to be the required work and timely resources to make the chains compliant. However, in the end these aspects also take form as additional costs.

6.1.2 Consequences and solutions

Usually, the project sites are in distant locations outside European Union. This is experienced as a relieving aspect from value added tax perspective. However, when projects are taking place solely in Europe, the VAT treatment might become a bigger challenge from value added tax perspective. A couple examples brought to light were that local manufacturing cannot happen without local presence abroad. Goods cannot be purchased and sold in the same country abroad without VAT registration requirement and related costs in form of tax. It is also recognized that FCA-FCA chains are probably the most common scenarios and require attention from the VAT perspective. Overall, the huge number of different supply chains and options in project business is making the appropriate VAT treatment extremely challenging. The issue is not promoted by limited number of options in supplier base and by high prevalence of country-specific differences in VAT treatment even within the European Union.

In addition to costs, reputation damage is also considered as a potential risk related to VAT neglections, regardless of whether it is intentional or not. Even potential criminal sanctions related to this topic are emphasized. Still, these aspects are clearly not primary issues on operational level. Currently, the VAT knowledge is much based on each individual's personal understanding. However, there appears to be potential in more broad cooperation between the stakeholders in relation to the VAT treatment. For example, tax professionals in comprehensive advising and sourcing's role in proactive influencing through supply planning are highlighted. Sometimes even external suppliers

have been providing VAT guidance in foreign countries. Cooperation with sales function instead appears to be more challenging as they are spread globally over the market areas. Currently, the division of responsibilities related to VAT treatment seem rather unclear and poorly defined.

According to the representatives, a partial solution related to compliant VAT treatment lies within information technology capabilities. Currently, the system is not giving any alarms nor suggestions for purchasing, and this is the aspect that is hoped to assist more in the future. Another aspect is related to the VAT training, which could be more systematic as well. Even the concepts of obligation, competence testing and operating permits or licenses are mentioned here. On the contrary, VAT material does exist, and it is available to anyone, so the training aspect seemed to raise some conflicting opinions among the procurement representatives. A good aspect is that not much major issues or complications have come across nor realized as far as the representatives are aware.

6.2 Logistics representatives

From logistics function two managerial level representatives were interviewed. Both have an extensive working background in the field, and they have started their careers in Outotec already before merger. Other one is leading the global project logistics team whereas another is nowadays mainly focusing on development projects and has earlier expertise especially related to Russian and Chinese trade. The main stakeholders listed by the representatives are procurement personnel, freight forwarders, trade compliance, information technology people, suppliers, and customers. In addition, project logistics specifically has a large amount of other relevant stakeholders due to project nature business. Some given examples of these are project managers and project engineers.

6.2.1 Challenges and risks

It was emphasized that before merger the role of support functions was very modest if they even existed at all. For example, trade compliance and tax personnel have a much firmer company role nowadays. Through the wide stakeholder network, logistics have multiple possible points for influencing, but the actual operating opportunities related to the VAT are more related to mitigating than avoiding issues. Logistics is expecting that the procurement personnel are including them in discussions whenever necessary and

they are also willing to hold on to this same principle towards the other stakeholders whenever beneficial.

Value added tax as a concept typically indicates problems in logistics field, especially as the chains of trade are multi-level and complicated. Unless carefully considered already at the early stage, the logistical solutions might become concretely non-rational. The challenges brought to light are related to costs in form of the value added tax and required logistical arrangements, but also to changing the delivery schedule in an unfavourable way, which may also materialize contractual penalties. This might be the issue if, for example, export or import clearance cannot be provided as planned and is therefore causing the goods to remain on hold. It might consequently create a need to store them until the matter is resolved. The support and actions from own business entities abroad are discovered as a beneficial aspect as well as partial solution for the future. It is also highlighted that retroactive tax registration requirement in some country is a serious threat as even the right for VAT refund might be lost in this scenario. Also, reputational damage related to wrong operation models is considered potentially crucial aspect from logistics point of view.

The differences in the VAT treatment even in the European Union are a well-recognized topic in logistics field, and definitely a challenging aspect. The challenges related to FCA trade appear to be the most problematic aspect as the goods are sold without any transportation. Consequently, both purchasing and sale are taking place in the same country and it is typically triggering local VAT liabilities. From logistics perspective the trade in the European Union has even increased, which is only making the issue more central. Logistics is also close to the customer and therefore the customer preferences might become more relevant. For example, if the goods need to come from some certain country, the chain might have to be broken in between and process the realized value added taxes. Goods delivery is also the last phase where they are still under the control of an own company and here at the latest all the issues need to be managed and resolved also in terms of value added tax.

From logistics perspective, a comprehensive understanding of choices made and their effects on total costs seem to be in a weak position in the earlier process stages. This seems to be related to poor understanding of the nature of the goods and pressures on reducing immediate costs instead of outlining the overall picture. In addition, some silo

effect has been recognized within functions, which reduces the chances of success in the first hand. This becomes even worse while combined with rather unclear division of responsibilities in the value added tax treatment handling in project business. The global transparency emerges as an important aspect in terms of VAT but is in its current state rather poor.

6.2.2 Consequences and solutions

The sales and proposals functions are referred as important internal stakeholders already in an early phase. If the VAT would be considered more thoroughly already in the contract phase, many issues and expensive rush solutions could be avoided. The same applies to sourcing while creating procurement plan, which is later rolled over to procurement for implementation of purchasing activities. The value of the upstream end of the chain thus comes to the fore as an inhibitor of the formation of risks. For this reason, the communication towards them should be enabled. Overall, in logistics function the comprehensive understanding of the supply chain and stakeholder roles appear to be on a relatively high level. It also should be considered that logistics in many cases has an end-to-end process responsibility while taking part in multiple stages in the overall process since the sales phase in the beginning.

FCA, CPT and DAP are listed as the case company's preferred sales Incoterms® towards customer in the chain according to the logistics representatives. The most recent change and challenge has been the increasing amount of FCA sales due to increased transportation costs. Followed by this volatility and various uncertainties, the transportation price is difficult to quote, especially well in advance. With FCA sales term these arrangements are transferred to the customer's responsibility and discretion. However, some specific problems related to FCA are if customer pick-up is postponed and again some additional storage time is required. An interesting emerging aspect related to the FCA term is that in some EU countries the buyer company will be required to do an export clearance to avoid VAT costs even though this procedure is not addressed as buyer's responsibility when applying this specific delivery term. Procurement is also encouraged to make sure that the suppliers are aware of the responsibilities determined by the agreed Incoterms®.

FCA Incoterms® is seen as a primary option in purchasing. However, some goods characteristics may change this preference. This might be the case especially with

oversized cargo, which requires some special arrangements and equipment. In principle, there is no problem if conditions from the customer are stricter than own requirements towards the manufacturer or supplier. Corresponding back-to-back contracts are naturally seen as a beneficial starting point, but some existing gaps can also be filled by the intermediary.

Comprehensive training supply considering the target group and related competence requirements are emphasized and seen as a primary solution to enhancing operations related to the value added tax. Especially, unambiguous instructions and clear rules of thumb are highlighted. It is also suggested to emphasize the trainings to focus on the impact of various decisions on other stakeholders as well. For example, the application of Incoterms® can cause difficult situations if responsibilities and obligations are not fully understood. Moreover, it should be made sure that the relevant stakeholders are kept up to date in relation to the guidelines and regulation.

Information technology capabilities and bringing all the information in one place has been identified as a partial solution. System support could probably enhance successful implementation but not necessary assisting as a preventive action. A more proactive suggested approach would be checking the valid supply chain options at least for most selling products already in advance. The support from business partners is also referred, and in logistics field this mainly refers to the freight forwarders. In this relationship own company is assuming the role of a customer and is providing the requested information to enable further measures to be implemented.

6.3 Legislation representative

Tax related perspective is sought from a managerial level representative who oversees global operations related to indirect taxation, specifically VAT. The representative is mainly working with higher level processes with a strategic focus on centralization and harmonization on a corporate level. However, the tasks also include organizing trainings, participating in development work as well as assisting in daily operations related to the VAT from legislative point of view whenever necessary.

Trade compliance is among the most important stakeholders for this function due to close and even partially overlapping focus areas. Otherwise, the field of stakeholders is very fragmented. Some of the listed parties are sales, procurement, logistics and project

business personnel. Cooperation with general ledger people is also constant. From the tax point of view, especially logistics function is seen as an important gatekeeper in terms of VAT risk realization.

6.3.1 Challenges and risks

Value added tax is understandably at the centre of the representative's work and it is also described to be more or less present throughout the end-to-end process in the corporation. It is well recognized that for most of the personnel the VAT is something to be avoided and for this reason the related instructions and guidelines should be provided on a higher level. Unfortunately, this appears to be challenging due to the existing complexity of tax law. The way of taking advantage over the tax law and VAT legislation as a tool for non-neutral purposes and income transfers in some cases is criticized by the representative.

A necessary aspect seems to be the current EU directives, especially combined with customs legislation. They are allowing room for differences in VAT implementation and interpretation among EU countries. This causes a great deal of challenges within the Union compared to the traditional import-export model. For example, in some European countries the triangulation simplification rule can be utilized even though the intermediary would be VAT registered in the final location of the goods. Problematic aspect is that this does not apply to all countries in EU. On a corporate level, operations could certainly be determined according to the strictest, but on the other hand this would limit even good alternatives.

