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The Possibilities of Finnish EdTech Start-Ups in the Brazilian Market

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Degree programme Degree Programme in Tourism	
Report/thesis title The Possibilities of Finnish EdTech Start-Ups in the Brazilian Market	**Number of pages and appendix pages** 39 + 1

This thesis focuses on finding the possibilities of Finnish EdTech innovations in the Brazilian market. The aim is to provide an overview of the Brazilian operational environment and give concrete suggestions to facilitate the entering to the target market.

The research-based thesis consists of a framework, where the operational environment is presented, and an empirical part. The framework covers education export, Brazilian operational environment using PESTEL analysis and competitor analysis based on Porter's 5 forces. The information to the framework has been obtained from local newspapers in addition to the archives of the Brazilian government.

The empirical research is implemented by qualitative semi-structured interviews based on the themes in the framework about Finnish EdTech and the operational environment in Brazil. The timing of the data collection was October 2018. The aim was to answer if there are possibilities for Finnish EdTech start-ups in the Brazilian market and offer concrete suggestions on what to take into consideration when taking the first steps into entering the Brazilian market. By analysing the framework and interview results, the results are found and discussed.

The results of the thesis research are that there are possibilities for Finnish EdTech start-ups in the Brazilian market, but the Brazilian education institutions are lacking investments due to past crisis. However, by convincing the buyers by concrete data in learning results from studying using EdTech and doing more country image work to Brazil, the challenges can be defeated. Also, finding a partner that can take the product along is needed since it is crucial to know the market. The possible improvement suggestions are further explained in the final part of the thesis.

Keywords Finnish EdTech, Education export, Brazilian market, market possibilities

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1   Introduction

Finland is currently known for its good education system and developed technology. The Finnish educational technology (later on EdTech) is in demand all around the world, especially in the developing countries like Brazil. Brazil has various challenges in the education system from inequality to study results, and the market is nearly the size of Europe. Therefore, the Brazilian market is highly attractive to Finnish EdTech.

This thesis aims to present the possibilities for EdTech start-ups in the Brazilian market and how Finnish EdTech companies can reach it. The results can be used as a handbook for the start-ups interested in Brazil. The thesis topic was proposed by the initiative of the author after a meeting with the Coordinator of Education and Research at Finnish Consulate in São Paulo in August 2018.

The main research questions are:
- Are there possibilities in the Brazilian EdTech market for Finnish innovations?
- Does the image of Finnish education fit to the Brazilian market?

The author has special interest in Brazil from a long time after having travelled there several times during the past 7 years. She has done exchange studies at the University of São Paulo in 2017-2018 and a work placement at an educational travel agency in São Paulo. Therefore, she has unique knowledge of the both languages, cultures and has connections to implement the research. The thesis research topic was an advantage for the author to get a desired trainee position in Brazil in March 2019.

Although Brazil is the main trade partner of Finland in South America, the research is delimitated to São Paulo because it is the economical centre of not only Brazil but of the whole South America. The export from Finland to Brazil is around billion euros annually and there are 54 Finnish subsidiaries in Brazil, with turnover of 1,6 billion euros (Suomen suurlähetystö 2017). São Paulo is also the biggest city of South America and therefore it is one of the best entry points with the possibilities it holds. In Brazil the market and ways of doing business vary within every state and state capital and other cities, and therefore this thesis focuses on São Paulo only.

The thesis consists of a framework, where the operational environment is presented, and an empirical part. The framework covers export of Finnish education, analysis of the operational environment (PESTEL) in Brazil and a competitor analysis based on Porter's 5 forces. The empirical part presents the methodology, which is qualitative semi-structured interviews, results based on the chosen themes and lastly, discussion about the results

and concrete tips on what to take into consideration when taking the first steps into entering the Brazilian market.

2   Exporting Finnish Education

This chapter will start the theory part of the thesis explaining what is export of education, the export strategy of Finnish education, following with the brand of Finnish education, what is Finnish EdTech and finally presents with the existing distribution channels that Finnish EdTech is using to distribute.

In the roadmap of education export 2016-2020 (2016) it is explained that education export includes all business related to education, education system or business in transfer of knowledge. The biggest part of international income from export of education comes from the fees of degree studies and from evaluation and consulting services as well as from study materials business. This means that the export of education is commercial activity which requires new thinking and productizing our high knowledge and experience. The challenge is to create business of education that is Finnish, internationally desired and that it allows the growth of the target market and is based on common values. (Opetus- ja kulttuuriministeriö 2016)

2.1   Finland's education export strategy

Finland's education export strategy consists of Education Finland (later EDUFI), a programme that supports education providers to increase growth on international market (EDUFI 2018). The target markets are Middle East, China, Far East and Latin America, and the growing markets are in Russia and Africa (Frantti 2018). EDUFI is funded by the Ministry of Education and Culture and the Ministry of Economic Affairs and Employment. It cooperates closely with the Ministry of Foreign Affairs and Finnish embassies as well as Business Finland's offices globally (EDUFI 2018).

Finland and the Finnish people believe in education, and it is why the wellbeing is based on knowledge and expertise (EDUFI 2018). Education and knowledge add the well-being, competence in job market and the success of other areas such as water, forestry, mining, health and cleantech areas (Opetus- ja kulttuuriministeriö 2016). The vision of the current Government is that by 2025 Finland will be a country where everybody wants to learn more all the time. (EDUFI 2018)

To improve the export of Finnish companies, improve existing trade partnerships and open new possibilities of partnerships, The Minister of Economic Affairs of Finland, Mika Lintilä, visited São Paulo and Rio de Janeiro in Brazil and Buenos Aires in Argentina on behalf of Team Finland between October 30 – November 3, 2017, together with education

and IT technology companies from Finland. In addition to meeting new and existing partners, they participated in the opening of the consulate of the embassy of Finland in São Paulo. (Suomen Suurlähetystö, Brasília 2017)

One way to concretely improve the export, during the delegation visit EDUFI started a co-operation with Ayrton Senna Institution in Brazil. Ayrton Senna Institute is a private institution that aims to improve the education system of Brazil. The main goals of the cooperation are improving new technological and social innovations, management and teachers, implementing events and seminars as well as education reforms. Following the cooperation, seppo.io signed a contract to use their game platform in the operations of the institution. (Opetushallitus 2018)

In Brazil, Finland is interested in education and science cooperation and export of education. The Embassy of Finland states that the possibilities for Finnish companies and doers are in the good reputation of Finnish education and the Brazil's investments in improving education. The goal of Brazil is to increase the number of higher education students from around 8 million to 15 million by 2022. (Suomen Suurlähetystö 2017)

The Ministry of Education and Culture has set up a road map for the export of education, it is explained in brief in the next subchapter.

