

**2015 EU VAT changes to cross-border B2C digital
services
– impacts on Finnish video game companies**

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<p>This Bachelor's thesis looks at the 2015 European Union (EU) Value Added Tax (VAT) changes to cross-border B2C digital services. The overall purpose of the thesis is to reveal the impacts of the new VAT rules on Finnish video game companies.</p> <p>The thesis consists of a theoretical part and an empirical part. The theoretical part introduces the definition of VAT, VAT mechanism, and VAT in the EU and Finland, especially the differences before and after the 2015 changes to cross-border B2C digital services. Moreover, the theoretical part includes an introduction to the development of the video game industry, its value chain and revenue streams. The end of the theoretical part illustrates, with real examples, the effects of the 2015 EU VAT changes on video game companies. The empirical section is based on interviews with relevant companies and focuses on the impacts of the new rules. Emphasis is put on the challenges that the interviewed companies were confronted with.</p> <p>The study is based on quantitative and qualitative methods. First, a link to a questionnaire was published in the Play Finland Facebook group, organized by Neogames Finland ry. and followed by most Finnish video game companies. The survey was valid for a month, but only one company filled in the questionnaire. Second, two half-structured interviews with the Financial Manager and with the external accountant of a Finnish video game company were conducted to obtain detailed information of the impacts of the new VAT rules.</p> <p>All the findings show that most Finnish video game companies are not subject to EU cross-border B2C VAT on digital services. The ones that are obligated to handle cross-border B2C VAT encountered manageable challenges caused by the implementation of the new rules. No significant changes on pricing strategy and business models were made due to the new rules.</p> <p>In brief, the implementation of 2015 EU VAT changes to cross-border B2C digital services relieves the tax burden of most Finnish video game companies. This implementation does not hamper companies wishing to distribute their games directly in the B2C market.</p>	
Keywords EU VAT, MOSS, cross-border B2C, digital services, Finnish video game companies	

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1 Introduction

This study aims to present the European Union (EU) Value Added Tax (VAT) changes to cross-border B2C digital services, effective 1 January 2015, and the business implications of the changes on Finnish video game companies.

1.1 Background

During a taxation course study, the author followed recent changes and news related to VAT and discussed them with other students. As digital service is a booming economy sector, which has attracted much academic attention, VAT on digital services has been found to be a brand new and topical in recent years. The shifts from traditional trades to transactions in digital form as well as the increasing complexity of business models have led to a reconsideration of the current VAT taxation systems in digital economy. Thus, the author decided to do more research related to VAT on digital services. In this thesis, the author firstly narrowed down the territory to her country of residence, Finland. After some basic research, the author decided to focus on one kind of digital services - video games, due to personal interests and the information availability. On the following part of this chapter, the background of the VAT on digital services and the video game industry are displayed.

In the EU, VAT rules on trade of cross-border digital services have been changed since the beginning of 2015. To date, the VAT was levied based on the physical place of the companies that provide the digital services. For example, previously, digital service suppliers only charged their services with local VAT rate. Under the new rules, digital services are always taxed in the place where the customer belongs (European Commission 2016). As VAT is a consumption tax, the above change can make sure that the tax revenues reflect where the consumption takes place. Under the new rules, revenue distribution is fairer between EU Member States, and competition between suppliers established in different tax jurisdictions is more impartial. (European Commission 2014.)

Digital game is one of the digital services that fall under the coverage of the new rules, and it is now an important sector in Finnish economy. News from Tekes, the most important publicly funded organisation for financing research in Finland, reported that the Finnish video game companies have developed from 100 million euros to two billion in the last five years. The number of employees was around 2 700 by the end of 2015. The Finnish video game industry is flourishing, despite the uncertainty in the country's economic situations. (O'Sullivan 2016.)

The mentioned changes have caused concerns about higher operating costs, because relevant companies must be able to locate their customers and monitor the VAT rates in all EU countries. Moreover, since the companies have to charge the VAT on the rate that applied in customers' countries, their sales revenues are subject to the rules in those countries. Finally, the VAT registration has brought companies some administrative burdens. Companies which do not want to have VAT registration in all 28 Member States can use a new system called Mini One-Stop-Shop (MOSS).

On the other hand, these changes have simplified the VAT process for some application developers and publishers. By providing their services to the app stores instead of to the end-consumers, developers and publishers are not subject to the above-mentioned tax burdens. Still, they need to be aware of the compliance risk. (The market for computer & video games 2014.)

In this study, the author conducted both primary and secondary research to disclose the impacts on Finnish video game companies and to provide viable recommendations.

This thesis topic is important for the author, because the author can apply her professional knowledge and skills on a high-quality research. Meanwhile, the author has learnt up-to-date taxation knowledge in the VAT specific area.

1.2 Research question

This thesis intends to assess the impacts of the 2015 EU VAT changes on video game companies established in Finland. Hence the research question (RQ) for this thesis is "how do the EU VAT changes to cross-border B2C digital services affect the Finnish gaming industry", and the RQ is divided into four investigative questions (IQs). Table 1 below presents the RQ and IQs.

Table 1. RQ and IQs

RQ	How do the EU VAT changes to cross-border B2C digital service affect Finnish video game companies?
IQ1	What is VAT and changes to EU cross-border B2C digital service VAT?
IQ2	How is the development of video game industry?
IQ3	How have the changes impacted the Finnish game developers?
IQ4	What recommendations for developers who want to explore business in B2C market?

1.3 Demarcation

The changes in force from 2015 on cover the digital services, namely, the business of telecommunications, broadcasting and electronic services. Only the suppliers who provide services to consumers located in the EU are concerned (European Commission 2014). As illustrated in Figure 1, the companies who are providing physical goods, providing digital services to business customers, or providing digital services to non-EU customers are not impacted by the 2015 EU VAT changes to cross-border B2C digital services (European Commission 2014).

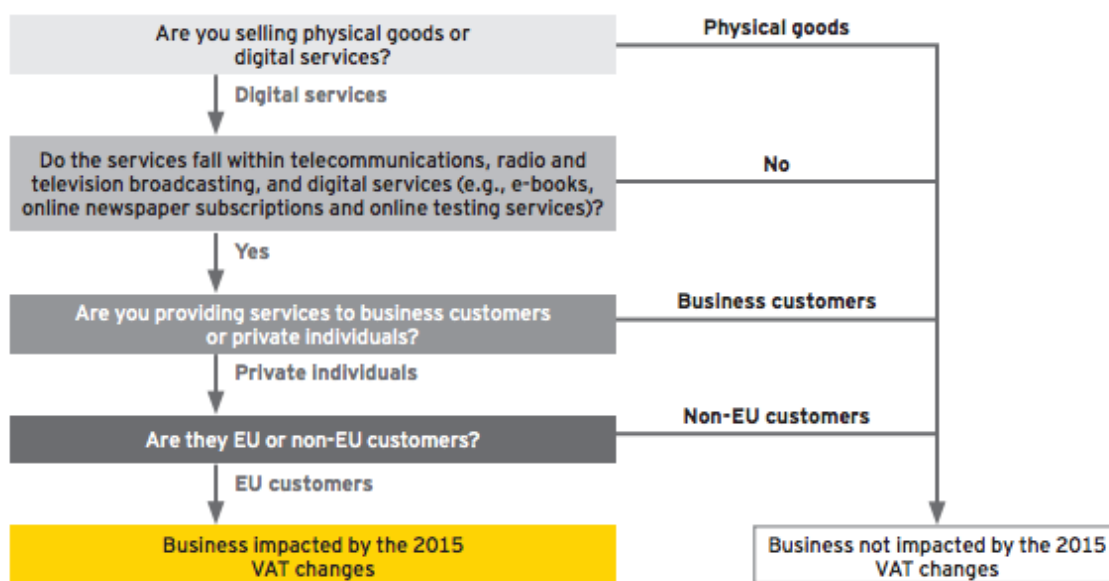


Figure 1. Transactions covered by the EU VAT changes (EY 2014,3)

Although traditional video games are distributed as physical products, video games nowadays are distributed as a digital model of domination by downstream (Chantepie, Michaud, Simon & Zackariasson 2014, 9). Thus, the video games mentioned in the thesis refer to those traded in digital forms and thus fall under the coverage of VAT changes to digital services. Moreover, gambling games are excluded in the thesis because gambling is generally VAT exemptions and are subject to a specific gambling tax (Backu 2014,38).

1.4 International aspect

This thesis topic fulfils the curriculum requirements well. The international requirement is satisfied since video game companies are doing business through the Internets and application platforms by providing games to consumers all over the world. Moreover, the EU VAT system must be complied to by Member States and has important business implication on global business.

1.5 Benefits

The changes became applicable two years ago, and businesses affected by the changes are supposed to realize the influence of the changes and have carried out a corresponding action. This research provides business implications of the changes for Finnish video game companies.

For those who want to explore direct B2C business and distribute their games without application stores in video game industry, this report provides common information and recommendations from a VAT perspective.

Video game players, especially those who need to pay for game accessories or additional functions, know better about why the price might be different in each EU country.

Finally, by conducting this research, the author gained deeper knowledge on up-to-date regulation and application of VAT on video game industry's cross-border trade and built some connections with study companies.

1.6 Key concepts

In this subchapter, key concepts which are necessary and crucial to understand the research are presented.

Value Added Tax or **VAT** is a broad-based tax levied on the production and distribution of goods and the provision of services, with the systematic offsetting of tax charged on as inputs against that due on outputs. It is also a consumption tax because it is ultimately borne by the final consumer. (Ebrill, Keen, Bodin & Summers 2001,2; European Commission 2017.) More illustration about how VAT is charged, VAT rates and other mechanisms will be shown in the theoretical framework.

Place of supply of services is the place in the Member States where the customer is established, has his or her permanent address or usually resides, regardless of where the supplying business is established (Common system of value added tax 2006/112/EC).

Member States of identification is the EU country in which the company is registered as a user of the MOSS, and where it fulfils its VAT obligations. This country must be the Member State in which the company has established its business, for example a head office, or a sole proprietor has the place of business. (European Commission 2017.)

Member States of establishment is an EU country in which the company has a fixed establishment. Here a fixed establishment is considered as to “have a sufficient degree of permanence and a suitable structure in terms of human and technical resources to receive and use or to make the respective suppliers”. (European Commission 2017.)

Member States of consumption is an EU country in which the company supplies digital services to consumers (European Commission 2017).

Digital services that are covered by the 2015 EU VAT changes include telecommunications, radio and television broadcasting and electronic services (European Commission 2014).

Electronic services or **electronically supplied services** are defined by Directive 2006/112/EC as “services delivered over the Internet or an electronic network and the nature of which renders their supply essentially automated and involving minimal human intervention, and impossible to ensure in the absence of information technology”. Annex II of Directive 2006/112/EC lists some indicative examples, such as

- website supply, web-hosting, distance maintenance of programmes and equipment
- supply of software and updating thereof
- supply of images, text and information and making available of database
- supply of music, films and games, including games of chance and gambling games, and of political, cultural, artistic, sporting, scientific and entertainment broadcasts and events
- supply of distance teaching (common system of value added tax 2006/112/EC).

Video games, in general, are considered as grouping some subcategories such as online games, mobile games and download games (Buss 2016,3). Mobile games are defined as gaming-applications for mobile devices, such as smartphones, feature phones, tablets, and other portable media players (Buss 2016, 3 & Techopedia 2017). Online or browser games are possible to play directly online without installation. Sometimes they are called massive multiplayer online role-play games (MMORPGs) (Deloitte 2015,12). Download games refer to “online sales of video games for gaming consoles or PC/MAC via direct download of the installation file” (Buss 2016, 3). A specific hardware device, such as PlayStation, Xbox, is needed for playing. It is worth to mention that there is still no general agreement as to what categories this definition should apply (De Prato, Feijóo, Nepelski, Bogdanowicz & Simon 2010,17).

2 VAT

In this chapter, the main code, regulations, concepts, and theories related to VAT mechanism are presented. Differences between the new and old VAT rules are compared and illustrated as well. Specific impacts of the new VAT rules on digital service providers are discussed at the end of the chapter.