Some examples of country-specific differences in the VAT treatment are represented by Poland and Italy. In both countries tax audits are triggered easily, which is not encouraging from business perspective. In Poland the tax authorities are also expecting a large amount of documentation for the goods movements. Quick Fixes in European Union have fortunately limited the number of the required evidence material. On the other hand, reverse charge is widely applicable in Italy, which is a relieving aspect from the perspective of a foreign operator. Moreover, indirect export is applicable there, which means that FOB sales term is not triggering VAT liabilities in Italy. In India even DDP sales term is acceptable for an intermediary without any local presence, which is an exceptional approach but a relieving aspect if conducting business there.

The most recent challenge has been purchasing from Germany with FCA term and then exporting the goods outside EU with CPT sales term. The tax authorities in Germany have, according to their customs legislation, interpreted that this sale should be reported as VAT liable in Germany. According to the representative, this seems to be an unfortunate development towards the Polish model, where the only plausible sales term option is DAP while considered from VAT perspective.

The challenges related to the chain of transactions become apparent relatively shortly. Most of the VAT risks are related to the lengthy and complex chains and on the other hand to the rather limited system capabilities. An extensive mapping of existing chains of transactions has been both historically and recently ongoing project, which aims to meet these challenges in a more profound way. This structured approach might be a partial solution in avoiding the arising VAT risks. The cost impact in form of direct and indirect costs appears to be relevant from the tax point of view. In addition, the risk for late deliveries due to VAT ambiguities is referred, but this is also mainly problematic due to the resulting and potentially remarkable contractual penalties.

Reporting technique is highlighted as an especially challenging aspect. There can be various ways and locations where and how the reporting might be carried out even though the actual goods transportations would remain constant. Additionally, different approaches might have different cost impacts and requirements for the reporting party. Legislation also takes position on who is responsible for the goods transportation as well as organizing the related procedures. According to the representative, this seems inappropriate when considering today's long supply chains even though an effort to fix the tax deficit is a justified reason for the existing regulation. The legislator appears to lack on general business understanding in today's global scale.

6.3.2 Consequences and solutions

Metso Outotec Finland Oy has only a limited amount of VAT registrations globally. This appears to be a strategic choice as the registrations create direct costs, an extensive amount of internal work and various reporting requirements. However, it becomes clear that if the company is purchasing and exports, imports or corresponding Intra-Community procedures are required, they either must be handled by the seller or alternatively a local business presence is mandatory. The local presence may refer to the physical presence or existing VAT registration in the country in question. Purchasing and selling within the

same foreign country is also a recurring phenomenon and problematic from the VAT point of view as in the longer chain only one sale can be tax-free unless import or export is included. Moreover, the same requirement for the local presence is required here.

It is confirmed as a general rule that exports, imports, or Intra-Community procedures should not be applied without the valid VAT registration. This rule is especially strict in the EU area, but valid for most of the countries globally as well. Without the registration or local presence compliant reporting is not possible, and tax will remain as a non-deductible cost for the company. From the tax function point of view, utilization of local business entity abroad is highly encouraged. However, it might be customer's incentive to have a contract with the solvent parent company instead of some smaller local business entity. Therefore, customer's tax planning objectives might not be the most defining aspect there. A certain downside is that for Metso Outotec Finland Oy this operating model might cause additional risks from the VAT perspective.

The opportunities to influence from tax function are related to providing information backed up with numbers and organizing VAT trainings. The former relates to the fact that risk awareness itself might not be enough to lead to direct action, but when the hard evidence such as cost impacts are brought to the table, it certainly creates a stronger incentive for internal stakeholders. However, as most of the costs are indirect, an accurate estimate might be difficult to provide. It is naturally of paramount importance that the provided guidelines and instructions are clear and unambiguous enough for every participating stakeholder. Overall, tax should be seen mainly as a supportive function and not as a business practitioner.

From the tax perspective, intervention at an early stage is necessary. Already before any contractual agreements, the VAT perspective should be revised and considered. System support and capabilities are also highlighted as a necessary guiding aspect, which currently plays a significant role in the development efforts. According to the representative, one interesting solution in avoiding VAT risks would be prohibiting usage of FCA sales term unless registration for VAT purposes exists within all the countries where business is conducted. Currently, neither of these circumstances are met. Fortunately, also retroactive tax registration is possible as well as a utilized option. However, it reserves internal resources due to reporting requirements and is not a quick fix nor automatically a problem-free solution.

A problematic aspect in not agreeing customer pick-ups with FCA sales term is that with other valid terms transportation costs are included in overall project sales. For this reason, the project margin is also added on top of the initial transportation costs therefore making this option more expensive than if organized by the customer. This current operating model is criticized from the representative's point of view as it may create additional VAT risks. It indeed seems appropriate that sales and transportation would be separated from one another in the reporting and budgeting.

6.4 Survey results

6.4.1 Survey objectives and description

The conducted survey was sent to 21 participants in total. The criteria for choosing the participants were procurement and purchasing as work related duties, Metso Outotec Finland Oy as an employer and usage of ex-Outotec SAP as an operating system. The total purchasing spend among the participants is measured in nine-digit value in euros on yearly basis, which makes the sample more significant than it appears quantitatively.

The objective of the survey is to achieve a better overall understanding of the competence and skill level among acting project procurement professionals in terms of value-added taxation in Metso Outotec Finland Oy's physical drop shipment business. Desirable outcome is addressed being finding weaknesses, challenges, and gaps in current know-how and as a conclusion identifying crucial phases or situations in purchasing from VAT perspective. It was decided not to provide any answer options as related real work of respondents is also based on completely independent decision-making. Consequently, the answers were collected as open-ended with a request to fill in correct VAT ID and tax code for each purchasing case.

The survey consists of eight specific supply chain cases based on actual drop shipment business in the case company. The cases were not designed to be challenging nor misleading on purpose. However, it was recognized that there exist multiple defining variables in each case, which is making them potentially more complicated. It was also recognized that there might be more than one compliant solution for each case, and for this reason the most straightforward compliant solutions were sought in the survey. As an external support, the survey and suggested solutions were reviewed with a VAT specialist from Metso Outotec's General Ledger team before the survey was launched. To support

the respondents, the listings of existing VAT registrations as well as valid tax codes with their explanations were provided as an additional survey material.

Among the differing variables are the country of origin and final destination, which both can be either in the European Union or outside the Union. Also, for some countries Metso Outotec Finland Oy has a valid VAT registration whereas with others such does not exist. There is also variation in the sales Incoterms®, which is determining the responsibilities between Metso Outotec Finland Oy and its customer. In addition, a defining aspect is, who will actually carry out export and import procedures. One variable remaining constant is Metso Outotec Finland's role as a purchaser and intermediary in the chains. Also, the purchasing term was held constant as FCA throughout the survey as it is a dominant and preferred purchase term for Metso Outotec Finland Oy.

Three reminders were sent to the chosen participants and the response time was extended twice. A necessary aspect in the survey was complete anonymity, which was seen as a relieving aspect due to not measuring any individual performance among the participants. Eventually, 14 responses were received as the research sample and basis for survey analysis. This was less than expected, but on the other hand a descriptive sample, considering the participants' significant yearly purchase values measured in euros.

6.4.2 Resolution of cases

In the first case FCA Krefeld, Germany (Incoterms® 2020) is the purchasing term from supplier and DAP Istanbul, Turkey (Incoterms® 2020) the sales term towards the customer. The chain would be compliant if Metso Outotec Finland Oy would use its Finnish VAT ID in purchasing and Purchase at high seas 0 % tax code. 10 out of 14 participants have completely right answer. In addition, one participant has answered partially right. The remaining three participants have provided wrong answers.

In the second case, the supply chain remains the same, but Metso Outotec Finland Oy is responsible for export formalities in Germany. The company is VAT registered in Germany, and the chain is compliant with Metso Outotec DE VAT ID and tax code with local 19 % VAT. Here the variation among the participants was much wider already as only two have the correct answer. In addition, three participants had answered either correct VAT ID or tax code, but not both. Moreover, two participants do not think this would make any difference compared to the first case and seven participants have not

answered. In these two first cases the goods are transported from EU country to a non-EU country and the valid VAT registrations in Germany exists as mentioned.

In the third case FCA Suzhou, China (Incoterms® 2020) is the purchasing term from supplier and DAP Vereeniging, South Africa (Incoterms® 2020) the sales term towards the customer. The chain would be compliant if Metso Outotec Finland Oy would use its Finnish VAT ID and Purchase at high seas 0 % tax code in purchasing. The VAT treatment here is therefore the same as in the first case. The only major difference is that here the goods are transported from a non-EU country to another non-EU country and Metso Outotec Finland Oy does not have registered for VAT purposes in neither end. 13 out of 14 participants answered correctly here and only one participant has a wrong tax code. The reasoning might be related to the great number of chains in the case company typically taking place outside European Union making it more familiar.

In the fourth case FCA Budapest, Hungary (Incoterms® 2020) is the purchasing term from supplier and DAP Lisbon, Portugal (Incoterms® 2020) the sales term towards the customer. The chain would be compliant if Metso Outotec Finland Oy would use its Finnish VAT ID and FI EU purchases, Triangular 0 % tax code in purchasing. This is rather uncommon chain in Metso Outotec Finland Oy's business while taking place solely in the European Union. A potentially disturbing aspect might also be that Metso Outotec Finland Oy is not registered for VAT purposes in neither country. For this reason, the researcher thought that this would be problematic and unclear for many participants. However, it was well handled as 12 out of 14 participants had the correct answer. Only one answer is completely wrong, and another partially wrong.