2.1.1 Road map 2016-2020

The aim of the road map of the Ministry of Education and Culture (2016) is to make the supportive actions visible, but the decisions and the basis is made in the companies, universities and educational institutions. The actions of the road map are explained in the Figure 1:

2016	2017	2018	2019
•Continuing the commercializing of education services •Reinforcement of networks and risk financing •Collecting public service models •Fees in higher education and other experiments	•Strengthening cooperation •Investments in the chosen geographical target areas •Promoting scalable product design •Introduction of fees in higher education	•Expanding new operating models •Extending export of education to other portfolios of other industries •Removing barriers of exporting vocational education	•Investing in the new occurring opportunities in the industry •Supporting the financially profitable growth of knowledge-based business •The barriers of export of education removed in all levels

Figure 1. The actions in export of education between the years 2016-2020 (Opetus- ja kulttuuriministeriö 2016)

The aim of actions (Figure 1.) in the road map of export of education are to strengthen the professional knowledge, public and private partnerships, simplifying the support and information services, eliminating barriers in bureaucracy and fortifying cooperation of networks and knowledge of target markets domestically and internationally. The focus is to support the current export of education and strengthen it. The financing instruments need to be developed for needs of education export. Improving in all fields supports the formation of an ecosystem that is useful for all participants. (Opetus- ja kulttuuriministeriö 2016)

The actions (Figure 1.) are implemented within six different operation ranges that together form a green ecosystem. The ranges are categorized into know-how, partnerships, administration and regulations, networks, growth program and financing. (Opetus- ja kulttuuriministeriö 2016) The ranges are seen in Figure 2 and explained in detail in the following paragraphs.
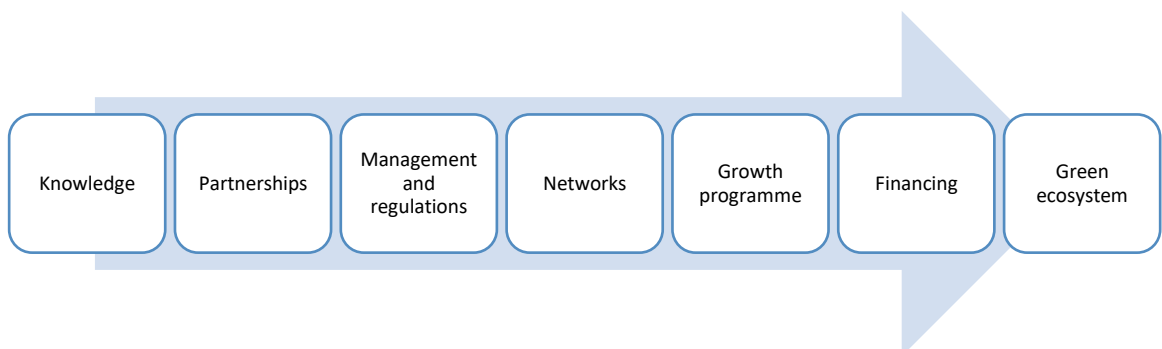

Figure 2. The ranges of the actions in export of education. (Opetus- ja kulttuuriministeriö 2016)

The first range of productizing of education services and improving education export expects improving the know-how of companies, higher education and educational institutions. The most needed knowledge areas are consulting of education systems, curriculum work, pedagogical education of teachers, leadership skills of principals, early childhood and pre-school education, educational technology, e-learning and vocational education. There is also a necessity to train professionals in education export with a study programme. The focuses are increasing the attraction of degree students from outside EU/ETA, creating a study programme for education export professionals, strengthening the research in pedagogy and commercialising the results, enabling the growth possibilities of other business that support export of education by removing legal barriers as well as create functioning network for water, forest, mining, cleantech and health industries and create educational products that add value to the export. (Opetus- ja kulttuuriministeriö 2016)

The second range of partnerships includes improving Team Finland and embassy network. The network should support export of education by offering assistance from one source and the information about different markets should be collected and be of easy access to all operators. The cooperation with public administration is important and it's significant in the country image of Finland. The focus areas are to make Team Finland the source of market information, support opportunities and assistance services. The operation model with embassies will be improved as well as the access to information, attach Finnish education and research to the brand image of Finland and making Finland the showcase of know-how in education. (Opetus- ja kulttuuriministeriö 2016)

The third range aims to decrease barriers and regulations that are on the way of export, which is new but attractive to higher education and other educational institutions. The export of education needs the support of administration and regulations. One of the keys to success in export of education are skilful and motivated staff in higher education and other educational institutions, which is why the practises need to be encouraging and flexible. The focuses are to clarify public administration services and avoid needless bureaucracy, to name work groups to remove barriers of education export in second degree education, include education export as a part of country image work at Finnish National Agency for Education as well as improve practises to acknowledge staff and offer them relevant support materials. (Opetus- ja kulttuuriministeriö 2016)

The fourth range of strengthening domestic and global networks emphasises being able to offer complete solutions. The bigger companies and universities should be able to assist

newcomers to fully emerge in export projects and minimize risks when there are opportunities for all. The focuses are strengthening the network of Finnish operators internationally, strengthening the cooperation in education export, continuing strategic actions in target markets and encouraging Finnish operators to be present in the target markets and finding supportive solutions. (Opetus- ja kulttuuriministeriö 2016)

The fifth range includes creating a growth programme that further develops the results of the growth programme Future Learning Finland that started in 2010. The growth programme needs to be developed to work both in Finland and internationally. To increase the international sales, the growth programme can create customer-oriented solutions and operation models for the buyers and investors in target markets. The focuses are to improve the growth programme, to reinforce the strategical actions and network of the growth programme and improve functions at the target markets by functioning operation models to enable long-lasting customer relationships. (Opetus- ja kulttuuriministeriö 2016)

The sixth range focuses on strengthening the financial instruments to support the operations and product development of different commercial parties equally. To make education export grow, it needs enduring investments, insurances and credit solutions. New risk financing possibilities needs to be researched and explore the possibilities in the new Public Sector Invest Facility for education export. The focuses are creating financing services and instruments suitable to education export, developing financing products to different phases for companies and investors, increasing the awareness of international financial institutions and organisations among Finnish exporters of education, strengthening research and product development efforts done by public financing, invest more of development projects in projects of knowledge and education. (Opetus- ja kulttuuriministeriö 2016)

The six ranges altogether form the seventh range of green ecosystem in education export that is needed in functioning education export. It means the cooperation of a variety of skilled individuals and organizations in different networks that offer support in trust, service and cooperation. Specially gamification, mobile learning and digital platforms need fast operators and to create more businesses, the accelerators and incubators need support by bringing together growth-focused offerors and demand-led products to take to international markets. The focuses are forming an executive group within the Ministry of Education and Culture to support the road map and recognise new directions, improve the possibilities of different parties in public procurements, support the operations of education export and meetings and increase partnerships with business accelerators and operators already working elsewhere. (Opetus- ja kulttuuriministeriö 2016)

What is significant to EdTech start-ups is the demand to educational technology internationally is recognised and the internationalization is made easier by removing legal barriers. The necessary support of Team Finland be of easier access and the image of Finnish quality education will be added to country marketing. Internationalization is made easier by removing bureaucracy and regulations and cooperation is encouraged with more experienced companies to have stronger presence in target markets. The financing possibilities will be improved and lastly, the operations of business accelerators and incubators will be supported more.

2.1.2 Brand of Finnish education

EDUFI (2018) explains that the excellent reputation of Finnish education system comes from the top rankings on global ratings during many years and from the proven outcomes as the home of high-quality education. The results however are a result of decades of systematic work and cooperation with stakeholders. The principle of Finnish school system is based on equality, as EDUFI (2018) states:

> The Finnish school system has been built on the egalitarian principle of good quality universal education, which is inclusive and comprehensive.