2.1 VAT Introduction

“VAT is designed to be a tax on final consumption that is broadly neutral towards the production process and international trade” (OECD 2016,14). It is a modern tax and was first introduced in the 1960s (Ebrill al. 2001,1). VAT has become the major consumption tax in terms of both revenue and geographical coverage. Today, 166 countries employ a VAT, including all OECD member countries except the US. (OECD 2016,14.) Currently, VAT is the biggest portion of the consumption tax in OECD countries on average. As a percentage of total taxation, VAT increased from 20.5% in 2012 to 20.7% in 2014 (OECD 2016,18).

VAT affects all the daily transactions and provides enormous incomes for governments. Figure 2 illustrates how the VAT is collected in a simple business process. The author assumes that Company A and B are suppliers in the business trade, providing goods or services as both end products and materials. As suppliers, A and B add the VAT to the price they charge for. Then they pay the VAT to the tax authorities. The VAT included in the price is deductible for a VAT taxpayer who makes purchases for taxable businesses. This requires that both the supplier and the buyer are VAT taxpayers. (Vero 2017.) Although VAT is paid directly by company A and B, it is neither an expense nor a revenue from companies' perspective. However, it affects the company's cash flow, administration expenses, and compliance management. Final consumers are the ones to bear the VAT. The amount of VAT is based on the price and the tax rate. It is important to determine the place of supply of goods or services to know which countries' VAT rules should be applied. Though VAT is levied on final consumption, it is exempted for some scenarios and goods or services. In these situations, companies are not able to deduct the input VAT on the final payable VAT. Most exempted items are related to foodstuffs, education and health services, but the detail items might be different in each country.

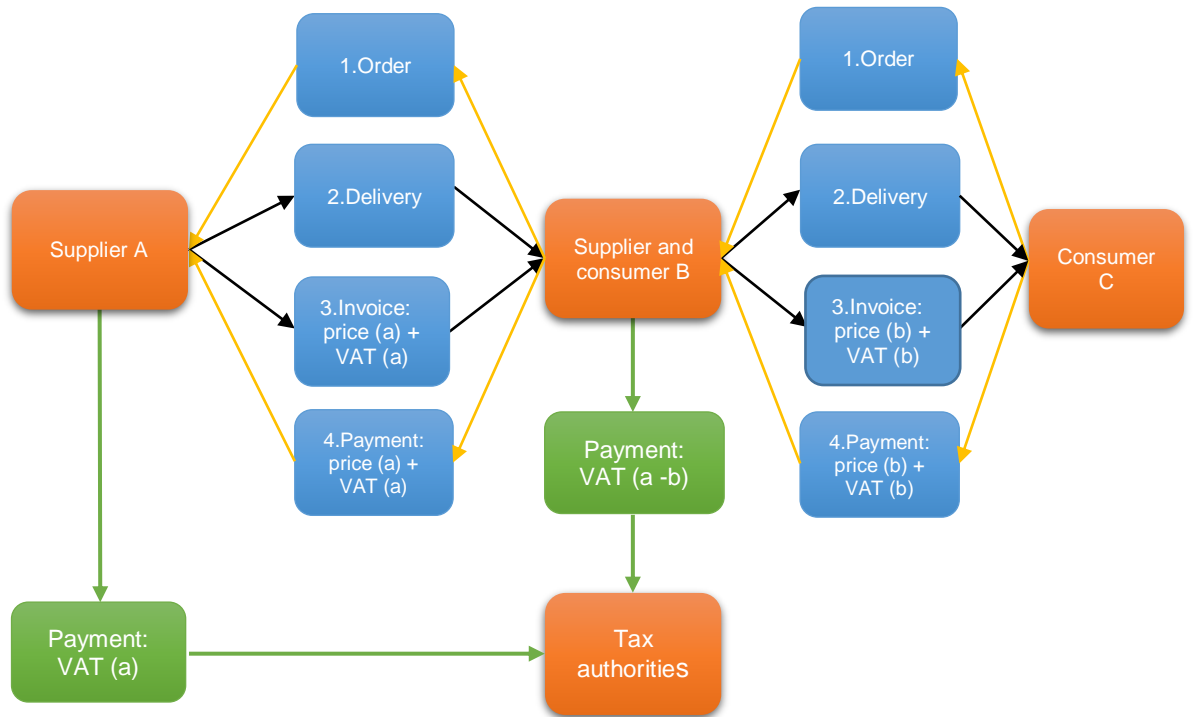


Figure 2. VAT collection process

The report of Consumption Tax Trends 2016 from OECD (OECD 2016,70) shows that the standard VAT rate is increasing in a mega trend, especially between 2009 and 2014 (Figure 3) due to the economic and financial crisis. On January 2015, the unweighted OECD average standard VAT rate reached the peak at 19.2%, almost 2% higher than that in 2009. Ten countries, five more than that of 2009, are applying a standard VAT rate over 22% as of January 2015.

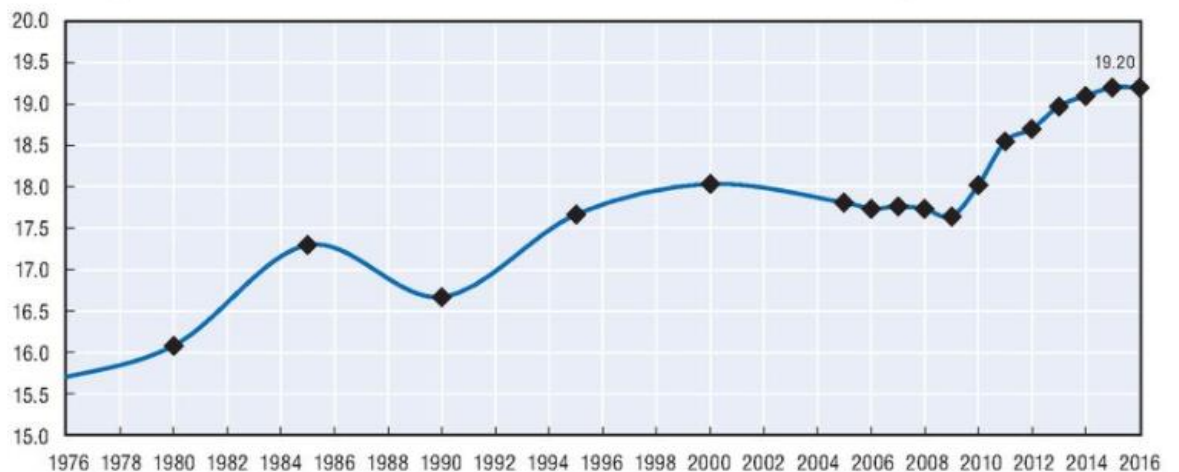


Figure 3. Standard VAT rates in % – OECD average 1976-2016

2.2 VAT in EU

In the EU, all EU Member States are required to adopt a VAT that should comply with EU VAT regulations so that there is an efficient, neutral and transparent turnover tax system.

The laws regulating VAT systems in the EU are VAT directives. These directives aim to harmonize VAT in EU. The Sixth VAT Directive is the original one effective from 1977. On 28 November 2006, it was updated by a Council Directive 2006/112/EC on the common system of value added tax. All EU countries should follow common rules, but apply specific administrative practices to each territory. The Commission works as the “Guardian of the Treaties” to make sure Member States’ legislation and practice comply with the law. (European Commission 2017.)

Due to different practices, each Member State applies different VAT rates and require different administration costs, leading to competition in certain countries. In the EU, the VAT code sets a minimum standard rate at 15%. Among the 22 EU Member States which are also the OECD countries, the average standard rate is 21.7%, obviously higher than the OECD average rate (OECD 2016, 70). By January 2016, the highest standard rate in the EU is 27% from Hungary, followed by Denmark, Croatia, and Sweden at a rate of 25%. The lowest standard rate is 17% from Luxembourg. (European Commission 2016, 3.) It is worth mentioning that Luxembourg applied 15% VAT rate before 2015, which was very attractive to many international e-commerce companies, such as Microsoft, Google and Amazon. A rise in the VAT rates was implemented due to the 2015 EU VAT changes. It is reported that this action would raise 350 million euros to compensate the tax loss caused by the changes. (Avalara 2014.)

Member States may also apply reduced rates on goods, and this must be at least 5% or above. The types of goods which may benefit from the reduced rates are provided within the directives. (Avalara 2017.)

For companies doing business across the EU, VAT registration might be compulsory. It depends on the registration thresholds, which varies from county to country and from business to business. A VAT threshold is a firm size level above which VAT registration is compulsory (Ebrill et. 2001, 113). Generally, business from EU countries only needs to register in its home country if it meets the requirement for VAT registration. Non-resident business is not required to do that. One exception to this is e-commerce sellers to consumers, where there are special EU distance selling VAT thresholds. Another exception to this is the Mini One-Stop-Shop (MOSS) registration system related to 2015 EU VAT changes to digital services. The application of this system is to avoid the VAT

registration in each EU country for relevant digital service suppliers. More discussion about MOSS will be presented in the following subchapter 4.

2.3 VAT in Finland

In Finland, a person or company is required to register for VAT once it conducts VAT taxable business. Registration, however, is not mandatory unless the turnover is over the threshold of 10 000 euros for one accounting period (12 months). If the VAT taxable operation is considered small-scale, which means the turnover for the required period is less than 30 000 euros, the business may be eligible to relief from VAT (Vero 2017).

VAT rates on goods and services in Finland are shown in Table 2. The current standard rate has been 24% since the start of 2013. 14% and 10% are reduced rate for specific items listed in table 2. Now, Finland has the fifth highest standard rate among the Member States. Two reduced rates are in use at the same time. (Vero 2017.)

Table 2. VAT rates on goods and services in Finland (Vero 2017)

Rate	Item
24%	the standard rate
14%	a reduced rate for food, animal feed, restaurant and catering services
10%	a reduced rate for books, pharmaceutical products, physical exercise services, film showings, entrance to cultural and entertainment events, passenger transport services, accommodation services, operations relating to TV and public broadcasting against a fee

In Finland, a VAT taxable business whose turnover for a 12-month accounting period is less than 30 000 euros is considered small –scale, and these small entrepreneurs whose annual turnover is at most 10 500 euros are not obligated to register for VAT purposes. As a VAT taxpayer, the business must submit a VAT return on its own initiative and pay it, in accordance with the required tax period. The reporting system in used is MyTax from the beginning of 2017. Moreover, the VAT registered company should give an invoice to buyers, which contains all VAT details required by Finnish VAT Act. (Vero 2017.)

2.4 2015 EU VAT changes to cross-border B2C digital services

Due to the fast development of e-economy, the VAT system was unable to catch up with the digital and mobile economy. On 4 December 2007, the Council reached a political agreement aimed at changing the rules of VAT to ensure the VAT services accrued to the country where consumption occurs. All legal contexts relating to this political agreement are called a VAT package, which include:

- a Directive on the place of supply of services
- a mini one-stop-shop for digital services
- a Directive on procedures for VAT refunds to non-established business
- a Regulation on the exchange of information between Member States which is necessary to underpin the new arranges (European Commission 2017).

From 1 January 2015, suppliers of telecommunications, broadcasting and electronically supplied services made by EU suppliers to private individuals and non-business customers will be taxable in the Member State of Consumption. Mini One-Stop-Shop is designed to align the new rules after it comes into effective. These Changes to the place of supply of service are the final phase of the whole package.

2.4.1 Legislation before changes

From 1 January 2010, for B2B suppliers of service, the place of taxation will be the place where the customer is situated, rather than where the supplier is located. For B2C business, the “place of supply” is the location where the provider is. (European Commission 2008.)

Article 45 in the Directive 2008/8/EC says that the place of supply of services from an **EU supplier** to a consumer (B2C) shall be the place where the supplier has established his business (Amending Directive 2006/112/EC as regards the place of supply of services 2008/8/EC). This has been called “country-of-original principle” according to which VAT is charged by the supplier at the local VAT rate (Backu F. 2014, 37). Meanwhile, Article 58 in Section 3, Chapter 3 under Title V Subsection 8 regulates the supply of electronic services by a **non-EU supplier** to a consumer must charge VAT in the place where the consumer belongs (amending Directive 2006/112/EC as regards the place of supply of services 2008/8/EC). All these can be explained with table 3.