In the fifth case, the supply chain remains the same as in the fourth case and therefore taking place solely in Europe. However, the sales Incoterms® is changed from DAP Lisbon, Portugal to FCA Budapest, Hungary (Incoterms® 2020). This case is the only one which is not compliant at all. Metso Outotec Finland Oy is not having VAT registration in neither end of the chain and therefore the company would not be able to fulfil its VAT and reporting requirements triggered by the local purchasing and sale in Hungary.

In this open-ended question the variation in answers is significant, but the researcher decided to accept answers stating that this chain is not compliant, those stating that VAT ID for Hungary would be required and those answers stating that this should be checked

with the VAT personnel before proceeding. The latter answer's acceptability is rather questionable, but it would ultimately lead to not proceeding with this FCA-FCA chain.

Altogether, four participants answer correctly. In addition, three participants are partially right but stating that the chain would be an option by just paying local VAT. However, this approach would also require registering for VAT purposes and VAT reporting in Hungary for instance. Thus, the approach would be rather shortsighted and problematic as also addressed in the legislation representative's interview earlier. Three participants were recognizing the related VAT risks but not stating whether this chain can still actually be applied or not. The remaining four participants had a completely wrong answer or no answer at all.

In the sixth case, goods are again purchased from China with FCA Suzhou (Incoterms® 2020) delivery term. However, they are this time sold to the customer in France with FCA Suzhou, China (Incoterms® 2020) delivery term. The chain would be compliant if Metso Outotec Finland Oy would use its Finnish VAT ID and Purchase at high seas 0 % tax code in purchasing. Thus, the VAT treatment is the same as in the third case even though this time the goods are transported to Europe and Metso Outotec Finland has a valid VAT registration in France. However, the goods are sold already in China due to FCA Suzhou delivery term and the customer is responsible for import procedures in France, which is making those aspects irrelevant. 11 out of 14 participants answer correctly and remaining three participants answer either completely or partially wrong.

In the seventh case FCA Kolbaskowo, Poland (Incoterms® 2020) is the purchasing term from supplier and DAP Riyadh, Saudi Arabia (Incoterms® 2020) the sales term towards the customer. Again, the chain would be compliant if Metso Outotec Finland Oy would use its Finnish VAT ID and Purchase at high seas 0 % tax code in purchasing. 11 out of 14 participants answer correctly, which is in line with the other rather similar cases. The company is not VAT registered in Poland, which might create VAT risks in some other sales arrangements. However, this is not the case while only purchasing is taking place in Poland and the goods are then transported outside with sales taking place in Saudi Arabia due to the agreed DAP term.

The eighth case is meant to be more challenging, and the solution is leaning towards VAT related country specific uniqueness in Italy. In this case FCA Bologna, Italy (Incoterms® 2020) is the purchasing term from supplier and FOB Genoa, Italy (Incoterms® 2020) the

sales term towards the customer. The chain would again be compliant if Metso Outotec Finland Oy would use its Finnish VAT ID and Purchase at high seas 0 % tax code in purchasing regardless of FOB sales term. This is based on applicable indirect export there, which in this case means that FOB sales term is not triggering VAT liabilities in Italy. This unique treatment was also represented and discussed in legislation representative's interview earlier.

Nine out of 14 participants answer correctly in this last supply chain case. On the other hand, three participants are questioning this approach and assuming it would create VAT liabilities in Italy. The remaining two participants have answered partially wrong. Overall, the survey data is relatively easy to interpret regardless of open-ended answers. According to the existing variation in answers among cases, the set of questions has been sufficiently versatile.

6.4.3 Survey reflections

A review of the results was organized after the survey among participating personnel from Finland. The researcher had provided a presentation introducing each supply chain case with optimal solutions, affecting variables that needs to be considered as well as the reviews of FCA and DAP Incoterms® as understanding those was crucial for managing the survey. The received feedback was good, and the cases were well understood after reviewing the results and solutions. A relieving aspect was also the researcher's background in procurement making it more convenient to discuss the emerging topics and perspectives with the mutual shared business language. This undoubtedly increased mutual understanding on a higher level.

Janssen (2020, 1157) has listed the relevant factors for the VAT treatment determination. Among these are chosen Incoterms®, which party is organizing the goods transportation, under which legislation the power to dispose is transferred, applied country specific VAT ID:s, prevailing trade conditions and other related contractual matters. In this survey the relevant and discussed aspects determining the overall VAT treatment were country of origin and destination, trade of goods taking place in EU or outside EU, existence of registration for VAT purposes, chosen Incoterms® in the chain and understanding of who is conducting the required goods clearance formalities.

At the end of the survey, there is also a more relaxed question about how confident the participants were in answering the survey and why was it so. This question revealed that every participant was rather unconfident about their own answers. Citing the answers, the survey served as a good reality check. For example, export formalities and their effects seemed to create additional challenges that were not well understood earlier. This is especially evident in the second survey question where only two participants provided the correct answer for the VAT treatment. Also, EU deliveries combined with FCA trade are still causing issues and uncertainty. This was also evident in the fifth case where only four participants answered correctly.

Some frustration seems to be related to the complex chains and even more to directly quoted “VAT jargon” without any clear statements or instructions. For these reasons, the current operating mode is highly questioned due to the extensive amount of work it creates in form of investigating the issues by a wide range of professionals. Two participants have even criticized determining the correct VAT ID:s and tax codes not being the justified area of responsibility for the procurement in the first hand. Thus, these are seen more natural field for tax professionals instead of the purchasers.

7 Supply chain results

7.1 Incoterms®

Incoterms® themselves are not trade agreements but only partially determining obligations between seller and buyer if appropriately applied (Iloranta & Pajunen-Muhonen 2015, 404–405). However, they should be seen as a shortcut for a limited number of contractual matters, defining of which in detail would otherwise be rather challenging. (Davis & Vogt 2021, 1.) Incoterms® is also one of the aspects that is necessary to add on the official purchase order and therefore it must be defined at that stage the latest.

At Metso Outotec Finland Oy there are preferred Incoterms® for sales and purchase agreements, the usage of which can be justified by the transportation related flexibility and controlling abilities from the company side. For inbound transportations the preferred Incoterms® is FCA while for outbound deliveries it is CPT. On the other hand, usage of EXW is strictly prohibited due to the related risks from multiple perspectives. (MO Incoterms 2020.) These risks are based on very limited obligations on seller's side (Stojanovic & Ivetic 2020, 218–219). Also, a prohibited sale Incoterms® is DDP due to the import obligations in the seller side, which may require, for instance, tax registration liability and handling customs procedures in the destination country (MO Incoterms 2020).

When it comes to project logistics, the case company has stated that the related supply chains should be considered case by case. However, the preferred sale Incoterms® is still CPT. In addition, FCA and DAP are alternative options with the first one having limitations in the EU area and the latter one in Norway and India. (MO Incoterms 2020.) An important aspect for the Incoterms® choice appears to be the responsibility for import clearance and the costs related to that in the form of taxes and customs duties. Consequently, DDP is not considered as a valid option as it contains import clearance including related costs under seller's obligations. (Railas 2020, 94.)

The dominant purchase term for Metso Outotec Finland Oy is FCA, which can be incorporated with sales terms FCA, CPT or DAP in the supply chain consisting of three parties: supplier, Metso Outotec, and customer. However, some limitations do exist as mentioned earlier. (Tiusanen 2022a.) According to FCA delivery term the export

formalities belong to the seller's obligations and the buyer is obliged to take care of the import formalities. The goods handoff location should be close to the seller in the departure country where the seller will hand over the goods to the carrier nominated by the buyer. (FCA – Free Carrier.)

As in the Figure 12 illustration, the costs and risks related to transportation are rather limited from the seller side. A relevant aspect there is the obligation of the buyer to take care of the export formalities. FCA is also allowing the seller to have good controllability over the transportation and freedom of choice related to the transport mode as well as service provider. (FCA – Free Carrier.)

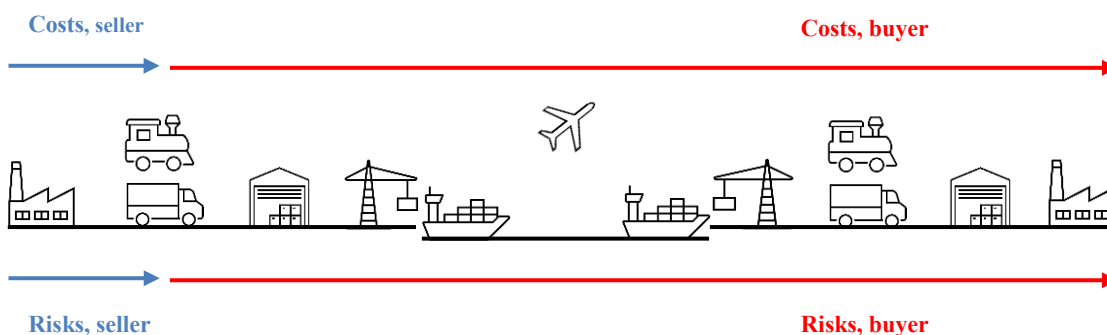


Figure 12 FCA, Incoterms® 2020 (FCA – Free Carrier)

7.2 VAT registration

Currently, Metso Outotec Finland Oy is having registrations for VAT purposes in twelve countries for its former Outotec part of enterprise resource planning system, which is used by Metso Outotec Finland Oy's Project Procurement team (Rozeliene 2023).