Other important factors in Finnish school system is proficient teachers who are motivated. The Finnish teachers are experts of pedagogy, in addition to be specialists in their own subject area. That makes them to master the art of teaching different types of learners. In addition to skilled teachers, Finnish degrees and qualifications are seen as certifications of competence and dedication. In addition, Finland has one of the most innovative education technologies for all education levels, which will be discussed in the next subchapter. (EDUFI 2018)

2.2 EdTech and Finnish EdTech

EdTech, or education technology, includes everything from using a computer to learn a subject or skill, studying online, using mobile learning applications, gamification or virtual reality (Vedrenne-Cloquet 2018). EdTech can also be known as instructional technology or learning technology and is defined by Instructional Tech Talk (2018) as follows:

1. Teaches with technology
2. Prime focus is to enhance the teaching and learning process.
3. Education technology is particularly suited for education. Technology is used as a tool in education.
4. It aims at great efficiency and effectiveness of current practise.
5. Is concerned with thinking carefully about teaching and learning.

6. Technology acts as a catalyser and tool to promote education.

It started as an experiment in delivering education and is nowadays a fast-growing area for technology entrepreneurs in the ongoing era of digitalization. As technology improves major segments of economy, the education and training are having a tech revolution. EdTech is transforming learning by applying digital technology, using the social possibilities of internet to deliver learning and training personalized to an individual's competences utilizing big data analysis (Vedrenne-Cloquet 2018). The variety of media, such as audio, images, videos and animations make learning more interesting and dynamic and improves current ways of learning, all while saving money. EdTech is used among students of all ages and levels of education. EdTech is especially helpful for students who are scared to ask something (Instructional Tech Talk 2018).

Both Vedrenne-Cloquet (2018) and Instructional Tech Talk (2018) write about technology making learning and teaching more dynamic and more easily accessible. One good example is online education, that has opened possibilities for not only completing courses but also full degrees (Instructional Tech Talk 2018). In the future EdTech will change the resourcing, teaching, consuming and the learning results of societies in the knowledge economy. The education and training industries have grown 84% since 2000 worldwide. (Vedrenne-Cloquet 2018)

In Finland there are around 300 EdTech start-ups and the number is increasing. EdTech is expected to support the export of Finnish education system concepts. The biggest challenge of the start-ups is investments. Investments mostly come from capital, promissory notes financial instruments of Centre for Economic Development, Transport and the Environment and Tekes. EDUFI organizes investor meetings and connections. (Frantti 2018)

3 Brazilian EdTech Market

This chapter is used to analyse doing business in Brazil and the special characteristics of the operational environment in Brazil and the possibilities and limiting factors growth. The analysis is done in a form of PESTEL analysis. The operational environment analysis is followed by a competitor analysis using the Porter's Five forces.

3.1 Analysis of the operational environment

PESTEL was chosen to analyse the market because it is a clear way to present the macro-environmental factors in the desired market that impact the organization. The letters stand for political, economic, social, technological, environmental and legislative. By analysing the macro-environmental factors (Figure 2), it can be learned what opportunities and risks to take into consideration when making further strategies and scenarios. The companies cannot influence on the macro-environmental factors, however it is important to take them into consideration when analysing the strategical position of the company. (Vuorinen 2013, 220, 222)

Figure 3. Structure of PESTEL analysis

The review level of the PESTEL analysis is focused in the target market in Brazil for EdTech start-ups to get a useful description of the forces for change and their impact on the operating of the start-ups. The intention is not to list all themes in the categories, but instead to choose the themes that are relevant for EdTech field and may impact it. After PESTEL analysis of the operational environment will be made competitor analysis that forms an idea of the industry in Brazil. Together they can be used for further strategies of

the start-ups that benefit of the results and give a clearer description of the strategical position of the Finnish EdTech start-ups in Brazil and their options of choice. (Vuorinen 2013.)

3.1.1 Political factors

The Federative Republic of Brazil got independence on September 7, 1822 (Suomen Suurlähetystö 2018). The country consists of 26 states and one federal district. The official language in Brazil is Portuguese (CIA 2018).

Table 1. Basic information of Brazil (CIA 2018)

Official name	A República Federativa do Brasil
Independence Day	September 7
Capital	Brasília
Language	Portuguese
Area	total: 8,515,770 sq km
	land: 8,358,140 sq km
	water: 157,630 sq km
Population	208,846,892 (July 2018 est.)

The elections in Brazil happen in even-numbered years. For example, the president, governors, deputies and senators were elected in 2014 and the mayors and councillors were elected in 2016. The service of mandates of city councillors, mayors, state and federal last for four years and the senators serve for 8 years. (Tribunal Superior Eleitoral 2018)

The new president, Jair Bolsonaro, started his presidential season in 2019. He represents a far-right political spectrum, Social Liberal Party (PSL) and is a former captain of army. He was chosen mostly because of three factors: jobless economic recovery, a decline in social security and anti-corruption wave, known as the Lava Jato investigation. Bolsonaro was perceived as the least corrupted candidate and represented a change for the country that has been going through hardships during the previous presidents from the leftist Labours Party (PT). (Lee 2018)

Brazilian education has various challenges. There are 49 million students, low level of learning and 2,7 million children and young people out of school. The decisions depend on many authorities, Ministry of Education, economic politics and the Congress. Other point of view is the bureaucracy and collaboration between states, municipalities and the federal. The scenario has big challenges from child education to higher education. (Saldaña 2018)

Bolsonaro is making a lot of changes in Brazilian education in his incentive plan. However, it is early to say what will happen because the changes depend on approval of Congess, whose board members were selected during the last presidential season. That means that Bolsonaro needs to wait for 2 years to change board members or break with the institutions that currently dictate the directions of Brazilian education, meaning that the new Government would have to transfer the power to determine disciplines in the curriculum to Congress. (Pires 2018a)

The incentive plan of the new Government of Bolsonaro includes vouchers to study in private institution, distance learning and paid university studies, all to save investments to maintenance and salaries of the teachers. Bolsonaro aims to stop leftist doctrine through market guidelines and in addition, stop gender discussions. (Pires 2018a) A part of the new incentive plan includes also renewing teaching material about dictatorship and creationism and add moral and civic education in schools. That however depends on the National Education Council, that was renewed during Michel Temer's presidential season, prioritizes downsizing disciplines and has a closed list of recommended text books in school. (Pires 2018b) The focus of investments would change from higher education to basic education. Now Brazil is spending three times more in higher education than in basic education, the total investments of GDP being 5% in education. (Pires 2018a)

The incentive plan of the Government of Bolsonaro also includes building a military college in each Brazilian state capital. The cost however is three times higher than of public school. This proposal therefore depends on high investment and has a low reach of all 40 million students in the country. In addition, the national high school exam ENEM will be renewed in 2021 after the new guidelines for high schools. Public education in all levels will remain free of fees. (Pires 2018a)

The intent that most would affect EdTech field, is increasing distance learning in basic education, which is directly a way to cut costs instituting technology into education (Pires 2018a). That will increase the demand for technological inventions to produce for instance video classes.

3.1.2 Economic factors

Brazil is the eight largest economy in the world and the largest economy in South America (Amadeo 2018). The GDP per capita in Brazil is 9,821.41 USD while the GDP per capita of Finland is 45,703.33 USD in the year of 2017 (The World Bank 2019). According to

OECD (2018), Brazil invested 5,5% of its total GDP to education in 2015, which is considered a high amount. However, the expense per student is rather low, about 3 800 USD (OECD 2018a).