Table 3. Old regulations on B2C place of supply of services (European Commission 2017& Backu 2014,38)

Services supplied to Services supplied by	EU consumers in EU country 1	EU consumers in EU country 2
EU supplier based in EU country 1	Taxable in country 1	Taxable in country 1
EU supplier based in EU country 2	Taxable in country 2	Taxable in country 2
Non-EU supplier	Taxable in country 1	Taxable in country 2

The above rules allow some business to take advantages of the different VAT rates among Member States. For instance, Amazon is registered as a Luxembourg company. Before 2015, the company paid 3% VAT charge when selling an e-book to a Finnish reader, rather than the 24% it would have to charge if it were Finland-based. Hence, many

global e-service providers had been attracted to Luxembourg because of its lowest standard VAT rate in the EU. On the contrary, the country where final consumption happens was excluded from the VAT revenue stream. And this is one of the reasons for the VAT changes to digital services. (Backu 2014, 38.)

Concerning the services supplied by intermediaries, Article 46 VAT Directive 2008/8/EC states that “the place of supply of services rendered to a non-taxable person by an intermediary acting in the name and on behalf of another person shall be the place where the underlying transaction is supplied in accordance with this Directive.” Thus, for the digital service that is provided through intermediaries, the place of supply of services means the place of the intermediaries.

2.4.2 Changes as of 1 January 2015

Following the Directive 2008/8/EC, Article 5 clearly states the amendments begin from 1 January 2015, and the previous article 58 was replaced by the followings

the place of supply of the following services to a non-taxable person shall be the place where that person is established, has his permanent address or usually resides: (a) telecommunications services; (b) radio and television broadcasting services; (e) electronically supplied services, in particular those referred to in Annex II
(amending Directive 2006/112/EC as regards the place of supply of services 2008/8/EC).

The changes can be explained with Table 4. Comparing with Table 3, Consumers from the countries that are different from the suppliers are affected by the changes.

Table 4. New regulations on place of supply of services (European Commission 2017)

Services supplied to Services supplied by	EU consumers in EU country 1	EU consumers in EU country 2
EU supplier based in EU country 1	Taxable in country 1	Taxable in country 2
EU supplier based in EU country 2	Taxable in country 1	Taxable in country 2
Non-EU supplier	Taxable in country 1	Taxable in country 2

As of January 2015, suppliers will be permitted to discharge VAT obligations, namely registration, declaration and payment, and to fulfil obligations by using MOSS in their home territories. In other words, if a company sells digital services to consumers in the EU, it either shall be register for VAT in the consumers' countries or begin to use MOSS, meaning the using of MOSS is not compulsory. However, once the company decides to use MOSS, it should register MOSS in the Member State of Identification, and all supplies

of digital services to consumers in a Member States out of the business establish country must be declared via the MOSS system. (European Commission 2017.)

A company using the MOSS system is also required to submit a MOSS VAT return quarterly, whether it has supplied the digital services or not. Member State of Establishment cannot be the Member State of Consumption, thus any relevant supplies in local country shall be declared by the domestic VAT return. VAT revenues collected by cross-border B2C digital services will be transferred from the Member State of Identification to the Member State of Consumption, and detail information will be forwarded to the various Member State of Consumption and Establishment (Figure 4). For the transition to be smooth, the Member State of Identification will retain a descending percentage of the VAT collected until the end of 2018. (European Commission 2017.)

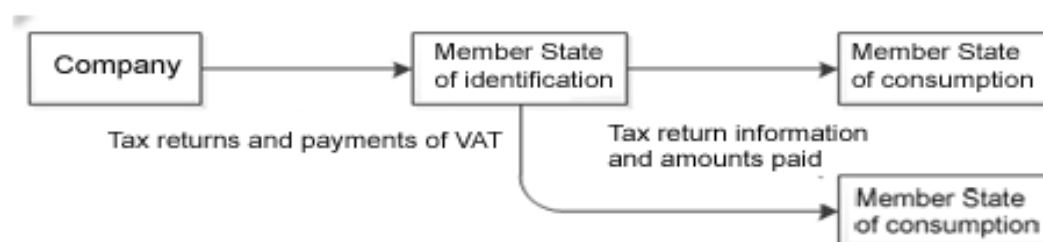


Figure 4. Flow chart of VAT return via MOSS (Vero 2017)

As mentioned in the “Guide to the VAT MOSS” (European Commission 2017), VAT payments should be made as required in time. If the company either fails to pay or does not pay the full amount, a reminder form the Member State of Identification will be sent. If the company does not pay properly again, it will be considered having persistently failed to comply with the schemes and will be excluded, unless the amounts unpaid are less than 100 euros per quarter.

Concerning the digital services supplied by intermediaries, Article 9a (Council Implementing Regulation 1042/2013) gives a clear explanation. “General app stores, electronic marketplaces and websites offering e-services for sales are qualified as intermediary under article 9a” (European Commission 2016, 74). Later, the working paper No 906 – interaction between electronically supplied services and intermediation services and initial discussion on the scope of the concept of intermediation services when taken in a broader context- was published. As stated in this working paper, an intermediation service should be taxed at the place where the customer is located, in case the underlying services are electronically supplied services.

2.4.3 Impacts of the changes

These 2015 EU VAT changes are a big step towards a more harmonious EU VAT system, and have important impacts on digital services.

To assess the potential impacts of the 2015 place of supply changes and the implementation of MOSS, European Commission and Deloitte conducted a study by gathering information from more than 97 legal persons in 39 companies. The company samples covered both large businesses and SMEs that accounts for 23%. (European Commission 2016, 31.)

From the mentioned study, businesses interviewed are facing with some challenges, regarding the legislation changes and the application of MOSS system. The most cumbersome issue is that the different VAT rules in Member States are causing additional complexity for businesses. Besides the different VAT rates, tax authorities in different territories might require an invoice issuing with specific details to consumers. Moreover, different exemption rules throughout the EU makes companies face legal uncertainties. And these exemption rules are especially related to financial services, gambling and education services. All in all, different VAT rules in the EU force companies to follow VAT rules in every Member States where their customers are located, increasing their administrative burdens and compliance risks. The second burdensome issue is the identification of customer location. There are two extreme situations concerning this issue. 46% of interviewed companies had no issues with the identification because presumptions and evidence listed in Article 24f of Subsection 3c (Council Implementing Regulation 1042/2013) are very useful for them. The others who are struggling with this issue mentioned that it is impossible to locate customers. Currently, most evidence used to decide a consumer's location are IP address, billing address, bank details, mobile country code, and other commercially relevant information (Figure 5). The other issues that the companies faced are the storage of records, interference with other legislation, and customers' status (B2B or B2C). (European Commission 2016, 51-65.)

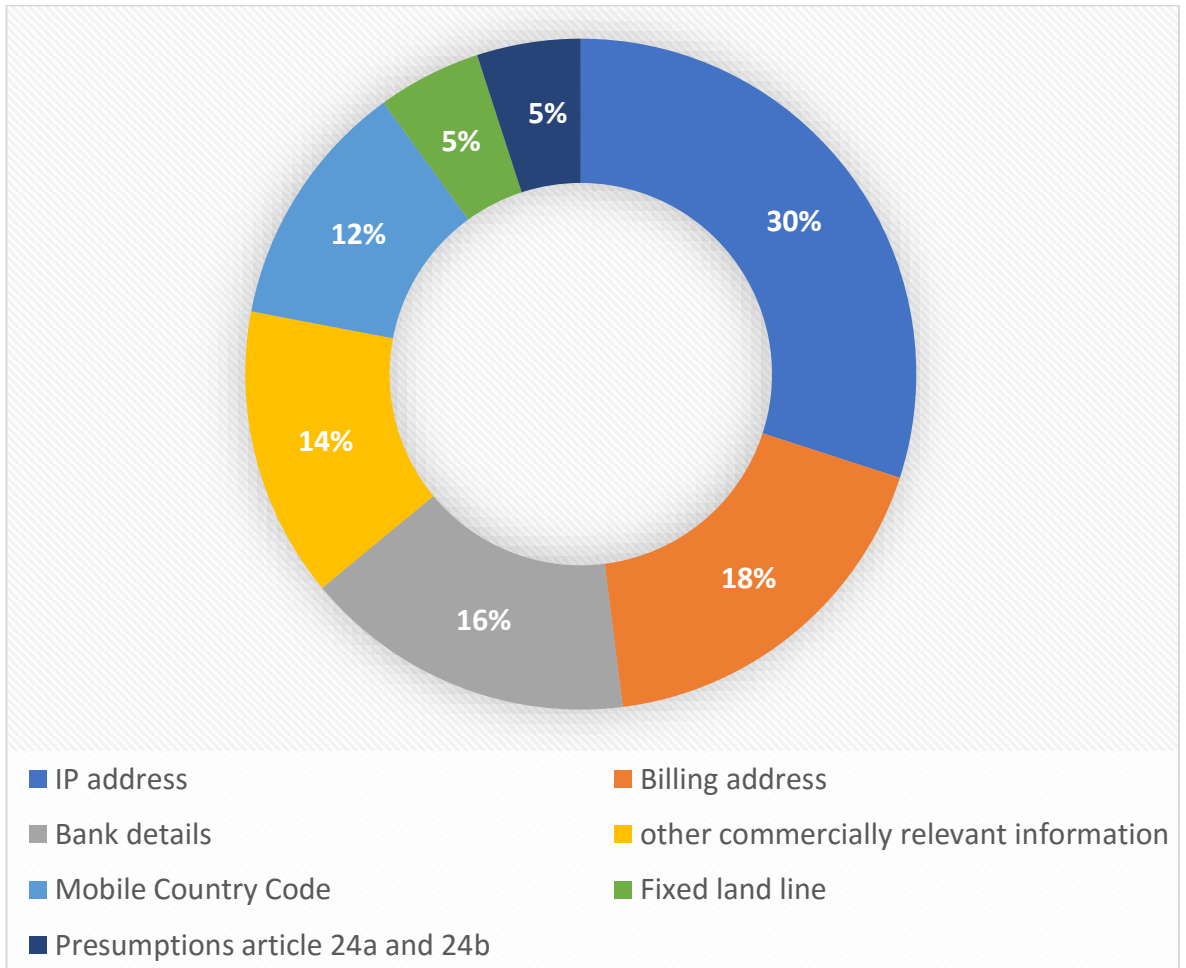


Figure 5. Evidence used in determine a consumer's location (European Commission 2016, 64)

With respect to business impacts, many companies do not change their pricing strategy but maintain a standard price for all countries and decreasing their sales margin. Meanwhile, the new changes raised obstacles to access market for SMEs. Some companies quite the B2C market due to extra costs linked to administration and compliance. Others just let the intermediaries take over the B2C VAT payments. (European Commission 2016, 80.)

Per the implementation of MOSS system, there were 14 000 registrations by the end of June 2016, which are lower than the governments expectation numbers. There are some concerns from the business perspective not to use the MOSS. Along with the fear of a penalty for later VAT returns or payments, there are other worries, such as information access by other Member States, the complication of MOSS scheme and the risk of multiple simultaneous MOSS audits. (European Commission 2016, 88.)

3 Video game industry

The video game industry as an economy sector, especially in Finland, is introduced in this chapter. The business model and value chain of the video game business are illustrated as well to analyse the impacts of VAT changes.

3.1 Video game industry

Within the global entertainment and media business, gaming industry is developing steadily. Globalization of digital games is accelerating since platforms and business models are becoming more aligned. The global video game industry grew from 35.3 billion euros in 2008 to 47.7 billion euros in 2014 (Figure 6). And the revenues that contributed by digital distribution increased from 22% in 2008 to 69% in 2014. (Michaud 9 November 2015.)