It should not be seen as necessary to have registration for each country even inside the Europe. The reasons for this are related to the costs and requirements for administrative work. From direct cost perspective, an existing VAT registration costs approximately 30,000 Euros on yearly basis for each registered company per registration country. The administrative workload is mainly related to the set-up costs as it is usually taking from 1.5 months up to 3 months on a time basis. In addition, the reporting and maintaining ERP capabilities for these purposes need to be considered as well. (Tiusanen 2022b.)

Occasionally, some countries have different ways of operating than the others. For example, Italy and Poland have been experienced as more challenging parties to comply

with. In addition, Spain, Hungary, and Portugal require real-time reporting covered by law, which requires certain capabilities in terms of automation and system compatibility. (Tiusanen 2022b.) As referred in the legislation representative's interview in chapter six, not registering for VAT purposes in every country is also a strategic choice. However, the current operating model with increasing quantity of FCA sales towards the customer may require an alternative approach to avoid source of risk.

Accompanied with the VAT ID:s, at Metso Outotec Finland Oy the specific two-digit tax codes are used and they specify calculating and displaying methods for VAT by defining tax rate, tax type and account. When the correct tax codes are used, company's VAT reporting is correct, and the VAT payments also have the right values for the right authorities. On the opposite situation, there remains a risk for queries and penalties from the responsible tax authorities. When receiving invoices, the recorded information there should also be checked especially in terms of purchasing scope and nature, location related information for both buyer and seller, registered tax numbers, relevant dates, and VAT rate. (Rozeliene 2023).

7.3 VAT determination dependence on supply chain

In determining the value added tax treatment, the agreement and circumstances between the seller and buyer are the most defining. Many European Union countries do consider that while having FCA Incoterms® throughout the chain, there are VAT liabilities to the seller and even to the foreign intermediary as the goods are sold in the departure country instead of moving them outside the borders. In these cases, local VAT is in many cases added on top of the invoice. (Tiusanen 2022b.)

On some occasions, when the goods are transported outside the country by the seller or purchaser, the company may have 0 % VAT due to Intra-Community supply inside EU, or export supply if the goods are moved outside EU. Even if there is an FCA-FCA chain where the seller opens the export, Finland, Sweden, France, Spain, and the Netherlands are not adding the local VAT on the invoice nor requiring registration for VAT purposes in the goods departure country from entities participating in the supply chain. (Tiusanen 2022b.)

In Table 3, the sales Incoterms® options are summarized when combined with FCA (Incoterms® 2020) purchasing term and the goods destination is outside European Union.

Green colour is referring to a compliant sales Incoterms® option. Yellow colour is stating the combination being situational and it should be reviewed separately. Red colour, instead, is referring to a prohibited sales Incoterms®. In the table the commonly recognized two-letter country abbreviations are utilized. MO reference is unambiguously referring to the case company Metso Outotec Finland Oy.

According to Tiusanen (2022b), when three parties are involved in the supply chain (supplier – Metso Outotec entity – customer) and the purchase Incoterms® is held constant as FCA, there are basically five alternative options for creating compliant chain from the VAT perspective when the goods have the destination outside EU:

1. Departure country Finland, Sweden, France, Spain, or the Netherlands. In this case the sales Incoterms® can be DAP, CPT, FOB or FCA. Here the VAT risk does not exist, and the goods are classified as high-seas sales with 0 % VAT.
2. Departure country where Metso Outotec is registered for VAT purposes. In this case the sales Incoterms® can be DAP, CPT, FOB or FCA. Here the VAT risk does not exist, but local VAT may be added on the invoice and can be claimed back after the goods have been sold.
3. Departure country is outside EU, the seller exports and customer imports. In this case the sales Incoterms® can be DAP, CPT, or FOB. Instead, FCA as the sales Incoterms® may create risk from VAT perspective.
4. Departure country in EU, other than named earlier and no registration for the VAT purposes exist. In this case the sales Incoterms® can be DAP, CPT, or FOB.
5. Departure country Poland. In this case only DAP as the sales Incoterms® can be applied.

Table 3 Sales Incoterms® options when combined with FCA purchasing term and the destination is outside EU (Tiusanen 2022a)

Departure country →	FI SE FR ES NL	Country where MO entity as an intermediary is VAT registered	Outside EU (seller exports, customer imports)	Other EU country	PL
Incoterms® for sales ↓					
DAP					
CPT / FOB					
FCA					

In Table 4, the sales Incoterms® options are summarized when combined with FCA (Incoterms® 2020) purchasing term and the goods destination is in the European Union. Green colour is again referring to compliant sales Incoterms® option. Yellow is stating the combination being situational and it should be reviewed separately. Red colour, instead, is referring to a prohibited sales Incoterms®. In the table the commonly recognized two-letter country abbreviations are utilized. MO reference is unambiguously referring to the case company Metso Outotec Finland Oy.

According to Tiusanen (2022b), when three parties are involved in the supply chain (supplier – Metso Outotec entity – customer) and the purchase Incoterms® is held constant as FCA, there are basically four alternative options for creating compliant chain from the VAT perspective when the goods have the destination in EU:

1. Departure country where Metso Outotec is registered for VAT purposes. In this case sales Incoterms® can be DAP, CPT, FOB or FCA. Here the VAT risk does not exist, but the local VAT may be added on the invoice and can be claimed back after the goods have been sold.
2. Departure country is outside EU, seller exports and customer imports. In this case sales Incoterms® can be DAP, CPT, or FOB. Instead, FCA as the sale Incoterms® may create risk from VAT perspective.
3. Departure country in EU and no registration for VAT purposes exist. In this case the sales Incoterms® can be DAP, CPT, or FOB.

4. Departure country Poland. In this case only DAP as the sales Incoterms® can be applied.

Table 4 Sales Incoterms® options when combined with FCA purchasing term and the destination is in EU (Tiusanen 2022a)

Departure country → Incoterms® for sales ↓	EU country where MO entity as an intermediary is VAT registered	Outside EU (seller exports, customer imports)	EU country, no VAT registration	PL
DAP				
CPT / FOB				
FCA				

7.4 Resulting supply chain options in the triangular model

There are certain limitations, definitions and aspects that need to be taken for granted when modeling of the valid options for Metso Outotec Finland Oy's Project Procurement function's value added tax treatment.

First of all, the intention is not to take a stand on all possible situations. Instead, the focus is on the most probable situations, which recur regularly and meaning also that only FCA delivery term for purchasing is considered. Secondly, only the cases with three parties including supplier, Metso Outotec and customer have been considered. More complicated and longer supply chains should still be considered case by case and trying to provide any general rules for these situations is not appropriate, if plausible at all. Thirdly, the intermediary B in illustrations remains constant as Metso Outotec Finland Oy, which means that this box will be Finland, a member country of the European Union, regardless of any other variation.

7.4.1 Deliveries from specified EU countries to outside EU

The first situation visualized in Figure 13 is covering the delivery from the countries where Metso Outotec Finland Oy is registered for VAT purposes and the goods are transported to a location outside the European Union. While having FCA delivery term in purchasing from supplier A, the sales term towards customer C can be DAP, CPT, FOB or FCA as per earlier presented Table 3.

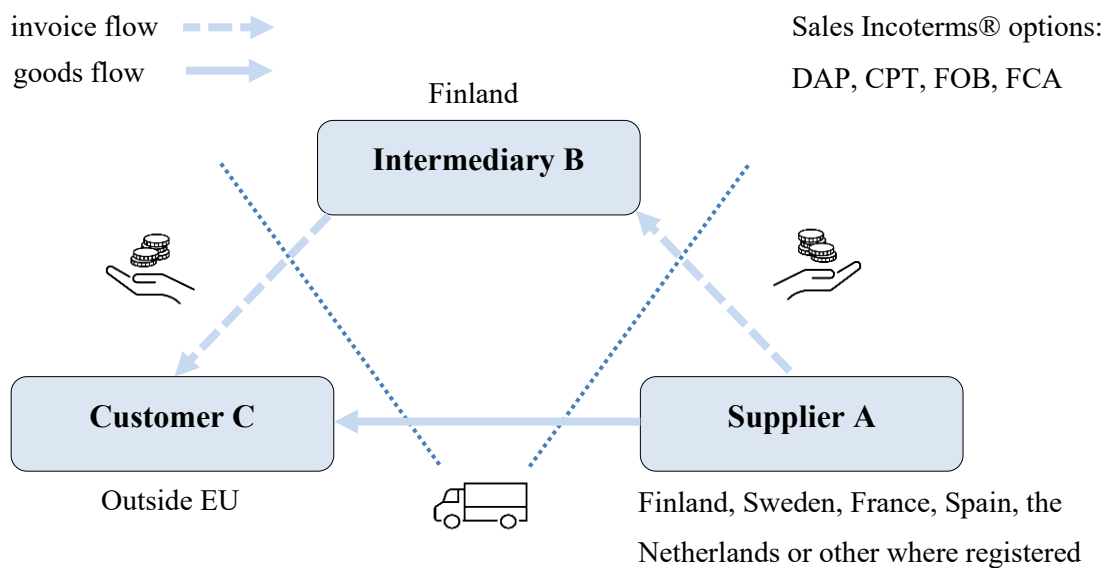


Figure 13 Triparty supply chain from specified EU country to non-EU country

Finland, Sweden, France, Spain, and the Netherlands are exceptionally flexible EU member countries as they do not collect VAT on purchases regardless of the earlier listed Incoterms® options if the goods are eventually transported to outside EU. In purchasing, this is considered as export supply with 0 % VAT, so no value added tax liabilities arise. Due to these flexible characteristics in the previously listed EU countries, it is safe to use them as consolidation points for the goods in case this kind of arrangement will be justified or required from the project perspective (Tiusanen 2022b).