Brazil's growth rate slowed down in 2010 from 7,5% to -3.6% in 2016 and it recovered to 1% in 2017. Brazil also had inflation of 8,7% in 2016 which slowed down to 3,4% in 2017. Brazil has also recession and stagflation related to the financial crisis. (Amadeo 2018) The recent hurdles occurred when Dilma Roussef became the president in 2011 and increased public spending by raising the minimum wage and made the state-run banks to lend more. The central bank lowered interest rates from 11,5% to 7,25%, which resulted to inflation that worsen by Roussef by cutting sales taxes and reducing prices on food, gasoline and bus fares. (Amadeo 2018)

It harmed the main export of Brazil which is oil production, among other industries, and businesses reduced investments. The expansionary fiscal and monetary policy dominated the wages and consumers cut their spending. The central bank raised interest rates in 2012 to 8%. Oil prices fell in 2015 and businesses cut production and jobs. Brazil's currency fell and the prices of imports increased inflation. Roussef was impeached in 2016 for moving funds among government budgets, and the former president Lula was jailed for corruption. (Amadeo 2018)

The current president Bolsonaro promised to inaugurate the economy lowering tariffs and to sign new bilateral trade agreements. He plans to cut public debt by privatization, simplify the tax system and shrink diminish pension benefits. Brazil's stock market resulted to rise by 10% and the Brazilian currency is getting stronger. (Amadeo 2018)

Refinetti Guardia (2018) wrote that Brazil needs to follow the agenda and reforms in economics to ensure the growth. Brazil requires more quality education, less bureaucracy and low costs, access to new methods of production and better quality and a tax system that allows more investments to allow companies and workers that are productive and create more richness.

Finland Chamber of Commerce has recognised growth and its possibilities in Brazil. The growth of the economy and the middle class increase the investments in education and digitalisation sectors. It opens various business opportunities for Finnish EdTech and other strong areas of Finland. (Finland Chamber of Commerce 2017)

3.1.3 Social factors

The over 200 million inhabitants of Brazil are scattered unequally throughout the country, most people living in the coast line (INEP, Ministry of Education & Brazilian Government 2016, 3). The majority (86%) of the Brazilian population is living in urban area (Hootsuite 2018). Due to the high immigration, the population is very homogenous and mixed consisting of native inhabitants, Europeans, Africans and Asians, among others. Linguistically the population is united by Portuguese as the mother tongue, with exception of nearly 360,000 indigenous people of 219 ethnic groups and 180 different languages. (INEP, Ministry of Education & Brazilian Government 2016, 3)

50 million people, which is equivalent of 25,4% of the Brazilian population, live under the poverty line of R$ 387,07 or US$ 5,5 daily family income. It means that the country is profoundly inequal. Women generally gain less than men in similar positions, and also, the black and brown races lead the unemployment rate, earn less, live poorly and enter the work life much earlier because of having lower education level. (De Oliveira 2017) Because the population has remarkable cultural variety and serious economic inequality, it has affected the Brazilian education system. (INEP, Ministry of Education & Brazilian Government 2016, 3)

The Brazilian education system consists of two levels which are basic education and higher education. Basic education consists of

1) early childhood education, being nursery school for infants from 0 to 3 years of age and pre-school from 4 to 5 years of age.
2) elementary education from 6 to 14 years of age
3) upper secondary education from 15 to 17 years of education

The compulsory education begins at the age of 4 at pre-school and lasts until 17 years old at upper secondary school. (INEP, Ministry of Education & Brazilian Government 2016, 5) The higher education according to IBGE (2017) consists of

1) graduation courses
2) postgraduate courses
3) sequential courses
4) extension courses

The school year in Brazil begins after carnival in the beginning of March. The winter holidays are in July and the school year ends before Christmas. The summer holidays are around Christmas and New Year and last around two months. In private institutions the holidays are shorter. (Suomen suurlähetystö, Brasilia 2016)

Brazil has scored 401 in science in PISA test of 2015, much below the average 493 points of OCDE countries. In reading Brazil scored 407, also below average of 493 points. The worse performance was in mathematics with 377 points, while the average was 490 points. (OECD 2015) The Brazilian Government (2017c) explains that one reason for poor PISA test results is teacher education that is focused on theory and formulas instead of real-life situations where students perform best (Governo do Brasil 2017c).

Education in Brazil is free of charge in public schools (INEP, Ministry of Education & Brazilian Government 2016, 5). However, the quality of public education isn't close to the quality of Finnish education and Brazil has constantly weak performance in the international PISA comparisons (Suomen suurlähetystö, Brasilia 2016). The private sector dominates the Brazilian education system by 80% (Satuli 2018). The lack of schooling infrastructure and equipment, financing and deficit of qualified teaching professionals has caused gaps in the quality of education (Sadlak 2018).

According to The World Bank (2018), Brazil has made significant progress in economics in social questions bringing 29 million people out of poverty between 2003 and 2014 and the poverty has decreased significantly. The strong growth has made Brazil one of the world's leading economies, despite the long recession from which the economy is slowly recovering (OECD 2018b). The growth accelerates investments in education, healthcare and digitalization sectors and opens possibilities for these Finnish strong areas (Finland Chamber of Commerce 2017). Despite the growth, inequality remains high and the education system has its effect on it (Sadlak 2018).

As one solution, emerging markets have started to cover up lack of access to good quality education by investing in e-learning (Sadlak 2018). The Ministry of Education of Brazil (MEC) has allowed higher education, with an exception of health and engineering studies, to offer 40% of the classes in distance, instead of the previous allowance of 20%. However, it is being criticised because higher education is accessible for only 40% of the population and will be of lower quality due to increasing distance learning. (Tokarnia 2018)

According to OECD (2018), the most popular fields of study in Brazil in upper secondary vocational programmes are business, administration and law, with 25% of graduates. In the tertiary level the most popular fields of study are also business, administration and law with 36% of graduates, and the second popular field of study is education with 20% of graduates. Additionally, in comparison with OECD countries, Brazil has one of the lowest

number of graduates of STEM fields (science, technology, engineering and mathematics) with 17%. (OECD 2018c)

The proportion of Brazilians of age 25 and above who completed at least the secondary education in 2017 was 46,1% of the population, of which the amount of 15,7% of the population had completed tertiary education. The average years of studying was 9,1 years for people above 25 years old in 2017. The proportion of people with no instruction was 7,2% in 2017 and the proportion of illiterates of 15 years old and older was 7,0% (11,5 million). (IBGE 2017)

25,1 million people between the ages 15 and 29 were out of school in Brazil in 2017 according to a research of IBGE (2017). The main reasons for not studying were firstly, work for 39,7% of the people, secondly, lack of attractivity for 20,1% of the people, thirdly, having to take care of family member for 11,9% of the people. In addition, 24,2% of the males didn't have interest in studying, the percentage of females was 15,6%. Lack of money to pay for tuition was the reason of 9% of the males and of 12% of females. (IBGE 2017)