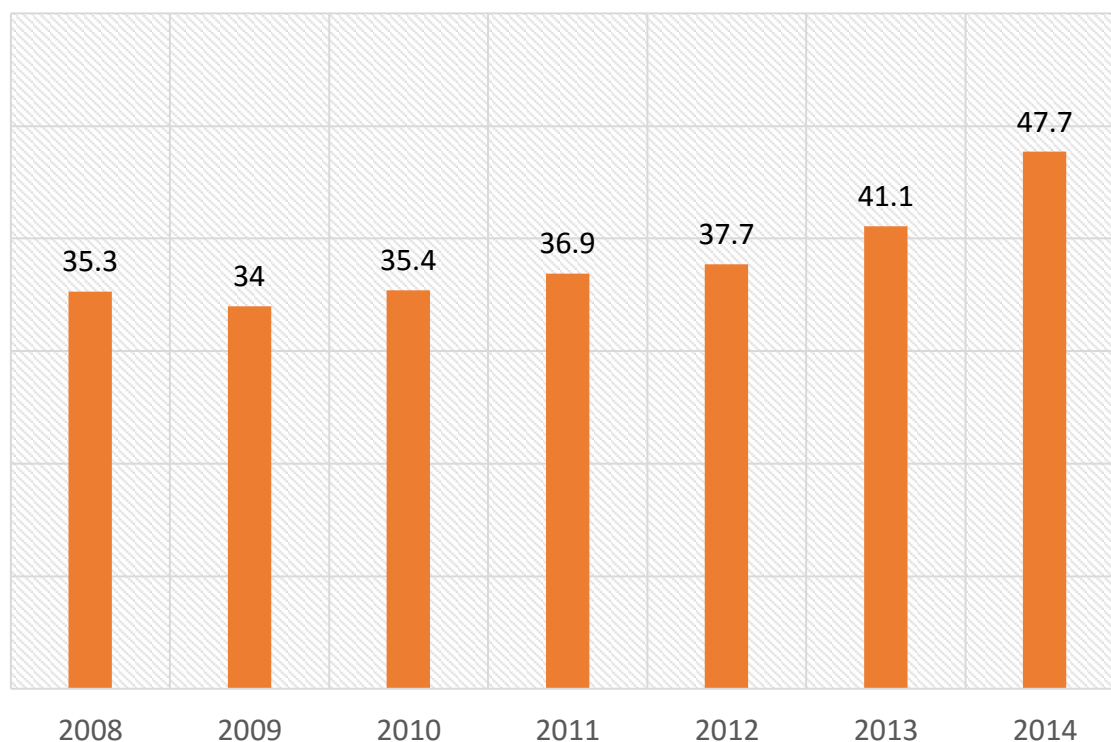


Figure 6. Video game industry 2008-2014 (in billion euro) (Michaud 9 November 2015)

With the availability of mobile devices and the penetration of the Internet, the potential market for mobile games is promising, and thus the importance of physical distribution has been reduced. Newzoo, a global market intelligence firm specializing in games, eSports and mobile games, expected mobile games to generate 36.9 billion dollars or 37% of the global digital market in 2016 (Newzoo 2016,11). In Europe, mobile games are also the biggest segment and account for 37.7% of the game industry (Buss 2016,8).

3.2 Video game industry in Finland

In Finland, the first commercial digital game was published in 1979, and the first one to be distributed globally was in 1986. In the industry's perspective, the digital games have been developed for over 20 years. Now, Helsinki has become a hub for digital game companies, attracting talent and capital to boost a broader digital economy (Deloitte 2015,7).

Neogames Finland ry., a member-based non-profit game industry organization aiming to support the Finnish game cluster, reported that by 2015 there were 290 companies, among which 250 limited-liability companies, 30 trader entrepreneurs and 10 cooperatives. Among the Finnish video game companies, a majority are startups and young companies. Around 14% of the new companies established from 2011 are so called "second round startups", which means that their founders were working in the game industry. In terms of the games published, 150 commercial games were distributed in 2015 in all major platforms, such as mobile, console and PC, as well as in new ones, namely, smart watch and virtual reality. However, mobile platform is the most popular among Finnish game studios as most Finnish video game companies are game developers. (Neogames 2016,11.)

Several important factors contribute to the high development of the Finnish video game industry. For instance, there are 3 game industry associations working together to buttress the game community. Moreover, the Finnish public has a positive attitude toward gaming. Besides, game education is popular in Finland. (Neogames 2016,24.) Thus, several gaming companies could grow from start-ups to international organizations in a decade. For example, Supercell, founded in 2010, had 5 offices, 4 games and 210 employees by the end of 2016. It is now one of Finland's most profitable companies, and its EBIDTA rose from 848 million dollars in 2015 to 967 million dollars in 2016, despite the competition from Pokemon Go (Forsell & Rosendahl 2017).

3.3 Value Chain

In the video game industry, there are several key players in the value chain, namely, developer, publisher, distributor, and retailer (Figure 7). Developers and publishers work together to make a wide range of digital games available. A digital game **developer** is the one that invents and develops digital games. A digital game **publisher** is a company that publishes games from internal developing or external developing by game developers. Nintendo, Ubisoft, and Microsoft are top game publishers now. Most developers have publishers for financial and marketing support, because the production of digital games requires high initial financial investments and two to three years to reach publishing. This

makes publishers important in the value chain as they are the ones to provide pre-financing. Some developers, however, are self-funded and are known as independent or indie developers. Digital game **distributors** are traditionally the one who take care of the marketing and distribution of physical products in the game industry. (Stewart & Misuraca 2013, 20-27.) Due to the rise of digital distribution, traditional distributors are losing their leading position in the value chain. Instead, platforms, such as iOS, Android, WP, and others are playing the role of intermediaries or digital retailers, helping game developers and publishers get closer to consumers.

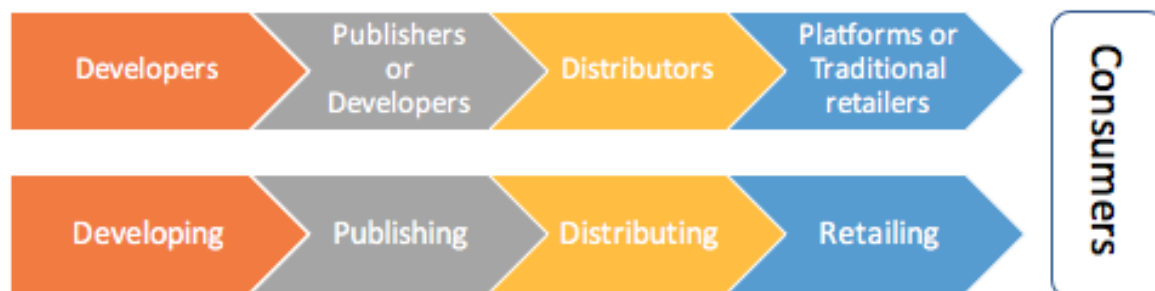


Figure 7. Value chain of video game market

As shown in Figure 8, the biggest revenue in the value chain is captured by publishers, whose revenues have increased steadily from 2008 to 2014 and are expected to grow still during the next 5 years. Revenues earned by developers and retailers are following the same pattern. The revenues of retailers especially are expected to catch up with those of publishers. On the contrary, the distributors' revenues were decreasing within the same period. For the next years, it will continue to lose its revenues as forecasted. (Michaud 9 November 2015.)

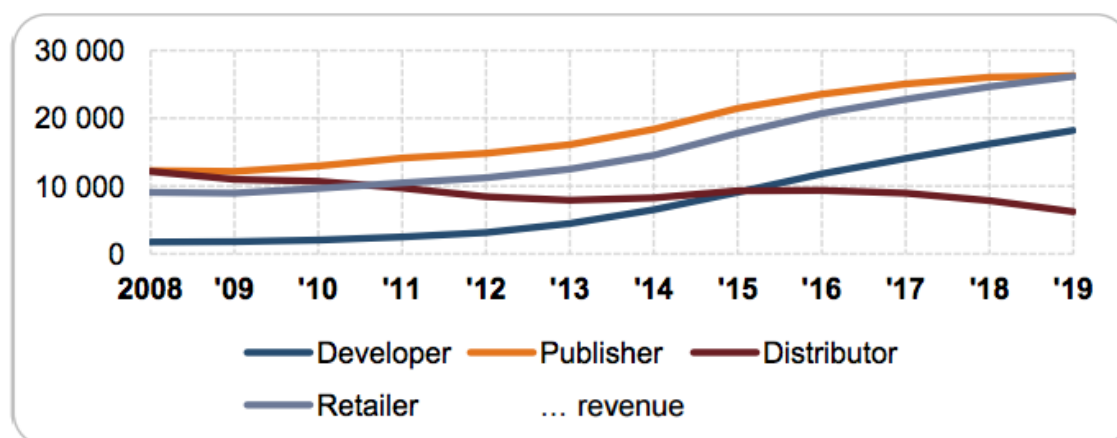


Figure 8. Revenues earned by key players in the video game market value chain (million euro) (Michaud 9 November 2015)

3.4 Revenue stream

In such a digital distribution model, new forms of revenue stream are created. **Free games**, meaning no initial payment and no in-app purchases, make up much of the mobile and download games, often funded by advertising. If payment for download is required, the games are named as **paid games**. **Paidmium games** are “the games require upfront payment for download and contain optional in-app purchases” (Deloitte 2015,7). **Subscriptions** are more common on massive multiplayer online role-play games or games that have long lifetime. A player needs to pay a monthly fee to access the online servers. For instance, the biggest MMORPGs – World of Warcraft – requires players to pay 12,99 euros per month (Deloitte 2015,12). **Freemium games** are the dominate ones in all digital games. When play with freemium games, consumers are free to download and can choose to do in-app purchases or not. This method allows consumers to try new games easily and generates revenues only from players who would like to pay for additional features. These purchases, however, are completely optional. With this method, the developers generate revenues throughout the lifetime of the game instead of at the time a consumer pays for access to the games. Some developers include in-app advertising in the revenue model as well, but it is not included in top-selling games’ revenue streams (Deloitte 2015, 11 & Stewart & Misuraca 2013, 20). Meanwhile, in-app purchase is normally affordable, often around 0.99 euros per purchase. Yet, only 2% of players are doing the in-app purchases, leading freemium games to be lucrative. (Deloitte 2015, 12.) All in all, revenue streams for digital games are mainly from consumers during the game’s lifetime, by the in-app purchases rather than by sales of software or hardware, or by sales of in-game advertising (Stewart & Misuraca 2013, 32).

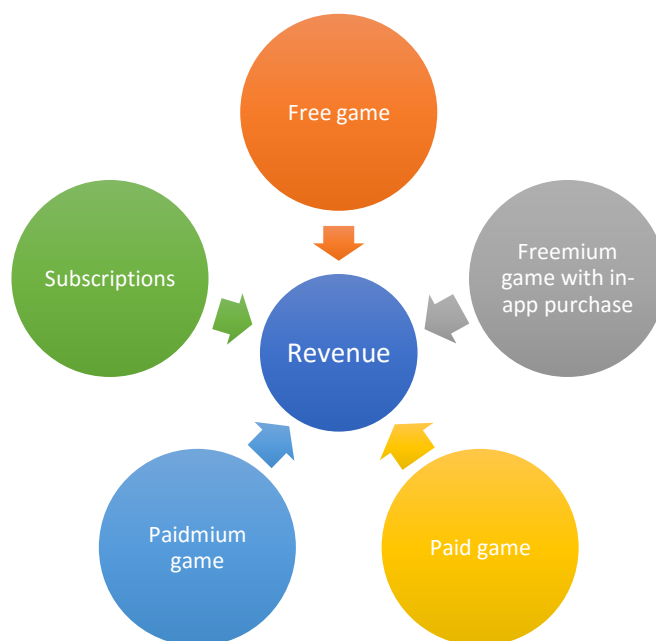


Figure 9. Revenue stream for digital games (Deloitte 2015,7&12 & Buss 2016,8)

3.5 Connections between video game business and VAT

To discover the impacts of 2015 EU VAT changes on Finnish video game companies, the secondary research is focused on two parts. The first part contains an introduction to VAT mechanics, VAT systems in both the EU and Finland, and the content of the VAT changes and impacts on digital services. Following the first part is an introduction of the video game industry. Readers can gain a brief view of the development of the video game industry in general and in Finland. The Value chain and revenue streams of video games are presented. Finally, the connection between these two parts is shown with a conceptualization figure (Figure 10) and illustrated by examples.