As an exception, an unfortunate development has been recently taking place in Germany based on the legislation representative's interview. The case company is registered for VAT purposes there but according to the local customs legislation, usage of CPT term is triggering VAT liabilities in Germany. This can be seen as a step towards Polish model, which is currently allowing only DAP deliveries. However, this is still under review and

not effecting the supply chain being non-compliant due to the local presence in form of VAT registration in Germany. Instead, the arrangements may have direct cost impact in form of VAT and therefore the Incoterms® choice is worth considering.

7.4.2 Deliveries from Poland

A situation visualized in Figure 14 where the goods are purchased from supplier A in Poland and then moved to customer C in a country outside the European Union is rather specific case. However, as the VAT treatment here has more limited options, it is better to be reviewed separately. While having FCA delivery term in purchasing from supplier A, the sales term towards customer C can only be DAP as per earlier presented Table 3. The same treatment applies even to deliveries inside the European Union as per Table 4.

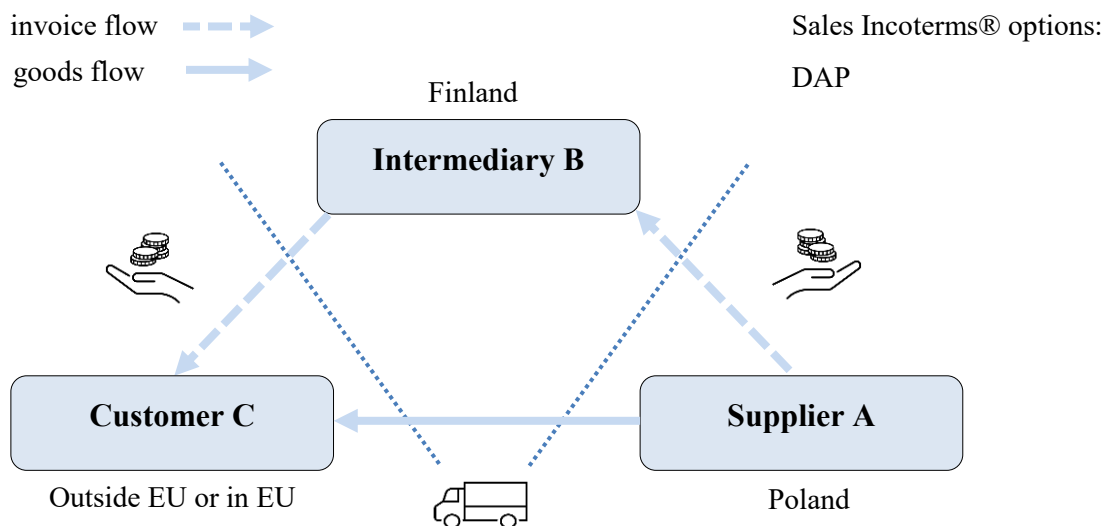


Figure 14 Triparty supply chain from Poland to EU or non-EU country

Other chains are creating VAT risks and should therefore be avoided, especially as registering for VAT purposes in Poland does not exist nor is considered as a valid option due to the various difficulties and requirements for manual work while dealing with the local authorities. (Tiusanen 2022b). In purchasing, the described situation where the goods are transported to outside EU is considered as export supply with 0 % VAT, so no value added tax liabilities arise. On the other hand, if the goods are transported from Poland to some other country in EU, this arrangement is subject to Intra-Community supply with 0 % VAT.

Applying some other sales term than DAP would mean the sales towards customer C is considered taking place in Poland. In this case, the local VAT should be added on the invoice for purchasing and registration for VAT purposes is required.

7.4.3 Deliveries from other EU countries

In the situation visualized in Figure 15, the goods are purchased from some EU country where Metso Outotec Finland Oy is not having registration for VAT purposes. While having FCA delivery term in purchasing from supplier A, the sales term towards customer C can be DAP, CPT, or FOB as per earlier presented Table 3. The same treatment applies to deliveries inside the European Union as per Table 4.

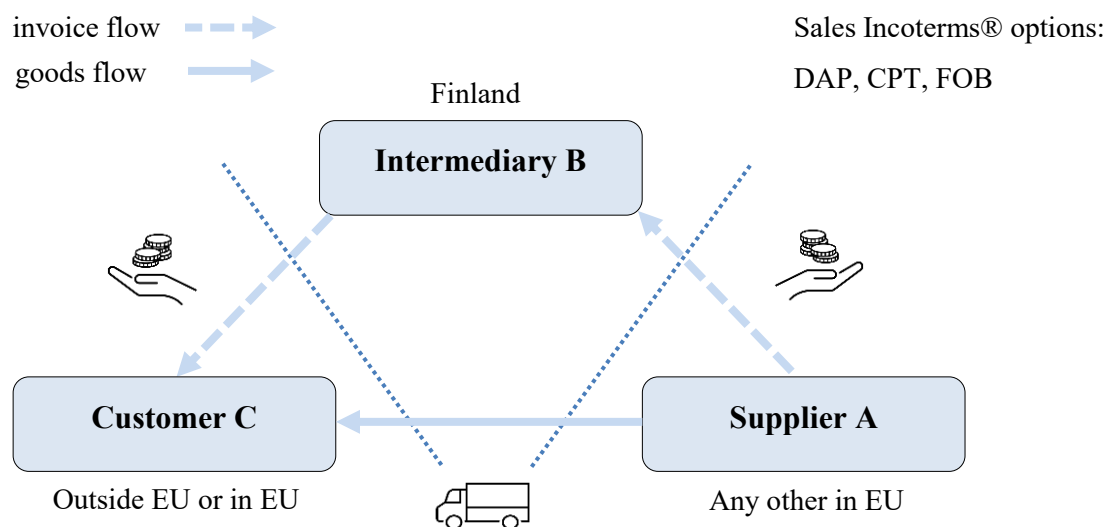


Figure 15 Triparty supply chain from any other EU country to EU or non-EU country

If the goods are physically transported to a country outside EU, also this currently described situation is considered as export supply with 0 % VAT, so no value added tax liabilities arise. If the goods are sold to EU with these same terms from a country where the case company is not having VAT registration, the 0 % Intra-Community supply can be applied. On the other hand, FCA sales term would in both cases mean the sale towards customer C taking place in the country of supplier A and in this case the local VAT should be added on the invoice and registration for VAT purposes is required.

7.4.4 Deliveries taking place outside EU

Figure 16 presents the situation where supply chain consists of dealing completely with the parties outside the European Union. As Metso Outotec Finland Oy is not typically registered for VAT purposes outside EU, any local value added taxes cannot be paid. While having FCA delivery term in purchasing from supplier A, the safe options for the sales term towards customer C are DAP, CPT, and FOB as per earlier presented Table 3. However, also FCA may be applicable on some occasions if seller exports and customer imports.

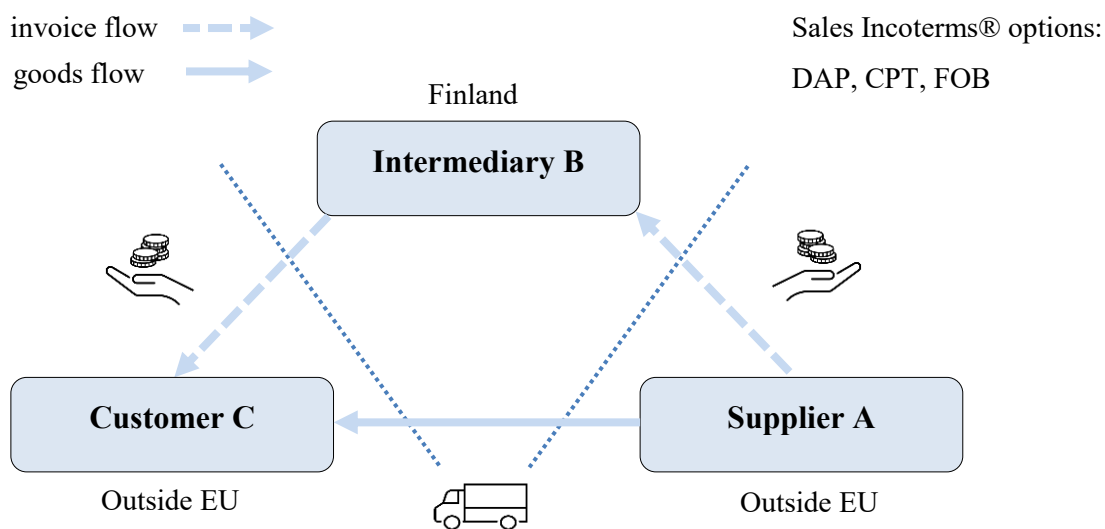


Figure 16 Triparty supply chain taking place solely outside EU

In purchasing, this currently described situation is considered as export supply with 0 % VAT, so no value added tax liabilities. In some cases, FCA sales term would mean the sale towards customer C taking place in the country of supplier A and in this case the local VAT should be added on the invoice in purchasing and registration for VAT purposes is required unless some country-specific exception is taking place.