According to Itaú Social Foundation (2018), the better valorisation of teachers is the key to develop the Brazilian education. Pedagogy is the most numerous professions in Brazil consisting of 2,2 million of professional, however it needs better career plan for teachers in public institutions, higher salary and higher quality education. In the research *Profissão Docente*, teaching as a profession, that was made with 2 160 teachers of basic education, 71% of the teachers are unsatisfied with the practice of the profession. Teachers hope for more investment in the teaching curriculum about methods of illiteracy and class management. In addition, 67% of the teachers want to be heard in the politics and feel that the secretaries are distant from the reality of school. Lastly, the minimum salary is currently R$ 2.455,35 for 40 working hours a week. The law shows development, because a third of the work load is for planning, but in practise teachers need to supplement their income and teach in private schools. Only 30% of the teachers are able to spend a third of the work-load in activities out of class, because 37% of them give classes in more than one school and 29% of them do another work. (Fundação Itaú Social 2018)

3.1.4 Technological factors

Hootsuite (2018) analysed Brazil's key digital statistical indications and it shows that more than a half, 139,1 million (66%) Brazilians use internet. Not all internet users use social media actively, however the number is large 130 million (62%). More people use mobile than the internet with 143 million Brazilians (68%), but only 120 million people (57%) use mobile socially. The annual growth of internet users has been stagnant since year 2017,

but the amount of active social media users has grown by 7% and the number of active mobile social users by 9%. (Hootsuite 2018)

Based on the Hootsuite survey (2018), the percentage of the adult population that currently uses any type of mobile phone is 89%, however not nearly all use smart phones (67%). Only 38% of the respondents use laptop or desktop computers and only 15% of them have a tablet computer. Nearly all respondents (95%) have a television, but it is not common to have a device for streaming internet content to television, only 7% of the respondents have one. Only a few respondents have e-reader device or a wearable tech device. (Hootsuite 2018)

The attitude of Brazilians towards digital is that the majority (62%) of the respondents prefer to complete tasks digitally whenever possible and the majority (58%) also believe that new technologies offer more opportunities than risks. The average internet speed in Brazil is 17,86 MBPS via fixed connections and 16,37 MBPS via mobile connections. Most Brazilians access the internet most often by smartphone (60%). Brazilians have 1,66 mobile connections per unique mobile users on average and 83% of them are broadband (3G and 4G). (Hootsuite 2018)

The overall mobile connectivity index in Brazil is 62,75 out of the maximum of 100. The mobile network infrastructure is 55,75 meaning that only half of the country is covered by mobile network. The index for affordability of devices and services is 47,40 and the consumer readiness is 76,22. It showcases that the mobile products and service are rather expensive and not all Brazilians can afford them. The availability index of relevant content and services is 76,96 out of 100. (Hootsuite 2018)

In a study organized by Iede (Interdisciplinarity and Evidences in Educational Debate) it is shown that Brazil has the second worst connectivity in schools among the countries compared. Only 28,3% of the Brazilian students confirmed to have access to computers with internet at school, while the OECD average is 55,9%. (Craide 2018) The goal of the Government of Brazil is to universalize the access to internet of by 2020 in public schools (Governo do Brasil 2017a). Due to the growing internet penetration and high mobile technology Brazil is a potential market for e-learning businesses. Rural areas have high potential because the ability to study using the mobile phone makes education more accessible by students not having to invest in laptops and desktops. Growing internet penetration supports mobile technology. (Sadlak 2018)

Enrolments to higher education in distance have grown 17,6% in between 2007 and 2017 and is previewed to be more and more applied to Brazilian higher education. There were 1,8 million enrolments in distance higher education in 2017. 88,3% of the distance studies are masters or doctorates. In technological education, the growth of enrolments in distance education was 5,6% in 2017. The majority of 75% students enrolled to distance education are in private education institutions. (Governo do Brasil 2018)

Governo do Brasil (2017c) wrote about Pisa student evaluation, which showed that the results of Brazilians are best in subjects related to daily tasks, such as quantity, money, proportions and arithmetic as well as games, finances and meal preparation. This suggests that adding simulative learning by computer, software or application could give a concrete sensation of the theory and the Brazilian students could understand theoretical concepts in a more significant way and that way obtain better learning results. It was also written that the teacher education is still very much focused on formulas and theory, which is separate from the practise. Turning the theory to the form of games using mobile or computer the student will be more open to the learning. Changing the communication of the theory to the social reality of the students could be the key to better learning results. (Governo do Brasil 2017c)

3.1.5 Environmental factors

In 2018, ONU nominated Brazilian National Policy of Agroecology and Organic Production (PNAPO) the Silver Premium in Future Policy Awards 2018, a program of sustainability. Brazil earned it by contributing to sustainable development, improving the quality of life of the population by offering healthy alimentation and for sustainable use of natural resources. PNAPO invested 365 million euros and helped 5 thousand municipalities to invest at least 30 % of their budget to organic and agroecological school food. Also, the program inspired various states to pay attention to their politics in organic production. (Ansa 2018)

At the same time, ONU had a study of Global E-Waste Monitor and Brazil was named the biggest producer of electronic waste in Latin America. The electronic waste consists of smart phones, computers and other technological devices. Brazil produces 1,5 tonnes of waste annually and that makes it the 7th biggest producer of electronic waste in the world. In addition, only 3% of the waste is dumped properly. As a result, many cities have started municipal programs of appropriate discard of electronic waste with assigned collection points. Facturers often have a service available for inquiries about discarding products. Also, there are paid services that pick up the waste from the address. Other alternative is

to donate the devices that still work and choose products with a sustainability seal Energy Star. (Yuge 2018)

The Brazilian Electric Energy Trading Chamber (CCEE) informed that the consumption of electricity in Brazil augmented by 63.165 megawatts in 2018 in comparison to year 2017. The reason for that has been the rise of temperature in Brazil, which has been 2,4% higher in 2018. (Costa 2019) Also, the price of energy is one of the most expensive of the world that and is tending to aggravate in the coming years. It is the result of mistakes in energy politics, high taxes and recurrent drought rates that cause competition in the industry and slows down the recovery of growth. (Felix 2018) Brazil has invested in renewable energy, such as solar energy, wind and biomass and it is 20% of all the energy produced (Alta 2018).

In São Paulo in 2017 there was applied a new electronic system to manage power outage and distribution planning, that helped the electricity supply to be more reliable. In Brazil it is easy to get electricity with only four procedures and the cost is 52,5 percent of income per capita. (The World Bank 2018b)

3.1.6 Legal factors

The international agenda of Brazil supports the economic growth of Brazil, to improve employment and trade. The endeavour is to revitalize Mercosul and the negotiations with Mercosul and European Union, to open new negotiation fronts with different countries as well as improve the agreements of international cooperation, (Brasil Governo Federal 2018, 138)

The simplification of exporting and importing processes was launched in March 2017. The processes were simplified for external sales by eliminating needed documents, reducing the process steps, reducing governmental requirements for more efficacy. The implication of new processes of imports started in October 2018. It has allowed improvements in the business environment and participation of private of sector to reform processes. The new export and import system will provide concrete gains during its development. The main benefits of the new processes are:

- Creation of the Single Declaration of Exportation (DU-E) and the Single Import Declaration (Duimp), with replacement of redundant documents;
- Integration of the DU-E with the Electronic Nota Fiscal, allowing automatic data feeding, information integrity and less possibility of errors;
- Reduction of manual steps of data conferencing;

- Possibility of comprehensive approvals for more than one operation, which makes it possible to reduce controls from operation to operation;
- Possibility of carrying out simultaneous customs and non-customs controls of goods, to the detriment of sequential stages;
- Intensive use of risk management;
- Integration of foreign trade systems and processes and centralization of communication between private operators and government bodies and entities in one place;
- Continuous improvement of the governance of controls on foreign trade operations, based on coordinated and harmonized performance. (Brasil Governo Federal 2018, 159)