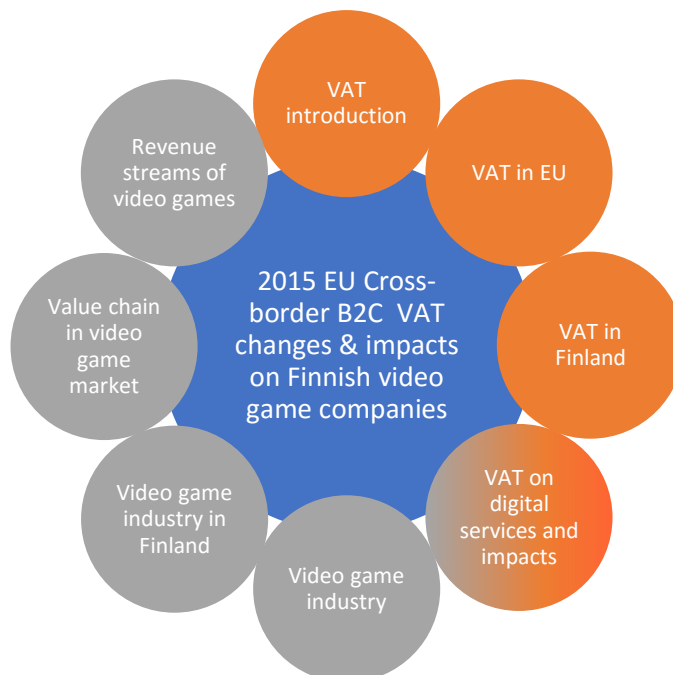


Figure 10. Conceptualization of the theoretical framework

Due to the way of digital distribution, each key player and consumer in the value chain can be in different tax jurisdiction. This leads to the complexity of VAT, considering the VAT “place of supply” changes. After the 2015 EU VAT changes, intermediation services, which are provided by application stores, should also be taxed at the place where the consumer is located. And the intermediaries should take over the VAT obligations from game developers.

Here, an example from Google will be used to clarify the changes. As one of the biggest intermediaries, Google is now responsible for VAT obligations for all Google Play Store digital content purchases by EU consumers. They are the ones to send VAT for EU consumers’ digital purchases to the right tax authority after the VAT “play of supply” changes. Table 5 shows the differences before and after the changes on Google and developer’s perspective. This example shows that Google also takes over the obligation from game developers, who are now relieved from VAT tax burdens.

Table 5. Changes as of 1 January 2015 (Google 2017)

Assuming in-app purchase price is €1 and VAT rate is 24%; revenue split between Google and developer is 30/70; consumers are in the same place as intermediaries		
Actors in the value chain	Before changes on 1 January 2015	After changes on 1 January 2015
Consumer	Consumer is assessed EU VAT: €0,19 $1-(1*1/1,24) = 0,19$	Consumer is assessed EU VAT: €0,19 $1-(1*1/1,24) = 0,19$
Developer	Revenue after 70/30 split & remitting VAT: €0,57 $(1-0,19) * 0,7 = 0,57$ Receives from Google: €0.76 $0,57+0,19=0,76$ Remits EU VAT: € 0.19	Revenue after 70/30 split & remitting VAT: €0,57 $(1-0,19) * 0,7 = 0,57$ Receives from Google: €0.57
Google	Payment to developer: €0,76	Payment to developer: €0,57 Remitting EU VAT: € 0.19

In addition, pricing is affected by these changes. Some developers, who did not set VAT rates for apps and in-app purchases for applicable EU countries. Such developers are the ones that are exempted from VAT or considered as not obligated to pay the VAT in located territories. Table 6 below illustrates how the change can affect them under the Google's platforms. For their situation, the changes obviously wipe out their revenue margins. Others might change the price following with the pricing changes of platforms. For instance, Supercell announced the increase price for in-game purchases in some countries due to changes in the way Apple and Android handles VAT in the EU region on 8 January 2015, right after the enforcement of new VAT rules (Supercell 2015).

Table 6. Changes as of 1 January 2015 for non-VAT registration developer (Google 2017)

Assuming in-app purchase price is €1 and VAT rate is 24%; revenue split between Google and developer is 30/70; consumers are in the same place as intermediaries		
Actors in the value chain	Before changes on 1 January 2015	After changes on 1 January 2015
Consumer	-	Consumer is assessed EU VAT: €0,19 $1-(1*1/1,24)=0,19$
Developer	Revenue after 70/30 split: €0,7 $1*0,7=0,7$ Receives from Google: €0,7	Revenue after 70/30 split & remitting VAT: €0,57 Receives from Google: €0,57
Google	Payment to developer: €0,7	Payment to developer: €0,7 Remitting EU VAT: €0,19

4 Research Methods

Both primary and secondary research were conducted to answer the research question and to fulfil the purpose of the study. For the primary research, quantitative and qualitative methods are mixed.

4.1 Research design

Figure 11 summarizes the general plan for this thesis. Secondary research was the main method in research phases 1 and 2. Summaries of the results for research phase 1 are reflected in Chapter 2, VAT and Chapter 3, Video game industry. These two chapters together formulate the answers to IQ1 and IQ2. Research results of phase 2 were used for sampling in primary research as well.

In research phase 3, a qualitative and quantitative mixed method was used. As stated by Saunders, Lewis and Thornhill (2016, 170), "This allows both sets of results to be interpreted together to provide a richer and more comprehensive response to the research question in comparison to the use of mono method design". Thus, both questionnaire and interviews were used to collect primary information. Supporting with phase 2, research phase 3 formulated answers for IQ3.

At the end of the study, there is a comparative analysis between the primary and secondary research results, presented in Chapter 5, Data and research. Finally, recommendations for Finnish video game companies about how to solve the challenges and decrease compliance are made based on the findings.

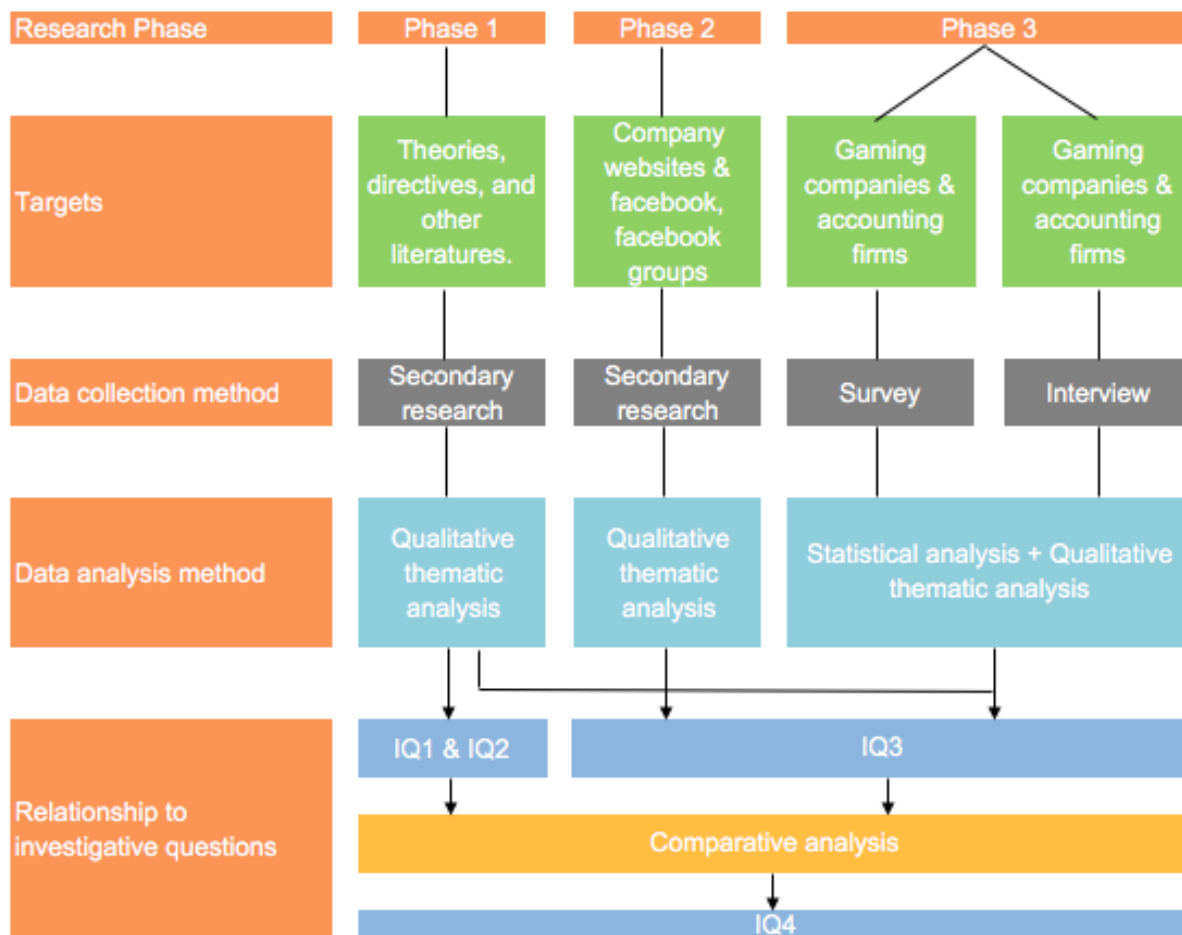


Figure 11. Research design

4.2 Research process

The following subchapters detail the research process, especially the process of primary data collection. During the primary research process, the biggest obstacle was get in touch with video game companies. Only two companies have their phone numbers open to the public, leaving email and Facebook message the only two possible ways to contact most companies. The response rate by sending emails was low while phone calls did not fare much better. Facebook communications yielded best results.

4.2.1 Secondary research

VAT and VAT on digital services related directives, regulations and working papers are studied by the author to get familiar with most up-to-date issues and to determine the rules most relevant to video game companies. Research reports conducted by leading organizations (Appendix 3) are also among the main resources. Meanwhile, conference presentations, articles and statistics about the video game industry in both the EU and Finland are screened and reviewed. The analyzing of the video game industry and value chain, as well as the demonstration of the connection between the new rules and the video game companies are elaborated in Chapter 3.

Base on the secondary research, the primary information needed to analyze the impacts of changes must cover the following categories:

- The evidence that most companies B2C VAT obligations are taken over by intermediaries.
- Impacts on VAT obligation: changes of VAT registration after the implementation of new regulations, usages of MOSS, usages of intermediaries, and obstacles or challenges dealing with the new regulation.
- Impacts on financial situation: revenue and costs changes related to the implementation of new regulations.
- Impacts on business models: changes of pricing strategy, changes of roles in the value chain, and other possible changes.

A framework (Table 7) for questionnaire and interview is designed according to the above categories. Finally, a questionnaire for target companies and an interview framework targeted to specific companies are designed separately.

Table 7. Framework for survey and interview

Topics	Question frame	Question categories
VAT	Background	Basic information of respondents
Value chain		
VAT on digital services	Awareness	Target group's awareness of the subject
2015 EU VAT changes regarding the "place of supply"	Influence	Compliance and administration cost
VAT in the EU and Finland, 2015 EU VAT changes		VAT registration and usages of MOSS
Revenue streams and value chain		Other business impacts (financial situation and business models)

4.2.2 Survey

Questionnaire is considered the greatest method made within survey strategy for business and management research (Saunders & al. 436). In this study, a questionnaire was designed with Webropol software and a hyperlink was created and published to collect answers. Respondents can access the questionnaire using a web browser. Before publishing, a game programmer first viewed the questionnaire, then the author discussed with him about the wording and terminology used in the questionnaire. Also, a teacher specialized in quantitative research refined the design of the questionnaire.

Regarding sampling, the author first identified a sampling frame based on the research questions and objectives. All Finnish video game companies (around 260 in total) form the sample of this research. External accountants, entrepreneurs, and financial employees from these companies are the right people to provide information, because they are dealing directly with the B2C VAT payment or taking charge of the financial issues. With the questionnaire, around 20 responses were expected. However, low response rate is common on business surveys. According to Spencer (2014, in Nalewajk 2016, 27), a

response rate between 1.1% and 2.6% is considered good when doing research on businesses.

Furthermore, the author sent emails to Neogames Finland ry. After communication, a hyperlink was published in the Facebook group “Play Finland”, which is run by Neogames. In the meantime, the author sent emails for survey request to the indirect tax division of “big 4” accounting firms. Three out of four companies replied; one gave valuable comments. However, they were not available to take part in the survey.