7.4.5 Deliveries from outside EU to EU

In Figure 17, the situation where supplier A is located outside the European Union and the goods are transported to a country in the European Union is presented.

While having FCA delivery term in purchasing from supplier A, the safe options for the sales term towards customer C are DAP, CPT, and FOB as per earlier presented Table 4. In purchasing, this currently described situation is considered as export supply with 0 % VAT, so no value added tax liabilities arise. However, also FCA may be applicable on some occasions if seller exports and customer imports.

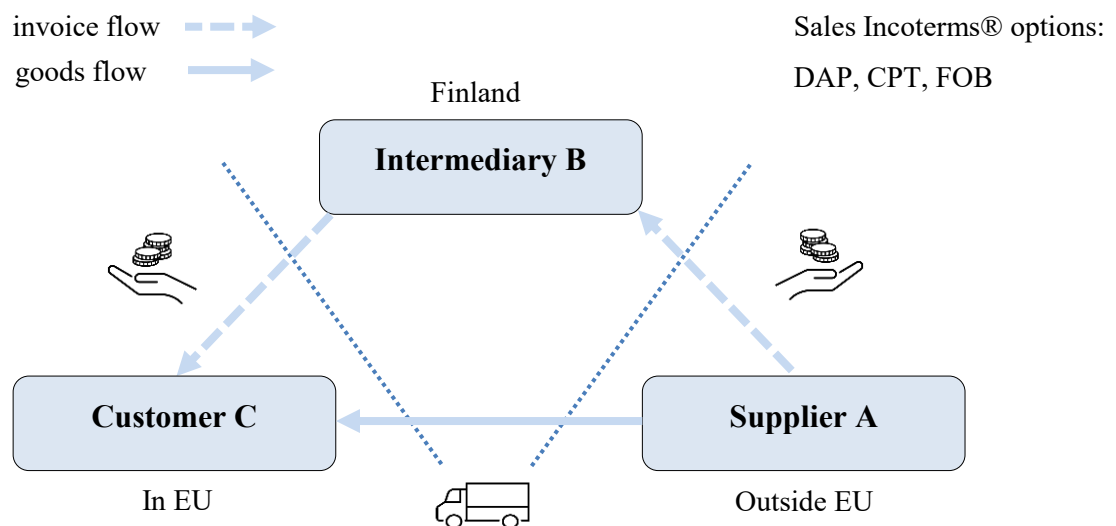


Figure 17 Triparty supply chain from non-EU country to EU

On the other hand, FCA sales term would mean the sale towards customer C taking place in the country of supplier A and in this case the local VAT should be added on the invoice in purchasing and registration for VAT purposes would be required.

8 Discussion and conclusion

In this final chapter of the thesis, the research questions are answered by concluding all the relevant information and findings. In addition, the theoretical contribution is generated by comparing and binding together the accumulated theoretical knowledge and argument with empirical evidence. Furthermore, the managerial implications are reviewed and considered with an objective of providing a more practical approach and suggestions for the operations and stakeholders in the case company. Finally, the research limitations and research applicability are discussed while considering the chosen research approach. This is then followed by the future research related opportunities suggested by the researcher based on overall understanding from the research process and topic.

8.1 Answering the research questions

Based on the empirical evidence collected from the interviews among the procurement, logistics and legislation functions Table 5 is constructed. It is summarizing the relevant emerging aspects in terms of VAT for each three earlier listed functions. In practice, the functional areas requiring the most attention from the VAT perspective are listed. Also, the root causes for risk creation from each relevant function's perspective are presented. Moreover, the risk nature is considered in a similar manner as well as ways of mitigating the recognized existing risks related to the value added tax.

The supply chain survey revealed interesting aspects from the current competence level and know-how related to VAT treatment in the case company. Overall, the results are good, and, on this basis, one could assume the embedded risk related to the value added tax treatment due to unawareness is currently on a low level. However, the clear focus areas are intra-European trade especially in terms of FCA chains, the triggering value added tax liabilities related to conducting export and import formalities as well as the country specific differences and enabling factors, again, especially in the European Union.

Table 5 Recognized risks and their mitigation in the VAT treatment

VAT treatment - key areas	Procurement	Logistics	Legislation
Focus functional area	1. Sales 2. Sourcing 3. Procurement 4. Logistics	1. Sales & proposal 2. Sourcing 3. Procurement 4. Logistics	1. at early stage before contractual agreements 2. Logistics
Risk source	operating abroad, sales Incoterms®, intermediary position, intra-EU trade, unsettled supply chains, lack in division of responsibilities, local manufacturing and sales, country-specific differences, logistical arrangements	complicated supply chains, logistical arrangements, intra-EU trade, country-specific differences, goods characteristics, sales Incoterms®	EU directives, tax law complexity, lack of presence, export and import procedures, local manufacturing and sales, contracting party, reporting technique, sales Incoterms®, lack of business understanding
Risk nature	costs, reputation, criminal sanctions, other required resources	costs, delays, reputation, other required resources	costs, delays, reporting requirements, other required resources
Risk mitigation	circulating goods (countries with VAT registration, outside EU), competence and training, information technology, division of responsibilities, cooperation	cooperation, support from own business entities, global transparency, supply chain mapping, competence and training, information technology, clear guidelines	guidelines according to the strictest, supply chain mapping, system support, support from local business entities, training, retroactive tax registration

8.1.1 Research question one

Which phases or situations in Project Procurement are crucial economically and operationally from value added tax perspective and how can the related risks be mitigated?

The target for the first research question is assessing risks related to the current operations in the case company especially from the Project Procurement function perspective. However, logistics and legislation perspectives are also considered due to their identified affectability in the overall process regarding the VAT treatment. The crucial phases and situations are identified based on empirical evidence from the anonymous supply chain survey and interviews among the case company representatives. The previous one was conducted among acting procurement personnel whereas the latter was accomplished among managerial level representatives from the procurement, logistics and legislation functions.

The first research question has a target in assessing the possible risks related to the current operations in the case company's Project Procurement function. This means having a deeper understanding on how the risks are being created currently and what is the risk magnitude in form of economic and operational impact. This review is based primarily on the data collected from the survey provided for Project Procurement personnel and secondarily from other relevant internal data sources. Literature review was expected to provide useful information on possible risk realization consequences as well as ways to avoid the value-added taxation related risks in the Project Procurement function.

As presented in Table 5, there is a clear consensus that the most determining steps are taken already at the stage of contracting and planning the procurement activities. In practice, this is related to the contribution of the sales and proposal function in determining sales Incoterms® towards customer deliveries and sourcing's contribution in planning, which suppliers the required equipment and materials are purchased from. This finding is well aligned with Davis and Vogt (2021, 3), who have emphasized that concluding the sales contract is already crucially determining phase in the process. However, procurement's ultimate responsibility is well recognized as they are placing the

actual purchase orders and defining the utilized VAT ID:s as well as tax codes there. Especially, from the tax and legislation point of view the logistics function is a crucial gatekeeper. This is indeed the final consideration point before the actual deliveries are taking place. Logistics are also considered being aware of the VAT issues but on the other hand their contribution in that point is inevitably late. This may consequently lead to late deliveries and additional project costs.

The risks are related to case company's global operations with complex and unsettled supply chains and intermediary position in the chains. In each of these supply chains, there are at least three parties: supplier, Metso Outotec Finland Oy, and customer. However, much more complex arrangements with multiple internal business entities are common as well. Problematic aspect appears to be the variations in contractual business entity depending on the customer preferences without considering the effects from the value added tax perspective. Currently, the division of responsibilities is unclear and divided even though among the practitioners there appears to be a clear and consistent understanding on where the influencing opportunities are currently lying. Based on this, the focus on the upstream chain responsibility would be justified to increase on this matter. The sales Incoterms®, for instance, seem to require much more attention than currently receiving.

The local manufacturing and sales are also a distinguishing factor that may be confusing with its simplicity if VAT is not considered. Overall, the intra-EU trade is experienced being the most challenging area of expertise, and not least due to the country-specific differences. They, on the other hand, are based on the directives and potentially even beneficial on some occasions if correctly understood and exploited. However, the tax law complexity and lack of business understanding among tax authorities are recognized aspects not depending on the company nor its performance. Lack of presence in most of the countries is a strategic choice but indeed a serious threat too as it substantially limits the operating opportunities in such locations. Especially, the export and import formalities in these situations need to be avoided and in EU area conducting them is not even possible under these circumstances.

Also, the logistical arrangements might be very determining in terms of division of responsibilities in transportation as well as in the export and import procedures. On some occasions, the options may be very limited due to the goods characteristics in form of

various measures. Logistics is also the process stage where all the VAT related planning is implemented in an irreversible way. At this point, the schedule can still be saved or alternatively completely overridden. Some weight should also be placed in the reporting technique as related professionalism there can save much.

The risk nature was also under a review to achieve a better overview on the related issues. The most referred risk nature is related to additional costs in form of taxes or logistical arrangements. However, also risks related to the reputation and sanctions are referred. Moreover, the delays are highlighted as its own area even though in the end these typically take form as additional costs due to the materializing contractual penalties. In addition, the other required resources in terms of knowledge, clearances and reporting are typically needed.