Brazil was the first South American country to set up The National Trade Facilitation committee (Confac) in 2016. It is a member of Foreign Trade Chamber (Camex). Its goal is to guide, coordinate, harmonize and supervise the operation of the organs and federal public administration entities related to imports and exports. It implements the inter-ministerial policies and guideline set up by Camex Board. (Brasil Governo Federal 2018, 157)

The main initiative of Brazilian Federal Government to reduce bureaucracy in foreign trade is Foreign Trade Single Portal. It is coordinated by the Ministries of Development, Industry and Foreign Trade and the Treasury and involves all organs in foreign trade. The Single Portal aims to reform export and import processes and customs transit and it creates a special interface between Government and trade operators. The reduction of bureaucracy and export and import deadlines is 40%. The electronic document annexation eliminated paper in 99% in operations that require government approval. (Brasil Governo Federal 2018, 159)

In 2017 Brazil rose up to the 109th place in a global ease of doing business ranking and improved the business conditions for small and medium enterprises. Continuous improvements of the Brazilian Government started to remove barriers of entrepreneurship and private enterprises, which is important in reducing poverty and boosting prosperity in long term. The most significant reform was to introduce electronic certificates of origin for Trading Across Borders in São Paulo and Rio de Janeiro, and it reduced the time needed for importing to 24 days. (The World Bank 2018a)

Also, Brazil facilitated access to credit for the first time in seven years. The credit information was improved through public credit registry and private credit bureau. The score in credit information rose to the 8th place, thus there is a lot to improve in legal rights index.

Another improvement was launching a new online system for starting a business, where registration, licencing and employment can be notified. The online system reduced the days needed to register from 82 days to 20, but the steps needed are still eleven. Brazil still needs to make registration of property, construction permits and tax payments easier to be a more fascinating market for businesses to operate. (The World Bank 2018a)

3.2 Competitor analysis

Competitor analysis is used in this research to complement the analysis of operational environment of Brazilian EdTech market. The competitor analysis is made using the strategical thinking of Porter's 5 Forces, that aims to recognise the potential of the market and forms a strategical view. According to Porter's 5 Forces, the company needs to position itself to an environment where the competition is not perfect, and therefore the company can focus on controlling the competing forces in its favour. The environment where the competing forces are weak, is better for the company to succeed. The model of 5 forces aims to help companies analyse the different competition factors in the desired field or market where it desires to enter. The model is implemented by analysing the five forces separately (figure 4). (Vuorinen 2013, 233)

Figure 4. The model of Porter's 5 Forces. (Vuorinen 2013, 232)

The challenges of the model (figure 4) are that it can be unsuitable to EdTech field that is constantly changing and developing. The macroeconomic factors of PESTEL-analysis are necessary to keep in mind when analysing the competition forces and also, the model can be also harsh for small companies like start-ups, because they are in most cases interested in strategical groups rather than a big picture of the market (Vuorinen 2013, 235-236). The analysis of Porter's 5 forces made as a part of this research can be extended with an analysis of strategical groups in the company strategies of Finnish EdTech start-ups. The five forces are used as a basis while analysing the competition in the market separately in this chapter and it finishes the theoretical part of the thesis. The next part is the empirical part with methodology and results of the thesis research.

The Brazilian EdTech market is large and expanding and it is starting to show its social impact. Now it is in the initial stage and the existing start-ups in market are focusing on niches, with low diversity of solutions, mainly because in general it is a fragmented market. The challenges are that 80% of basic education is public and the public network's acquisition and contracting is very low, lacks structure and is highly bureaucratic. Another challenge is that the educators are changing the culture and adapting more technology to offer new forms of offering education. The educators need to get comfortable with technology and the companies need to support the process from leaders to teachers. In addition, the investments are low, due to the challenges of the market and the long cycle of developing of the market, because the implementation and evaluation of educational market is annual. (CIEB 2018) The EdTech industry in Brazil is growing and many Brazilian start-ups are adapting tools tested abroad to offer services to the needs in Brazil. (Rodrigues 2016)

According to the Brazilian Government (2016), Brazil is recognized as one of the most promising markets for digital innovations in educations, especially in distance education. Many large education institutions like Lemann Foundation, University of São Paulo (USP) and Getúlio Vargas Foundation (FGV) invest in online courses and subjects. (Governo do Brasil 2016) The most promising areas however are data storage tools, research platforms, applications to connect students and teachers, along distance learning services (Brazilian Government 2017).

The Brazilian Ministry of Education (MEC) has launched a Program of Innovation Education Connected (Programa de Inovação Educação Conectada) in 2017, that aims to accelerate the use of technology in Brazilian public schools and improve the scenario of Brazilian EdTech companies. It also aims to attract more national investors to participate more actively in the market. (CIEB 2018)

In the global perspective, the competitors of Finnish education export come from United Kingdom, United States and Germany. Finland is benchmarking the Netherlands which has grown to have a turnover of one billion in six years. Another benchmarkable competitor is New Zealand, similar size to Finland and has a turnover of 1,5 billion. The difference to New Zealand is that most of their turnover consist of the sales of higher education tuitions and Finland focuses on whole sets of learning. Finland would have more advantages in addition to the strong brand from larger wholes, such as scaling products and services in digital solutions. (Frantti 2018)

Most of the Brazilian EdTech companies are focused on services for public education (48%), such as production and distribution of content. The distribution happens mostly by direct selling to the final user (student or teacher). The EdTech products for the use of education institutions are focused on school administration. (CIEB 2018) Some of the most promising Brazilian EdTech start-ups in innovation are:

- Descomplica – pre-recorded videos, pre-scheduled live classes and quizzes in subjects towards ENEM (Brazilian High School National Exam)
- Passei Direto – collaborative learning platform to access study materials of other students, communicate with other registered students and get feedback
- Mosyle – learning platform that combines iOS and Android device management with a mobile-first LMS and learning analytics engine to empower engagement
- Affero Lab – online corporate training solutions in planning, project and implementation
- eduK – online short courses in professional development
- Geekie – learning management system for K-12 schools
- Starline Tecnologia – educational software that automates the process of creating, applying and correcting exams and solutions for tender and public procurement
- EadBox – online SaaS platform of online courses in e-commerce and corporate training, also for creating online courses
- Agenda Edu – communication platform for schools
- QMágico – learning management system for K-12 to creating lessons, uploading materials and analysing performance. (Tracxn Technologies 2019)

The market in Brazil, according to a study of EdTech field in Brazil made by CIEB (2018) and Brazilian Association of Start-Ups (Abstartup), ecompasses 364 companies of which 61% are businesses of content production. Out of the companies, 19% are in the field of collecting data and processes. The companies are focused in São Paulo. (CIEB 2018)

4 Methods

This chapter presents the methodology utilized in this research as well as the implementation. The results and suggestions are presented in the following chapters and the finishing part of the thesis is the discussion.