Concerning the motivation of the informants, the author expressed understanding of concerns about compliance risks on cross-border B2C VAT on digital services and were willing to share the research results.

4.2.3 Interview

As a method to collect primary data, interviews can support the author to collect valid and reliable information that is relevant to the research question (Saunders & al. 388). In this study, a semi-structured interview was used. Before the interview, a list of key questions was drafted (Appendix 3). Additionally, the author created an interview agenda covering the thesis introduction, the interview, and free discussion.

The progress went on with the selection of interview companies that are handling B2C VAT payment in-house. While going through video game company websites, the author focused on the listed information:

- Game forums/blogs.
- Game support.
- Download links.
- Facebook group.
- Company introduction.
- Management team.
- Contacts.

Table 8 shows a list of companies that the author contacted to request an interview. Templates for email and phone call are attached in Appendix 4 and 5.

Table 8. List of essential target companies

Companies		Contact ways	Contact person
Neogames	A hub of Finnish gaming industry	emails	coordinator & senior policy analyst
Supercell	Mobile games	emails	
Rovio	Console, mobile, PC, PC online, publishing, serious games, games, web, Facebook	Emails & phone calls	Business controller
Yousician	Game for music education	Emails & Message on Facebook	Finance
Sulake	Online games	Emails & phone call	Finance
Next games	Mobile games	Emails	Info
Frozenbyte	Console, console online, mobile, Multiplatform, PC, PC online	Emails	Info
Remedygames	Console, console online, console online / mobile, multiplatform, PC, PC online	Emails	Info
Dazzle Rocks	Mobile games	Emails	CEO

Fortunately, from email communications with the senior policy analyst at Neogames, the author got two company names that are handling B2C VAT payment by themselves. However, only one of the companies showed interest in the thesis topic. The financial manager from that company introduced their external accounting provider for discussing. Thus, two interviews were conducted separately to gather primary data.

Table 9 presents an overview of the interviews. These two interviews were conducted as face-to-face discussion, together with note taking and voice recording. Both interviewees have long working experience in the field of VAT.

Table 9. Overview of interviews

Company	Title of Interviewee	Topics
Game company	Financial manager	VAT obligation, financial situations, business models, and other challenges
Accounting firm	CEO	VAT obligation, MOSS, and other challenges

The first interviewee joined the game company as a financial manager from the middle of 2016, and he is the first full-time financial employee to take charge of all the financial issues and to ensure accounting and taxation compliance. Before joining the company, the interviewee was working in the department of global accounting service at an international company. There he gained experience of the global concept of VAT, which covers the VAT compliance and the translation of requirements between regulation and technical.

The second interviewee is the CEO and co-founder of the game company's accounting service provider. He has been working in the field of accounting since 2002. He has two customers in the gaming sector, both are subject to the cross-border B2C VAT on digital services and are registered for MOSS system.

5 Data and research

All findings acquired by the questionnaire, emails, and interviews are presented and discussed in this chapter.

5.1 Survey results

After being published on a Facebook group and sent by emails with hyperlink, the questionnaire was viewed 116 times, but only one response was received. The low response rate leads to an unreliable result.

The result shows that the responding company is a limited liability company founded after 2015. It is an independent game developer for online games, operating only on B2B market, and they are not going to have consumers as customers.

The contrast between the high viewing rate and the low response rate reflects a fact that this topic is somehow irrelevant to most gaming companies. This estimation highly matches the information gathered by secondary and primary research.

According to the senior policy analyst at Neogames Finland ry. (Kaleva 7 March 2017),

- "Finnish game industry is mobile/PC focused, there are only few game developer studios focusing on online games operating directly in B2C markets and who therefore are responsible for reporting and paying VAT for B2C transactions. Consequently, the main outcome of the new VAT regulation was the fact that Google started to take care of the VAT payments for B2C transactions on behalf of developers".

Additionally, Director of Indirect tax services at KPMG Finland (Ojala 29 March 2017) commented that

- "Only relatively (surprisingly) few Finnish game developer studios have faced so far real huge challenges with the 2015 EU Value Added Tax reform. Obviously one of the reasons for this is the fact that that they are not deemed to make direct B2C sales, as their sales are channeled through big platform companies (such as Apple, Google etc.), who in turn are deemed to make the B2C sales to customers and who are thus liable for VAT on these B2C sales in the EU country of the recipient".

A statistic about the popularity of the platforms among Finnish game studios presents that 85% of the platforms used are mobile platforms. The most favorite platform for Finnish video game companies is iOS, followed by Android and Windows Mobile. (Neogames 2016, 11.) All these platforms have the responsibility to take over cross-border B2C VAT obligations.

Furthermore, 148 companies were established between 2012 and 2015, which accounts for around 56% of the total Finnish video game companies (Neogames 2016, 9). Since a video game needs two to three years' time to reach maturity or publishing, one can expect that these companies are still in the initial process, in which they are focusing on game developing.

To sum up, most Finnish video game companies are not subject to the cross-border B2C VAT on digital service. In other words, the changes release them from cross-border B2C digital service VAT obligations.

5.2 Interview results

Although application platforms provide a great digital way for distribution, there are still some traditional ways, such as company websites. Finnish video game companies that provide game both through platforms and websites are subject to cross-border B2C VAT on digital service. The following subchapters presents the interview results by using thematic analysis.

5.2.1 Introduction

The interviewed game company expressed interests in the VAT subject discussion, because they agreed with the author that the VAT/GST compliance was indeed one issue for them. The company's applications are available both in platforms and company websites, thus the company is liable to cross-border B2C VAT on digital services not only in the EU but also in other countries that implemented similar taxation.

The company's current brand started two years ago, and they aim to combine games and education. Their specific technical solution makes the applications different from competitors. Referring to Figure 10, half of the company revenues were earned from applications in platforms, especial mobile sites. While the other half of company revenues were contributed by application downloaded from the company website. Meanwhile, the biggest revenue contributors were consumers from the US, Canada, Australia, and the UK. Revenues from the EU and other countries accounted for 34% on average (Figure 10).

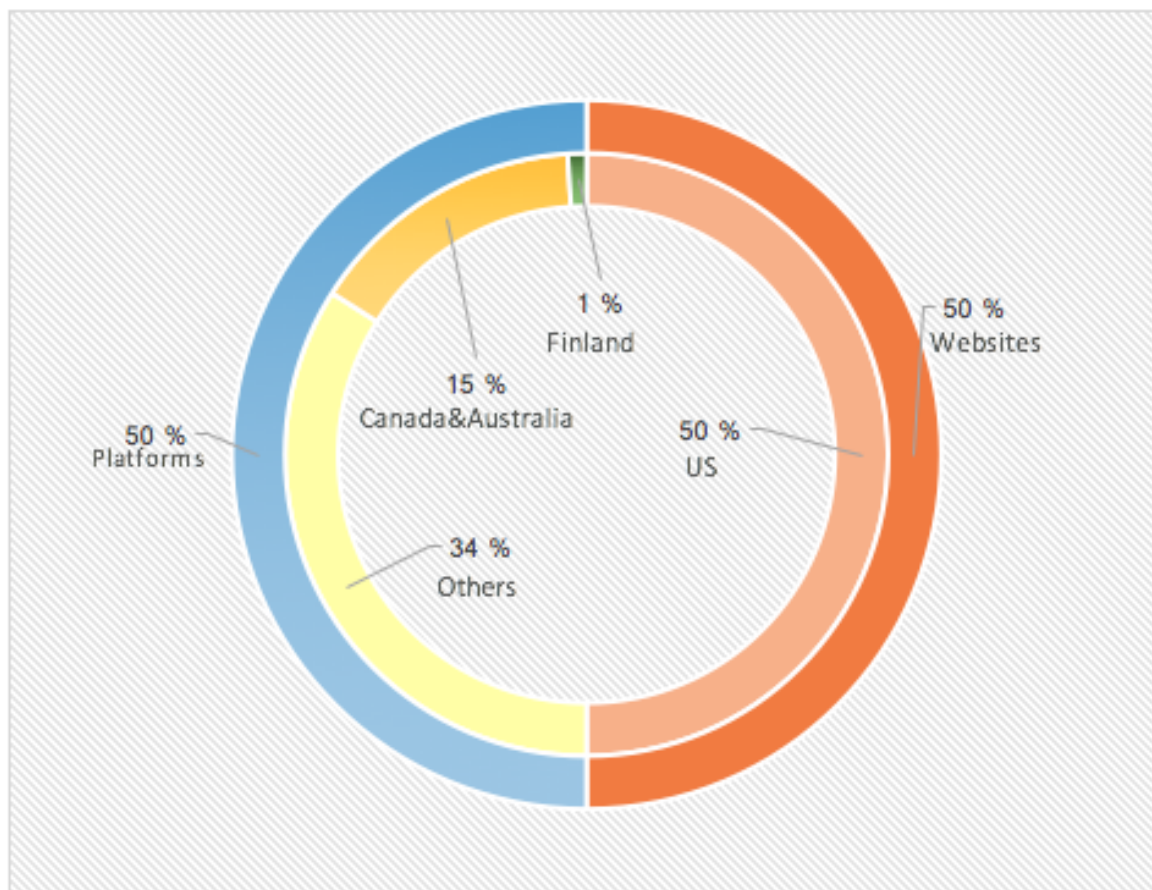


Figure 12. Revenue distribution (Hovatta 20 March 2017)

The interviewed accounting firm provides bookkeeping, payrolls, financial reports, and taxation services for the game company. Moreover, the accounting firm provides a similar service package for another smaller game company, who targets in kids learning by combining the learning and gaming as well. For the VAT obligations, the responsibilities of both companies are to identify the customers, to calculate, and to provide information needed for the reporting in MOSS system. The accounting firm has been the external accounting service provider for the interviewed game company since October 2015.

5.2.2 Awareness of the new regulations

Due to many job alterations, there were no clear answers about since when these companies had realized the changes to cross-border B2C VAT on digital service. But the company has been registered for MOSS since the beginning of 2015.

5.2.3 Challenges

As Figure 11 shows, all challenges mentioned by the interviewees can be summarized into three categories: technical challenge, compliance challenge, and bookkeeping challenge. To identify consumer location and to close the book in time with requirements were mentioned by both companies. To ensure full compliance globally was another

challenge from the game company's opinion. On the other hand, the accounting firm gave positive feedback about the MOSS system, which was stated as clear and simple.

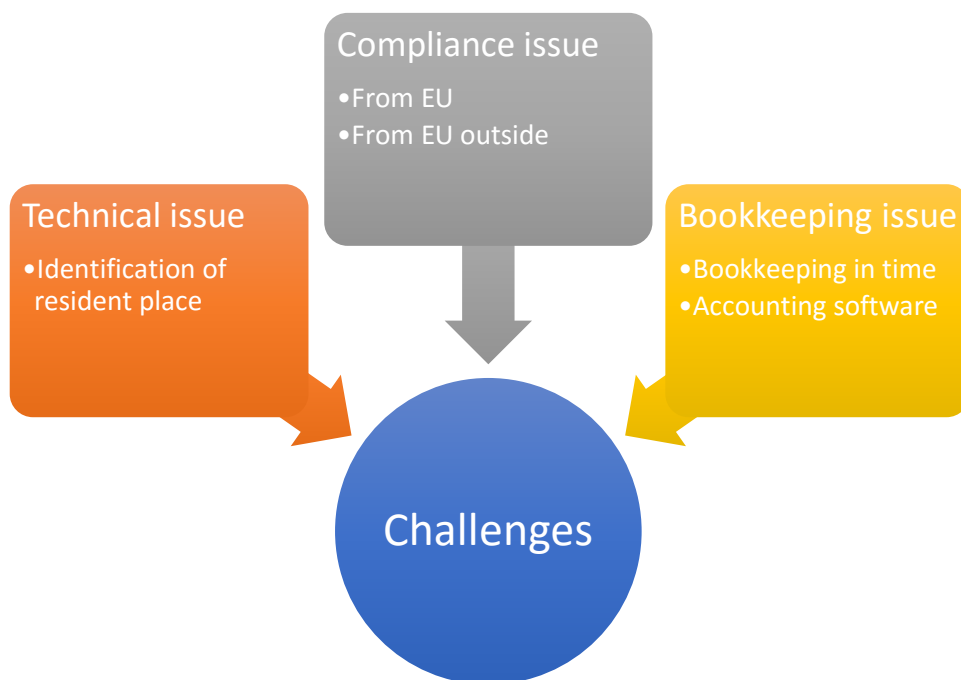


Figure 13. Challenges

Firstly, the identification of consumer residence was expressed as the biggest challenge.