Primarily, the solutions for risk mitigation are related to training, competence and cooperation among personnel who are dealing with value added tax. In addition, clear guidelines and division of responsibilities related to the VAT treatment would be very much needed. Taking this idea to a higher level, a more thorough global transparency and support from own business entities in the VAT related arrangements is seen as a beneficial approach on a corporate level. These can be seen as a more strategic approach towards VAT risk mitigation.

On a practical level, a more comprehensive system support and information technology capabilities are seen as a primary solution. In addition, supply chain mapping has emerged as a justified approach to understand the complex supply chains and business requirements at Metso Outotec Finland Oy. Circulating the goods through countries with valid VAT registration or outside EU and retroactive tax registration have been considered options too, albeit as the last option.

8.1.2 Research question two

What kind of contractual aspects in various supply chains are justified to apply so that the value added tax treatment is efficient and yet without compromises in general business operations?

Project Procurement in the case company is heavily relying on the drop shipment operating model. In this kind of arrangement there are at least three parties involved in the supply chain. In a triangular model among included parties are typically manufacturer or supplier who is shipping the goods to the customer as another party. However, these two are not typically having any direct connection but instead there is an intermediary in the contractual agreement with both ends in the chain. However, the aspect worth noting is that the physical delivery of goods only takes place once between manufacturer or supplier and customer. (Wethekam, & Schiller 2015, 27–28.)

The research target for the second question is assessing the suitable contractual combinations in the supply chains. This refers to solutions covering majority of the case company transportation needs in Project Procurement function while also considering the intermediary position in the supply chain and related VAT liabilities. In addition, the general business requirements are considered here as well in order not to create any additional operative barriers while avoiding the VAT risk realization.

Incoterms® should be seen as a crucial aspect in determining the liabilities between the buyer and seller. This means taking a stand on how the goods transportation will be organized and paid between the parties and at which point the risks are passed in this contractual relationship. (Davis & Vogt 2021, 2.) These liabilities may also cover packing, storage, documentation, insurance or some additional duties and dues depending on the case (Stojanovic & Ivetic 2020, 217).

The case company is having some preferences related to Incoterms® in purchasing and sales. This approach is limiting the options in a very justified way as it might affect the flexibility as well as controlling abilities from the case company perspective. The preferred Incoterms® for purchasing is FCA and for this reason the supply chains under review rely on this assumption. (MO Incoterms 2020.) A natural adjustment is utilizing FOB purchasing term instead with heavy and oversized cargo in the sea transport as it turned out while interviewing the logistics representatives. As presented in Table 1, the handoff location for the goods is in this case on the board of a ship. This arrangement is moving the handoff location a bit further compared to the FCA illustration in Figure 12, but not across the country border and still with the seller's export liabilities applicable.

There is also one prohibited Incoterms® as usage of EXW purchasing term is not allowed at all according to the case company guidelines due to the related risks (MO Incoterms

2020). This delimitation is understandable in general while considering the poor visibility related to the cargo movements, which might create even compliance issues in the international trade. Also, the suitability of EXW term is rather questionable also due to the potential need for special lifting equipment from the buyer's side especially in heavy cargo. (Davis & Vogt 2021, 7, 12.) Furthermore, the party required to handle the goods clearances should also have the legal capability in handling them, which is not automatic for a foreign entity without fixed establishment in the USA and Europe (Davis & Vogt 2021, 9; Railas 2020, 225). In case there is some other purchasing term than the previously listed, it is highly encouraged to review them separately.

Respectively, in relation to the terms of sale there are preferred options according to the case company guidelines and similarly listed in the logistics representatives' interview. These terms are CPT, DAP and FCA (MO Incoterms 2020). As listed in Tables 3 and 4 earlier, DAP is the only valid option in the triangular drop shipment model for all combinations while applied with FCA purchasing term. If Poland is not included in the review, CPT is also a valid option as the sales term while combined with FCA purchasing. However, in Germany it also seems to trigger local VAT liabilities, which have a direct cost impact for the projects. Still, the case is different compared to Poland as there Metso Outotec Finland Oy is not registered for VAT purposes unlike in Germany. On the contrary, FCA sales term combined with FCA purchasing term is only acceptable from Finland, Sweden, France, Spain, the Netherlands or from other country where Metso Outotec Finland Oy is registered for VAT purposes while delivering to outside EU.

When the departure country is outside EU, FCA purchasing term might be possible to combine with FCA sales term regardless of the destination. In this case, the seller must arrange export procedures and the customer must arrange import procedures. However, this approach, such as any other combinations, are suggested to be reviewed separately. In the sales a prohibited Incoterms® according to the case company guidelines is DDP as it is transferring the import obligations under seller's responsibility (MO Incoterms 2020).

8.2 Theoretical contribution

There are a few prominent research gaps this thesis has contributed. The first one is related to Henkow and Norman (2011, 879) discovering poor linkage and alignment in the literature between supply chain management and legal or fiscal objectives in the logistics domain. This finding has been the guiding principle throughout the thesis and

working as a backbone for the theoretical framework in Figure 8. The thesis has a deep focus on understanding the procurement, legislation and logistics perspectives and needs in the overall supply chain value added tax treatment by viewing these functions both separately but also as combined in the bigger picture by moving flexibly across the functional boundaries in the case company operating environment.

Bronsky (2006, 20) has stated that unless cooperation among supply chain and tax functions exists, it may create barriers for tax efficient supply chains. This interpretation can indeed be confirmed as a valid concern based on the thesis. Without active cooperation and constant interplay between the functions, there is a clear risk of creating additional costs, delays, or even reputational damage. It is also an interesting aspect that the need for cooperation does exist based on the results but regardless of this, the cooperation has not typically been too functional between the experts from procurement and legislation. Various irrational forms in logistical arrangements are a very concrete outcome from such shortage. (Henkow & Norrman 2011, 879.)

Hoek, van et al. (2008, 111, 120) have also discovered the research gap between logistics and other relevant internal functions in terms of established practices. The referred and related example concerns the need for legal support in import-export regulation. In the similar manner as earlier discussed, the thesis is also contributing to this connection through its overall layout with the focus on procurement, logistics and legislation. In this previously introduced example, the role of trade compliance in export-import regulation is also an essential adding from the case company perspective. Hoek, van and Mitchell (2006, 269–270) have seen internal alignment and cross-functional operations as a necessary requirement from the supply chain management perspective. In case well managed, achieved integration and alignment may even provide competitive advantage to the company. They have also emphasized the sales function's role as a critical area from whole supply chain perspective and this standpoint can be confirmed based on the thesis.

Another research gap is related to strategic usage of Incoterms®. According to Hajdukiewicz and Pera (2021, 35–36) this is an underestimated area of expertise and a very limited topic in the scientific publications. Considering the vast number of different obligations, costs, formalities, and risks covered by them in the international trade, this is rather surprising and even worrying finding. Rees (2004, 48) has also emphasized the

potential financial risk realization and missed opportunities if the tax professionals are not included in Incoterms® decision making. This thesis has contributed to the current research on Incoterms® usage by providing a deeper understanding on the differences between these terms and on the impacts and consequences for choosing them.

The review has been taken to a very practical level to support the overall understanding, which is seen as a key starting point for more strategic utilization. According to Hajdukiewicz and Pera (2021, 38) the importance of Incoterms® topic has only grown recently due to the increased complexity and diversity from the contractual perspective in the international trade followed by the trends of globalization and internalization. Therefore, the applications of Incoterms® especially from the value added tax point of view should be seen even paramount importance. Railas (2020, 418) has stated that the seller's obligations must be held at least on the same level in the following deliveries as they have been in the first delivery. Applying the same Incoterms® throughout the chain guarantees uniform obligations among the business partners (Railas 2020, 414). Having matched back-to-back contracts is seen as a beneficial starting point from the case company side as well. However, this opinion was also criticized as the potential gaps can be filled internally especially in the global corporation with great number of business entities.

Intra-EU trade is recognized being especially problematic from the VAT perspective compared to the traditional export-import model. An essential aspect related to the VAT treatment was applied from January 2020 in the form of Quick Fixes for Intra-Community supplies of goods. There it was also determined that a zero-rate can only take place once in the chain of transactions regardless of how many times the same goods are supplied in EU area. All other sales in the chain must be treated as local sales of goods either in the departure or arrival country in EU. (EY Tax Guide 2022, 570–571.) Wolf (2012, 36) has emphasized even further the potential approaches being an Intra-Community supply in the destination country, which is then followed by a domestic supply in the same country. Alternatively, the domestic supply in the departure country, which is then followed by Intra-Community supply in the final destination can be applied. This is an important guideline in terms of the VAT treatment in the chain of transactions.

8.3 Managerial implications

On a practical level a fundamental mismatch between the varying value added tax requirements and corporate capabilities is identified. This may become even bigger issue in the future, not least with the improvement of controlling possibilities. In the case company there is currently a strong focus on the system support and information technology as a crucial gatekeeper in the value added tax treatment for the years to come. This development is well aligned with the results from risk mitigation suggestions from the interview representatives on this matter. Other managerial implications and strategic approaches to manage the value added tax treatment in a more comprehensive way appear to be less concrete.