The research method used in this research is qualitative research and semi-structured interviews are used in data collection. The interviewees were:

- Teacher of Technical and Technological Basic Education
- Teacher of Histology and Embryology at Faculdade de Medicina do ABC
- Biochemistry Professor at FMABC

They interviewees were chosen to represent different levels of education, in this case basic and higher education as well as different specialisations. One of them is ICT teacher, two of them are teachers of a certain field of which the other one is also the responsible for IT software used in teaching, such as Moodle. The timing of the start of empirical part was in October 2018 and the interviews were held in the last week of October 2018. The author had spent approximately two months in Brazil preparing the materials gathered of the operational environment and the (theoretical) framework for the interviews. The empirical part was finished in Finland during November 2018 – May 2019. The author returned to Brazil in March 2019 for a trainee opportunity and finished the thesis by May 2019. The whole thesis process took one academic year in total, from August 2018 to May 2019.

The implementation process started with the author familiarizing herself with the gathered theory about Finnish education export road map, the image of Finnish education that is desired to deliver internationally and Brazilian EdTech market with the existing global and domestic competition in the market. The second step after getting familiar with the relevant material for the study, was forming a framework of themes and examples for questions for the basis of semi-structured interviews related to each interviewee's speciality. To ensure the accuracy of data collection, the interviews were recorded, and simple notes were taken of the key points. That made it easier to get back into details of the topics discussed in the interviews and be able to write the results as accurate as possible under each theme. Lastly, the suggestions for the Finnish EdTech start-ups were brought up by the possibilities that were found based on the results.

4.1 Qualitative research

The definition and characteristics of qualitative research are discussed in this subchapter. The most suitable research method for the research of market opportunities is qualitative

research, because it focuses on findings in natural social life. The data consists of materials that reflect human experiences, such as visual, written or audio material. (Saldaña 2011, 3-4, 32) Qualitative research may contain several emerging aspects during the research process and the research questions may change and be re-defined as the research develops further (Silverman 2011, 42-43).

The aim of qualitative research is to offer a simple understanding of a phenomenon and the basis of qualitative research is to recognize patterns within words to promote a useful ensemble without compromising its dimensionality. Qualitative research aims to seek answers to questions "how, where, when, who and why". Similarly, qualitative research aims to create a theory, or to undermine an existing one. (Leung 2015) Qualitative research is utilised in this research as it aims to achieve a simple and immense understanding of the market possibilities for Finnish EdTech start-ups.

4.2   Semi-structured interview as a data collection method

The semi-structured interviews were done by interviewing Brazilian teachers based on the gathered information about Brazilian operational EdTech market environment. The data collection method of this research is semi-structured interviews, because the research questions are best answered by individuals that have personal history and experience in the field of study. (Saldaña 2011, 3-4, 32) All interview types as a data collection type have one thing in common because they are all discussions with a purpose. Semi-structured interview was found useful for this research since the author is unsure of the answers of participants, the questions are complicated, and the questions need to be rearranged depending on the participant being interviewed. (Lewis & Saunders 2012, 151)

Semi-structured interviews are implemented by setting a list of topics to be covered and options of questions to be asked. The questions were chosen according to the background of the participant, and some questions were excluded. Additionally, semi-structured interviews allow additional questions to get a broader understanding or checking that the interviewer understands the answer. (Lewis & Saunders 2012, 151-152) The preliminary questions act as a catalyst for insightful discussion where the participant is encouraged to talk freely about the themes, subjects and ideas in their personal perspective and create prosperous data for the research. The data is then made clear of and presented as results drawing in the findings of operational environment. (Coakes & Ng 2014, 63) The semi-structured interviews in this research were made face-to-face and recorded as audio, also simple notes were made while discussion.

The advantages of semi-structured interview are that the results may be analysed easily related to a predetermined question guide answer by answer. The question guide ensures that the questions are complete and that there are no logical gaps. The disadvantages are that some important topics can be missed and some of the questions may need to be changed for the interviewee to understand, which brings in the chance that the answers may not match with the others. (Coakes & Ng, 2014, 105)

The limitations of semi-structured interviews in qualitative research are, that in order to gain good and rich data, the planning and interviewing are important. The main interest of the interview is in the participant and learning their views beyond the chosen themes. Therefore, it is crucial to develop good and unbiased listening skills, prepare some questions of interest and be ready to go beyond the topic to get to know the participant's interests and catch the ideas behind what is being said. It means that for a new interviewer, it requires a lot of focus on listening and on personal performance to get relevant data for the interview. Therefore, qualitative interviewing is difficult, because even knowing the target interviewees and organizations, getting good quality data depends highly on the listening and other related skills of the interviewer as there is only one chance of interviewing one participant. Also, it can be difficult to reach the best interviewees such as CEO or school principal, and often secondary contact will be the best option to interview. (Coakes & Ng, 2014, 63-66)

4.3   Reliability

When it comes to the reliability of the research data obtained from semi-structured qualitative interviews, the interviewees may have a motive to filter their responses due to office politics for instance. Secondly, the participant may wish to please the interviewee so that the opinions are well received, or the interviewee views the interviewer as too young and lacks confidence. Thirdly, the interview environment may cause distractions, such as ringing phone or other noises. Lastly, if the interviewee wishes to see the questions in advance, it may result to prepared answers. Also, it needs to be ensured that the interviewee has the necessary time for the interview. (Coakes & Ng, 2014, 101)

There is also a chance that since the interviewee hasn't been able to prepare for the questions, they may be nervous, may be hesitant to respond or may have other characteristics that may affect the data. Some of the participant characteristics that may affect the data are talkative, opinionated or leading or limiting questioner. (Coakes & Ng, 2014, 102)

The interviews were made in Portuguese which is not a native language of the author and therefore there is space for misunderstandings and made up interpretations. The interviewees are the author's personal contacts through the professional and private network and chosen to be teaching professionals from different levels of education, some with some special insight of the technology used in the institution to provide a better understanding of the technology used in the institution.

The reliability of the results is ensured by informing the interviewees about the topic of the research before the interview, but leaving the planned question frame unknown so the answers will be as open as possible and the conversation can flow freely depending on the responses and specialities of the interviewees. The themes of the questions are more or less the same in every interview to be able to compare the results easier together and with the prior material gathered to the research about the market.

5   Results

This following chapter will present the collected data from the semi-structured interviews. The results are formed from personal interviews and the memos made during the interviews. The names of the interviewees will be left anonymous and are not mentioned, also direct quotations are avoided. To avoid misinterpretations, the results are presented in a general level. The interviews were recorded using a voice recording feature of smart phone and notes of key points were taken during the interviews.

5.1   EdTech products

In the question number one (Appendix 1) the theme was EdTech products. Among the interviewees, the most commonly used EdTech services are platforms to share content such as text, exercises and activities with students. One of the interviewees mentioned to often use a platform that enables to do exams and evaluating the students as soon as submitting the answers. Other colleagues of STEM areas are known to use also specific platforms to create maths formulas for maths labs. For engineering there are platforms to create figures and 3D models. In ICT there is a platform that enables mounting a network and it shows all the cabling it requires and the size of it. One of the interviewees spoke about having seen applications in medical area that use visual images and wishes more developed gamification applications to help learning this challenging area
 Also, video class services were mentioned in the interviews.

All interviewees concluded that different areas of studies have interest in area specific platforms and applications. One interviewee talked about what is complicated in Brazil, that the EdTech products and services bought by institutions must be licensed and licencing is expensive and takes 3 to 4 years, which means that the institutions can't purchase with low budget and if they can, the product or service is possibly already outdated. The good thing about the system is that at least there is not many faults since it passes so many steps during the licensing process.