So far, the game company's customers were mainly consumers. Only around 0.1% of their customers were non-consumers, such as universities, schools and educators in general, and most B2B businesses were dealt in traditional sales channel. Considering this situation, the company did not use specific evidence to identify customers' taxable situation, and had not been affected by the new regulations to identify customer status as taxable or non-taxable.

Regarding the identification of consumer resident location, the company used credit card issue as the only evidence. The issue covered the issuing bank of the credit card and the country of the bank. And this information was obtained by receiving a report from credit card payment gateway.

In addition, the company was building a solution to obtain more evidences for identification. The financial manager showed concerns about the solution of evidence conflicts, which were not clearly mentioned in the regulations. Based on the secondary research, most companies collected two non-contradictory evidences for identification. These companies reported an up to 90% match, but none of them reported a 100% match. (European Commission 2016, 58.) About the evidence contradiction, companies

used different methods to address this issue. Some used different weights and priorities to the evidence they collected. While others used extra evidence, namely, customer's self-certification or personal information provided with registration. But gathering extra information from consumers was usually considered a significant obstacle to purchase. Many companies, however, used only one evidence because additional expenses were needed and most their customers' locations were unchanged. (European Commission 2016, 59.)

On the other hand, the CEO of the accounting firm mentioned that the smaller game company they provided similar service package to used information collected from account registration to identify customer location. All the mandatory information needed from register included country and address, which can be used directly for VAT purpose.

Secondly, ensuring compliance in all consumer countries was another challenge. The financial manager mentioned that the company once received a letter from Hungary tax authority in foreign language, because the tax authority did not receive the company's VAT payment on time.

- "It was a big strange because the letter came directly to the company, but the company usually does not in contact with the local tax authority. We first thought it was a pitching mail, but it looks kind of legit. Since we have Hungary person here who can read it through, and he said that it was not a spam. So we must go and check what's happening". (Hovatta 20 March 2017.)

What makes the issue more challenging was the process of communication with the Finnish tax administration. In the financial manger's opinion,

- "It was difficult to find correct contact person for support from Finnish tax office about the MOSS system" (Hovatta 20 March 2017).

The CEO at the accounting firm also expressed the same feeling,

- "Because for general service phone number, some of the offices there do not know what MOSS is or do not know much about the MOSS. There are some certain people who reviews this system, but they are not in the public information. You have to find out quite hard where the phone number is. It took some time, and I have to call there for the same stuffs". (Tasanen 30 March 2017.)

In fact, all this was about issues between the two tax authorities. As Figure 4 illustrates, it is the responsibility of the Member State of Identification to pay VAT revenue to the Member States of Consumption.

- "The problem was that the payment was made on time, but they did not record it on time or something like that, because there are some problems with the Finnish tax office. If payment go over certain days, it would go to the next period. Even though, the payment has been made, but

the money is still in the Finnish tax office. So the Hungary tax authority sent a letter directly to the company". (Tasanen 30 March 2017.)

Otherwise, there are no conflicts between the new VAT rules and the Finnish local taxations and laws, according to the CEO of the accounting firm.

Additionally, the compliance in global perspective was deemed to be more challenge than in the EU. Comparing with all the resources to support the implementation of new regulations in the EU, resources to satisfy compliance needs globally are limited. This issue was difficult to cope with from the game company's point of view.

- "However globally this is much more complex as we have consumer customers in about hundred countries is a challenge, several of them implementing digital consumption taxes and managing the compliance with limited resources" (Hovatta 13 March 2017).
- "The company has sales in all these countries that they all have their own registration, own rates, own thresholds, and rules of invoice, having lots of complexity" (Hovatta 20 March 2017).

Cross-border B2C VAT on digital services on other countries outside of the EU, such as Australia, Japan, and Norway, are not covered by this study. A widespread trend, however, is that governments want to charge tax based on the location of final purchases.

Thirdly, booking revenues into different countries and closing the book on time to meet MOSS reporting requirement were also reported as a challenge for the companies. From the external accounting provider's point of view, an effective accounting software, such as Procountor, would be helpful to fulfil requirements without much burdensome. For instance, the smaller game company had to use Excel sheets along with the accounting software because their current software could not fully satisfy reporting needs.

Meanwhile, the financial manager indicated that they were using the "Avalara" e-commerce tax determination software package, to which they sent the information of the transaction and the correct tax rates were reflected.

All the interviewees' narratives illustrated a belief that company could do business in more distribution ways besides in platforms if there is effective IT solution support.

- "For game developers, if the things are simple enough, then you can do sales in yourself. But if there are lots of different prices and complex products, or huge amount of transactions, then you might want to use external services". (Hovatta 20 March 2017.)
- "And the tax solution from 'Avalara' also help for global business. It may not be necessary to use within the EU countries, where there are having one system, but more necessary when the company goes globally, much more like a valuable option". (Hovatta 20 March 2017.)

About the application of MOSS, the narratives demonstrated that it was a clear and simple system. Some digital service providers complained that MOSS adjustment for correction and refund were cumbersome, considering the small amount of each transaction (European Commission 2016, 98). Although the company had an annual subscription as well, the company did not confront such challenge in MOSS correction and refunds, because they did not provide refunds.

5.2.4 Impacts on financial situation

With the interviews, there was no information for comparing the changes on financial situations caused by the implementation of new VAT rules. Indeed, the game company's revenues increased dramatically after 2015 because the applications get matured and were used by more and more consumers.

The game company currently offers two applications, and these two relate to each other, especially for someone who wants to improve or plays more. Revenue model for one of the application is freemium with in-app purchases, while the other one is freemium with subscriptions. For the subscription model, there are three different options, which varied from function to function.

- "A monthly subscription is only available in app stores. The annual subscription can use credit card for payment, and it is the annual subscription that makes the company premium currently" (Hovatta 20 March 2017).

For the in-app purchase, it is not the main revenue stream, compared with the subscriptions.

- "From revenue's stand point, the in-app purchase is not big. It's more like normal acquisition, and in internal language we say it is one-time payment" (Hovatta 20 March 2017).

For both applications, a standard price model is used before and after the VAT reform.

- "It is there, a kind of industry standard for price, like 9,99 for monthly subscription is such kind of things that people have been used to paying for. If you go over that, you quickly lose conversions and customers. Adding tax on top of the price is not a clear thing, because that will have big impact on consumer behaviors. So, you might just go with the industry line like 9.99 or 9.90 pricing, without regarding the VAT and having lower margin on yourself. For digital services, there are no cost of goods sold. The mainly cost for us is the marketing, because you have to pay to get the customers, and of course the commissioning for Apple and other platforms are another big thing. But after that, you do not need to pay more for extra one customer. In this sense, the VAT is not a problem. Of course, for the country with higher VAT rate, we should aware that we cannot spend too much for marketing, then the expense for acquiring individual customers can be too high". (Hovatta 20 March 2017.)

Emails from the smaller game company's managing director (Björklund 31 March 2017) indicated that they also apply a standard price for all customers.

- "We haven't analyzed what kind of impact EU VAT legislation had on our sales".

The standard price is a common strategy used in most digital service providers. As discussed in Chapter 2, subchapter 4, The impacts of Changes, most digital service companies affected by the new regulations are maintaining the one price model after the new regulations came into force.

It is worth mentioning that the common revenues taken as commission by third parties are 30% by app stores and 2% by credit card issuers. Apple, Google, and Microsoft all take 30% of revenues from game developers and 15% for the second-year subscription. Comparing with the distribution way by using intermediaries, direct sales through company website are more profitable.

As mentioned before, effective IT solutions for accounting and taxation are necessary in the implementation of the new VAT rules. If companies need to purchase, update or change software, it will take extra expenses, affecting the company's financial situation. "Big companies seem to have spent substantially more on implementing a new VAT set-up than smaller businesses have done" (European Commission 2016, 79). Most companies choose the set-up costs as a one-off payment, and the relevant expenses ranged from 1.9 million euros to 10 000 euros (European commission 2016, 79). Besides, refined IT solutions for customer identification will create extra expenses as well.

5.2.5 Impacts on business model

At present, the interviewed game company is considering to have a new entity in the US.

- "Not because of sales tax. In contrary, we try to do it in a way that it will affect us as a foreign company there. We are not planning to have people in the US. We expect that with this business model we can have better credit card performance there". (Hovatta 20 March 2017.)
- "But we are currently working with an external partner, who does tax studies for us about the impacts of VAT or sales tax if we have an entity in the US" (Hovatta 20 March 2017).

From the interviewees' narratives, the cross-border B2C VAT on digital service did not constitute a driver for the company business model. On the contrary, the company business model drove the tax. The "place of supply" rules did not cause any changes in business model for the company.

6 Conclusion

This thesis aims to determine the impacts of EU cross-border B2C digital service VAT changes on Finnish video game companies. The research process was performed by primary and secondary research. A questionnaire, emails, and interviews were used for collecting primary data. Findings are presented and discussed in the previous chapter. In this chapter, key results, recommendations, and the reliability and validity of the results are discussed. Finally, the author reflects her own learning from the research process.

6.1 Key results

VAT is a consumption tax that is levied on the production and distribution of goods and the provision of services. A broad trend in the VAT field under the digital economy is that governments want to charge tax based on the location of final purchases.

In 2015, the main changes to EU cross-border B2C digital service VAT related to video game companies were about the “place of supply”, meaning that digital service providers who are subject to the new rules should calculate the VAT based on the place of Member State of Consumption but not the physical place of the providers as before. Digital Services provided with intermediaries should follow the same rules, and intermediaries have the responsibility to take over the VAT obligations. For cross-border B2C VAT payment, providers can do by either registering in all the Member States of Consumption or by registering for Mini One-Stop-Shop.

As a new economic sector, Video game industry’s developing is promoted by the penetration of the Internet and mobile devices. In Finland, video game companies have attracted talents and capitals, and have boosted the broader digital economy. Most Finnish video game companies are game developers focused on mobile games.

After the in force of the new VAT rules, Finnish video game companies who only sell their games in app stores are not subject to the cross-border B2C VAT. The ones that sale the games also without intermediaries need to handle the B2C VAT payment. For such video game companies, the challenges to implement the new rules includes the identification of consumer places, ensuring compliance both in the EU and globally, and satisfying accounting and taxation requirements. MOSS system is clear and simple for use, making the B2C VAT payment less complicated. Based on the limited primary data, the new VAT rules did not have significant impact on either financial situation or business model. For Finnish game developers, platforms are a good place for game distribution, because the platforms enable game developers to focus on game developing without concerning

themselves with the B2C VAT obligations. However, such way of distribution limits the game developers' market access and yields a lower margin.

6.2 Recommendations

The changes to cross-border B2C digital service VAT are adding complexity to company operations, but these complexities are manageable. The MOSS system reduces complexity for game companies who are marketing and selling through the Internets all over the EU.

To manage the challenges that video game companies might be confronted with, effective and user-friendly IT solutions for both taxation and accounting needs are necessary. Avalara, Taxamo, and Procountor are good software to meet requirements. Other IT solutions might be needed to collect evidence for customer identification. In addition, professional external services from accounting firms or law firms are helpful.

According to the research results, companies can consider multiple ways of distribution and retailing without too much concern about B2C VAT issues in the EU. The VAT compliance globally, however, need to be taken good care of if Finnish video game companies are going to explore direct business in B2C market. Thus, to students who are interested in the field of VAT on digital services, a research in global view is worth doing.

6.3 Reliability and validity

This study is conducted with a well-designed thesis plan and an active attitude. The research process was designed and executed with effort.

Even though the questionnaire was elaborate and tested before publication, the response rate was very low. Both interviewees have long enough experience on the VAT field, and interviewed companies are highly relevant to the research topic, but the number of interviews was limited. Due to the short history of the interviewed game company, there was no comparing before and after the implementation of the new VAT rules. However, experts from other organisations, such as KPMG and Neogames Finland ry., gave the author valuable recommendations and opinions by emails, adding credit to the primary research.