As it has been suggested by Norrman and Henkow (2014, 760), the principles of logistics and legal or fiscal domains should be combined by redesigning the structures and processes especially in terms of global logistics. It might also be beneficial to focus on developing joint guidelines and policies to ensure compliance and minimize unnecessary flows, additional costs, and potential legal risks. In the case company the procurement function is fundamentally related to implementing the VAT treatment in global deliveries and for this reason it is in a key role in considering the principles of both and working as a facilitator for its own part. This way the current challenges might be issued both in action-oriented system and belief system, which is considered crucial by Norrman and Henkow (2014, 759).

There is a clear need for more systematic training and VAT related skill competence maintenance, the implementation of which starts from the company's side and not only relying on the middle management's requests. Followed by ensuring sufficient capabilities, the next step would be creating a clear division of responsibility related to the value added tax consideration and observing. When the operating model is established on a business entity level, this could be widened to a corporate level with cooperation, transparency, and support on a global basis in relation to the value added tax.

This ongoing process would most likely assist in gathering valuable feedback and creating organization level guidelines in a more grounded manner. Based on the literature review, the current organizational guidelines appear to be well justified, but it may be relevant to evaluate whether the current approaches are strict and unambiguous enough considering

the current knowledge and competence level in relation to the VAT treatment on a global level.

8.4 Limitations and future research

The limitations in the thesis are mainly related to the case company specific scope. Background for this approach is based on very practical challenges requiring a deep understanding on the operation model. Moreover, thesis nature as an assignment from its own part supported the applied approach. As the empirical evidence in form of interviews, supply chain survey and various company specific documentation was collected internally, the results may not be generalizable to other conditions and companies in full.

Another limitation is related to somewhat restricted sample both in the interviews and supply chain survey participants. Five company representatives from the procurement, logistics and legislation functions were interviewed in total. The representatives were chosen based on their relevant background and having value added tax as part of their daily tasks in the company on a managerial level either directly or indirectly. Due to the related practical challenges and assignment nature of the thesis, this approach was deemed as the most appropriate by the researcher. However, including the freight forwarder representative as an external stakeholder was considered but eventually abandoned as the relationship turned out to be more of a purchased service than collaboration.

In the supply chain survey, a total of 21 potential participants were recognized based on the employment in the case company, same enterprise resource planning system in use, daily tasks in procurement and determining VAT ID:s and tax codes for the purchase orders. However, only 14 participants conducted the survey even after sending the reminders and extending the response period twice. This naturally again affects the generalizability of the results even though the purchasing spend among the participants is significant on yearly basis.

According to Voss et al. (2002, 210) the data validation can take place through multiple sources as well as through cross-checking. Considering this information, there might be deficiencies in the former. This has been a conscious choice by the researcher and supported by careful cross-checking for example by confirming emerging ideas among the interviewed representatives and reviewing the results with them before using and publishing.

Voss et al. (2002, 210) has also stated that even the researcher might have interests and biases affecting the process and results. The researcher's assumptions must be considered as embedded in question layouts and in interpretation and conclusions drawn from the empirical evidence. These assumptions and interpretation may have indeed steered the thesis in the certain direction even though also the freedom was granted in the form of standardized open-ended questions for instance. In addition, this may not be considered solely as a questionable aspect while considering the practical challenges and researcher's operative experience on the subject based on the employment relationship.

The initial starting point for the study was to understand on a more comprehensive level the related variables and affecting conditions in the case company regarding the value added tax treatment. For this reason, the qualitative methods were chosen as the most appropriate research approach. They have been discovered as justified methods in highlighting the mechanics linking the existing variables. However, this approach is not suitable nor capable in evaluating any statistical relationships. (Barbour 2008, 11.)

After making the relevant variables and justified operating models visible in this study, the justified following step would be evaluating these aspects on quantitative terms. It would also mean focusing more on explaining, analysing, and testing hypothesis, which are merits for the quantitative approach (Eriksson & Kovalainen 2008, 4–5). This could take place, for example, by evaluating monetary effects between different VAT compliant supply chain options to determine the most efficient solution. This thesis with the focus on triangular operating model is also providing a firm ground for more complicated applications with the increased number of stakeholders.

On a higher level, comparing the current VAT legislation especially in the European Union with the requirements and needs from globally operating corporations would most likely provide an interesting income angle for the VAT compliance now and in the future. Also, the comparison and positioning of the customs legislation and value added tax legislation in relation to the commercial terms seems to be a relevant and partially overlapping but still less known area of expertise. In addition, the previously listed approaches might support in recognizing existing gaps and challenges in the current international operating model. As addressed in this study as well, there appears to be major differences even on a country-specific level in the European Union, which might even create some barriers for trade.

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Appendices

Appendix 1 Interview structure



**UNIVERSITY
OF TURKU**
Turku School of
Economics

Master's thesis interview

1 (1)

23.3.2023

Value added tax treatment in Project Procurement drop shipments

The objective of this interview is to understand varying perspectives, actions and influencing opportunities related to value added tax treatment from procurement, legislation and logistics domain, which have been identified being closely involved in defining such implementation. Overall, research is conducted also to identify crucial phases and situations related to value-added taxation as well as ways to mitigate risks. In addition, applicable supply chains and contractual aspects are being mapped.

General

1. Could you describe your role in the company?
 - responsibilities, daily tasks, main stakeholders, etc.?
2. What kind of thoughts term "value added tax" brings to your mind?
 - characteristics, proximity, priority level, etc.?

Practical work

3. How is your work / your team's work related to value-added taxation in the company?
 - opportunities for influence, determination, decision-making etc.?
4. What risks do you perceive related to VAT? What are the ways of mitigating value-added taxation related risks in your work?

Experiences and expectations

5. Are there some issues, challenges or problematics related to value-added taxation? Why and how come so? Could you provide some examples?
6. What aspects do you see as solutions to challenges now and in the future?
7. How have you experienced cooperation, division of responsibilities and transparency in daily operations related to value-added taxation?

Appendix 2 Survey structure



Master's thesis survey

1 (3)

4.5.2023

Value added tax treatment in Project Procurement drop shipments

The objective of this survey is to achieve a better overall understanding of the competence and skill level among acting project procurement professionals in terms of value-added taxation in Metso Outotec Finland Oy's physical drop shipment business. Desirable outcome would be finding weaknesses, challenges, and gaps in current know-how and as a conclusion identifying crucial phases or situations in purchasing from VAT perspective. The survey is completely anonymous. As part of the overall research, also justified supply chains and contractual aspects from procurement perspective are being mapped.

Please familiarize yourself with the below presented supply chains and answer, which **VAT ID** would you use on Purchase Order in each case and which **Tax code** (if possible, considering the given material) you know or think would be the correct and optimal one to use.

1. Metso Outotec Finland Oy purchases goods from German supplier with FCA Krefeld, DE (Incoterms 2020) delivery term and is transporting the goods directly from Germany to Turkey while having DAP Istanbul, TR (Incoterms 2020) delivery term towards customer.



- Metso Outotec FI VAT ID in invoice, 0 % VAT, Tax Code FM Purchase at high seas.

2. In the previous situation, if Metso Outotec Finland Oy would be responsible for export formalities in Germany, would it change the VAT treatment? If yes, how?

- Metso Outotec DE VAT ID in invoice, 19 % local VAT, Tax Code H1.

3. Metso Outotec Finland Oy purchases goods from China with FCA Suzhou, CN (Incoterms 2020) delivery term and is transporting the goods directly from China to customer in South Africa while having DAP Vereeniging, ZA (Incoterms 2020) delivery term towards the customer.



- Metso Outotec FI VAT ID in invoice, 0 % VAT, Tax Code FM Purchase at high seas.

4.5.2023

4. **Metso Outotec Finland Oy purchases goods from Hungarian supplier with FCA Budapest, HU (Incoterms 2020) delivery term and is transporting the goods directly from Hungary to customer in Portugal while having DAP Lisbon, PT (Incoterms 2020) delivery term towards the customer.**



- **Metso Outotec FI VAT ID in invoice, 0 % VAT, Tax code FS FI EU purchases, Triangular.**

5. **In the previous situation, would something change if Metso Outotec Finland Oy would purchase with FCA Budapest, HU (Incoterms 2020) delivery term and is also selling with FCA Budapest, HU (Incoterms 2020) delivery term towards the customer?**

6. **Metso Outotec Finland Oy purchases goods from China with FCA Suzhou, CN (Incoterms 2020) delivery term and the goods are being transported directly from China to customer in France while having FCA Suzhou, CN (Incoterms 2020) delivery term towards the customer.**



- **Metso Outotec FI VAT ID in invoice, 0 % VAT, Tax Code FM Purchase at high seas.**

7. **Metso Outotec Finland Oy purchases goods from Poland with FCA Kolbaskowo, PL (Incoterms 2020) delivery term and is transporting the goods directly from Poland to customer in Saudi Arabia while having DAP Riyadh, SA (Incoterms 2020) delivery term towards the customer.**



- Metso Outotec FI VAT ID in invoice, 0 % VAT, Tax Code FM Purchase at high seas.

8. Metso Outotec Finland Oy purchases goods from Italy with FCA Bologna, IT (Incoterms 2020) delivery term and the goods are being transported directly from Italy to customer in Saudi Arabia while having FOB Genoa, IT (Incoterms 2020) delivery term towards the customer.



- Metso Outotec FI VAT ID in invoice, 0 % VAT, Tax Code FM Purchase at high seas.

9. How confident are you in answering this survey? Why so?