One reason for the low response rate and limited numbers of interviews is time limitation. Because the research was conducted in a short time, the author had only one-and-a-half-

month for data collection. Had there been more available time, the author could have had opportunities to find more informants.

6.4 Reflection on learning

During the thesis process, the author gained valuable experience. Time management skills are practiced during the process. The whole process took three and a half month, from the preliminary thesis plan, theoretical review, research design, data collection, writing to final refining.

The most challenge part is to find connections to video game companies. But the author was grateful for this experience, as the process gave her chances to know more about the Finnish video game industry and to build connections with some of the companies.

The process of research examined the author's capability of research. By reviewing and debriefing the research results from the Internet, library resource and primary data, the author's capability of research was improved simultaneously. At the same time, the author has achieved deeper knowledge about the EU cross-border B2C VAT on digital services, which is useful for the author's further study and career development.

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Appendices

Appendix 1. Overlay matrix

Investigative question	Theoretical framework	Research methods	Results
IQ 1: What is VAT and changes on cross-border B2C digital service VAT?	VAT, VAT in EU, VAT in Finland, VAT place of supply changes	Secondary research	Chapter 2 VAT
IQ 2: How is the development of video game industry?	Digital games, revenue models, gaming industry in Finland	Secondary research	Chapter 3 Video game industry
IQ 3: How have the changes impacted the Finnish game developers?	Pricing, Location strategy, Compliance risk, administration cost	Primary and Secondary research	Chapter 3 Video game industry, Chapter 4 Research methods, Chapter 5 Data and research
IQ 4: What recommendations for developers who want to explore business in b2c market?	Pricing strategy, Location strategy, Compliance management	Primary and Secondary research	Chapter 6 Conclusion

Appendix 2. Questionnaire published in Play Group

Hi there,

My name is XXX. I am a student from Haaga-Helia University of Applied Sciences looking to collect valuable data for my thesis, which is related to the impacts of 2015 EU Value Added Tax changes on gaming companies. I believe many companies would be interested in my thesis results. The EU VAT legislation on digital services is one of the biggest compliance issues for video game companies. Even though many companies do not deal with B2C VAT, you might still find it important if your business aims to be a bigger one in the gaming industry.

In a nutshell, I am keen to find out Finnish gaming companies' VAT situation and related business issues. This should assist me to map out viable recommendations for video game companies that are regulated or will be regulated by the EU VAT regulation on digital services.

Here is the link to my questionnaire, XXX

- Are you running your own business? Yes, then please take a coffee with you and click into the link. It won't take you more than 5 minutes if your business doesn't take care of the B2C VAT at this moment.
- Or are you working in a game company? Please help me to forward the link to your colleague who are working with finance or accounting.
- Forward it to your external bookkeeper also would be very helpful.

I recognize that anything related to business information can be highly sensitive, thus any information collected will be used anonymously and be analyzed as a group.

I truly hope that with all your help, more responses can be collected to support the study in the field of both taxation and gaming.

Thank you for your time!

If you have any question or you are interested in the results, please feel free to contact me via email:

Survey for a bachelor's thesis - impacts of 2015 EU VAT changes on gaming industry

Background

1. In which year was your business established?

2014

2. What is the form of your business?

- Limited liability (Oy)
- Cooperative society (Ok)
- General partnership (Ay)
- Limited partnership (Ky)
- Business entrepreneur (Tmi)
- Other, please specify

3. What is the number of employees, including the entrepreneur?

- 1
- 2-10
- 11-50
- 50-250
- More than 250

4. How many entities does your business have in

	0	1	2-3	More than 3
Finland	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other EU Member States	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Countries outside of EU	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5. Is your business registered for VAT in

	No	Yes
Finland	<input type="radio"/>	<input type="radio"/>
Other EU Member States	<input type="radio"/>	<input type="radio"/>
Countries outside EU	<input type="radio"/>	<input type="radio"/>

6. Is your business a game

- Indie developer only
- Non-indie developer only
- Publisher only
- Both developer and publisher
- Others, please specify

7. Who are the customers?

- Consumers only (B2C)
- Business only (B2B)
- Both consumers and business (B2C & B2B)

8. Is your business going to have consumers as customers?

- Yes
- No
- Not applicable

9. What games does your business supply for consumers?

- Mobile games
- Online games
- Console games
- PC games
- Others, please specify

10. What were your business turnovers in the following years ?

	No more than €10,500	No more than €30,000	More than €30,000
2014	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2015	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2016	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. Does your business have consumers from other EU Member States ?

	Yes	No	No data available
Before 1 January 2015	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
After 1 January 2015	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

12. Base on your estimations, how many percentage of the annual turnover is contributed by consumers from other EU Member States in the following years?

	No more than 10%	10% - 50%	More than 50%
2014	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2015	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2016	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

13. What revenue streams does your business use for games?

Multiple choices available

- Free
- Freemium with in-app purchase, average price for in-app purchase
- Initial payment, average price
- Initial payment with in-app purchase, average price each payment and in-app purchase
- Subscriptions, average subscription per month
- Subscriptions with in-app purchase, average subscription per month and in-app purchase price
- In-game Advertising
- Others, please specify

14. Does your business use intermediaries for B2C business?

- Yes
- No

Awareness

15. Since when has your business noticed the VAT changes regarding the place of supply?

- Before 2014
- 2014
- After 2014

16. Has your business got help from third parties for the VAT changes regarding the place of supply?

- No
- Yes, please specify (i.e. law firm and accounting firm)

Influence

17. Please evaluate the influence of VAT changes regarding the place of supply on your business.

No influence 0 1 2 3 4 5 Significant influence

18. In general, does your business see the VAT changes regarding the place of supply as an advantage or disadvantage? Please specify the main reason for your consideration.

- Advantage
- Disadvantage

19. Please evaluate the following issues in term of money expended so far related to the VAT changes regarding the place of

supply.

	None	Insignificant amount	Acceptable amount	Significant amount	Not applicable
VAT registration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Consumer place identification	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Invoice and transaction data storage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ERP software adjusting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Website adjusting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Talent recruitment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Personnel training	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other, please specify <input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

20. Have your business experienced any of the following issues due to different rules in EU Member States ?

Multiple choices available

- Different VAT rates
- Registration thresholds
- Invoicing
- Pricing
- Contract issues
- Auditing
- Other, please specify

21. What is the situation of Mini One Stop Shop (MOSS) registration in your business now?

- We have been registered for MOSS and are still registered
- We had been registered for MOSS but is no longer registered
- We have not been registered for MOSS and are not planning to register
- We have not been registered for MOSS but are in the process of registration

22. Please elaborate the reason your business is not registered for MOSS.

Multiple choices available

- The MOSS scheme is complicated
- The application of MOSS scheme is costly.
- The risk of penalty for late report and payment
- The risk of information accessible from other Member States
- Others, please specify

23. In general, what was your experience with the implementation of MOSS?

- Positive
- Neutral
- Negative

24. What are the business modifications due to the VAT changes regarding the place of supply?

Multiple choices available

- Set up new entities with VAT registration in other EU Member States
- Block business from certain EU Member States, please specify which EU Member State
- Appeal to external intermediaries toward B2C customers
- Others, please specify

25. What are the modifications on your game pricing strategy due to the VAT changes regarding the place of supply?

Multiple choices available

- No changes
- From standard price to differentiated price for consumers in all Member States
- From differentiated price to standard price for consumers in all Member States
- Increasing in price
- Decreasing in price

26. Please list other business changes your business has experienced resulting in the VAT changes regarding the place of supply, if there is any.

Thank you for your participation!

Appendix 3. Interview framework

Introduction

I would like to thank you for giving me a chance to do this interview. First, I will introduce my study on the 2015 VAT changes and present some of my research results. Then, I will take the time to ask a few questions regarding the impacts on your companies.

I respect the need for confidential. After the interview is concluded, I will take the time to analyse the findings and you will have access to the results upon request. Also, you will receive a copy of my final version.

Interviewee background

1. What is your position? Would please give me a brief description of your daily task?
2. How long have you been working in this company? How many years of working experience do you have on this field? (VAT on gaming companies)

Company background

1. In a few sentences, would you please give me an introduction about XXX?
2. Is your business a developer only? Or both developer and publisher? What kind of developer? (Independent or nondependent)
3. Who is your target customer? (Consumer, business, or both)
4. What kind of revenue models are used for your application? (free, free + in-app purchase, subscriptions, or others)
5. Base on your estimation, how many percentage of annual turnovers are contributed by consumers/consumers in EU last fiscal year?
6. How can you identify your customers as consumers or business?
7. How can you identify consumer resident place for VAT purpose?

Awareness

1. Since when, have you noticed the changes on VAT regarding the place of supply? In what way? (News, third parties, others)
2. Have you got help from the third parties? (accounting firm, law firm, or others) Yes, taking care the reporting, VAT payments, they identify the location, calculate the price

Impacts

1. What are the challenges XXX has been experienced for the implementation of new VAT rules? How do you solve them? How about the related expense? (Give me a range, or valuation, i.e. insignificant, acceptable, significant)

2. What difficulties or challenges have you experienced due to different VAT rules in EU Member states? (If not mentioned in the last question)
3. Since when you are registered for MOSS? What's your experience with the MOSS (positive, negative, neutral)? What else concerns do you have with the MOSS?
4. Does your business do some business modifications due to the VAT changes? (i.e. location, block business from certain countries, appeal to external intermediaries, others) Will you have entities in other countries? Why? US, business model, credit card performance.
5. Does your business do some modifications to price? Why?
6. In general, please evaluate the VAT changes regarding the place of supply on your business? (advantages, disadvantages, or on impacts) Why?
7. Have you ever considered using external intermediaries to take care the B2C VAT payment? Why you decided to take care B2C VAT in-house?
8. Can you give some recommendations for other developers who are going to explore their business in B2C market? (On VAT perspective)

Appendix 4. Main sources of industry research report for study topics

Topics	organization	Introduction
VAT	European Commission	It is the executive of the European Union and promotes the EU's general interest.
	OECD	It stands for the organization for economic cooperation and development. One of its mission is to re-establish healthy public finances for future development.
	Vero	It is website of the Finnish Tax Administration.
VAT on digital services	European commission	As mentioned above.
	European commission joint research centre	It is one of European commission's departments, and aims to support EU policies with independent evidence.
Video game industry	Newzoo	It is a leading provider of market intelligence covering the global games.
	IDATE	It is a reliable resource for tracking telecom, Internet and media markets.
	ISFE	It stands for the interactive software federation of Europe. It 's membership comprises 16 major publishers of interactive software and trade associations in 18 countries throughout Europe.
	European commission joint research centre	As mentioned above.
Video game industry in Finland	Neogames	It is a hub of the Finnish game industry.
	Tekes	It is the Finnish funding agency for innovation.

Appendix 5. Email contact template

Dear Mr./Mrs.,

This is XXX. I got your email address from XX Facebook group. I am a student from Haaga-Helia University of Applied Sciences looking to collect valuable data for my thesis, which is related to the impacts of 2015 EU VAT changes on gaming companies.

XX is the XXXXXX, and your apps have been used by millions of people. Moreover, XX is one of the few developer studios in Finland that need to take care of B2C VAT payments.

In a nutshell, I am keen to find out XX's VAT situation and related issues. This will assist me to map out viable recommendations for video game companies that are regulated or will be regulated by the EU VAT legislation on digital services. And of course, I am glad to share my thesis results if XX is interested in.

Do you think it is possible that I have a short interview with you or someone who can help me with this in March or April? I recognise that anything related to company's business information can be highly sensitive, thus any information collected will be used anonymously and analysed as a group.

Thank you for your time and look forward to hearing from you soon!

Best regards,

Appendix 6. Phone call contact template

Hello. My name is XXX and I am a student at haaga-helia currently writing my thesis. I am researching impacts of the EU VAT changes on video game industry and am looking to get some practical information.

I hope that with your participation and help, this thesis will raise awareness about the impacts of VAT and provide solutions for negative impacts.

Do you think that there is anyone can help me with this? (controller, CFO, accountant?)