Even though it's hard to get applications platforms, the teachers tend to be creative with what they have and improvise a lot. One interviewee mentioned to be uncomfortable with electronic study materials for not being used to it. One challenge also may be the old age of the teachers, which brings difficulty to learning new ways. The fast-changing reality caused by internet is found to be challenging among the interviewees as well, because it is a lot of work researching new studies and updating the materials. One of the interviewees has heard about the government investing in NGOs that support teachers in learning about new technology.

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5.2 Operational environment in Brazil

In the question number two (Appendix 1) about operational environment in Brazil, it was found that the public investment in Brazil is low, but private investment is higher. It means that private institutions invest more in the EdTech products and services. EdTech companies tend to have advertisements at schools, have fairs, theme days and forums to increase the knowledge of their products and services. Some companies give access to their products and services for free to the students trusting that the student will buy after graduation.

All the interviewees mentioned about the cause to low investment and the past government of President Dilma, that caused the country to pass very difficult years economically and politically. The government stopped investing and the crisis augmented. There was a huge *lavajato* scandal and the previous president took over. Because of the crisis the country has now about 30% less money than before the presidency of Dilma, the country is investing a lot less in all sectors. Also, the PISA results are low because class sizes are big, because the schools haven't got enough money.

The new president Bolsonaro however, has promised changes and improvements, but the interviewees haven't seen many concrete improvements in his election promises and at the time of the interviews the new ministry of education wasn't known yet. Despite the interviewees are expecting a lot of positive changes, especially in distance learning in elementary school. However, the interviewees find it uncomfortable and believe it is going to be useful in rural areas. One interviewee sees the new president as a danger and found it difficult to talk about politics.

The challenges of EdTech products observed by the interviewees are considered to be convincing the parents to invest more in their children's education, such as better notebooks and smart phones to use. Another challenge is changing the attitude of teachers to adapt new technologies and ways to teach. And even the management of the institution determines a lot about investments comparing public institution that depends on public money and private institution that has other sources of income to invest and is attracting students by new technology.

Schools these days have a Wi-Fi network available for students, but the quality of the speed differs. Other thing is the accessibility to the internet and EdTech products and services. Due to different social classes, not all students can access decent devices required.

One of the interviewees mentioned the importance of personalized EdTech products, because the level and need of assistance of the students may differ a lot, inside the class but also in different cities, areas and countries.

5.3 Finnish EdTech

In the question number three (Appendix 1) regarding Finnish EdTech, among all the interviewees the Finnish education is highly valued and known country wide in the education sector. The Finnish style of education is desired in Brazil, but the challenge is lack of investment that affects everything from class size to school infrastructure and equipment. One interviewee mentioned one thing that differentiates Finland is that Finnish people respect and honour their history, but that Finland doesn't advertise very much and that's why it is not so well known in Brazil. In his opinion Brazil is lacking respect towards its own history.

However, only one of the interviewees know more things about Finland outside the reputation of its reputation in education. During the interviews the author noticed curiosity towards Finnish organization, planning, governmental leading and learning from it. One interviewee believes that one success factor in Finland is the long-term planning. He said that in Brazil the focus goes on one problem, while at the same time the other problems increase.

5.4 Competition

Another theme that was brought up during the interviews was competition. The teachers and lecturers interviewed seem to not be out looking for technological innovations to be used in teaching, but they are aware of companies that provide them. There have been representatives of EdTech companies presenting the innovations at the institutions, but due to low investment of the government, the products and services are not used much, and the buying force is low.

One of the interviewees has been reached out by foreign companies by email but doesn't have time to read emails. Another interviewee said that uses only free applications, which indicates to easy accessibility without high investments. In private institutions the parents normally pay the tuition for their children, it means that the EdTech company needs to convince not only the institution representatives but also the student and their parents.

6   Discussion

This last chapter concludes the thesis framework, discusses the main findings of the research and describes the own learning of the author.

The Ministry of Education and Culture (2016) had defined, education export includes all business related to education, education system or business in transfer of knowledge. The export of education is commercial activity which requires new thinking and productizing our high knowledge and experience. The challenge is to create business of education that is Finnish, internationally desired and that it allows the growth of the target market and is based on common values.

Finland is targeting the education export to Middle East, China, Far East and Latin America, and the growing markets are in Russia and Africa (Frantti 2018). In Brazil, Finland interested in education and science cooperation and export of education (Suomen Suurlähetystö 2017). Finland has one of the most innovative education technologies for all education levels (EDUFI 2018).

During all the interviews it was clear that Finland has an excellent reputation and there is interest for Finnish educational innovations that Brazil could invest in while improving the education field with the new government. However, it is challenging due to low investments after the past political and economic crisis during the last years.

The teachers are generally old in Brazil and used to old ways of teaching and learning, which can be a challenge when it comes to adapting more EdTech into the methodology. However, if the EdTech would be easily accessible and wouldn't require high investment, it could make a huge success for the fact that it makes learning easier and more fun for every student because it can be personalized to the necessities of the current level of each student.

There was also clear difference between public and private institutions, since public institutions run with low investment of the government and private institutions do a lot of marketing and therefore their reputation can be more modern and technological, instead of academic like in public institutions.

To conclude the results by answering to the main research questions, there were found large possibilities and interest for Finnish EdTech in Brazil, but the challenges are low investment and lack of knowledge of the market as well as lack of country image of Finland

in Brazil despite the excellent reputation and high-ranking results. The next chapter offers some recommendations for Finnish EdTech start-ups desiring to enter to the Brazilian market.

6.1   Recommendations

In Brazilian culture, it is easy to sell an idea, but hard to understand the local ways without knowing Portuguese and the business culture. Therefore, since start-ups tend to have small teams, the possibility of having an employee that is familiar with Brazilian market and business environment is lower. Because of that, it would be needed to have resources to hire a good consultant that has specialised in the Brazilian market and the educational field. Another alternative is to partner up with a larger company that has similar target group and has already studied the market and made an entry. In that way, the bigger company can help bringing the product to the market under its own name that is already known in Brazil.

Another recommendation to convincing the buyers is showing the old-fashioned teachers that EdTech is offering easily accessible, free, fun, useful, multifunctional ways to learning that brings better learning results. To help convince the buyers, it is crucial to show data of the efficiency of this method, that the students become more engaging in class, have less dispersion, learn faster and retain the content taught. When we have visible data, it will be much easier to sell the idea, product and get investors interested. In addition to that, it is crucial to find the institutions that have most demand for the innovations since Brazil is a large country and the market is endless.

Lastly, Finland should target more to Latin America and Brazil and do more country marketing because it is a small country that is little known in Brazil. Not all interviewees had heard about Finland more than the high ranking in PISA some years ago and the good education system related to that. Finland has a lot to offer in the educational field and Brazil desperately needs the help, but the main challenge is low investments.

6.2   Own learning

The author found the topic demanding when it comes to the field of study because she didn't have much previous knowledge of EdTech field. Also, the analysis of operational environment was rather new since she had studied the subject only on few courses during the studies. Therefore, the author didn't have much previous experience about conducting the analyses, which is why it was challenging and time demanding. However, it was an excellent learning opportunity and since the area is not well researched gives this study

lots of extra value as an important source of knowledge for EdTech start-ups and companies interested in exporting to Brazil.

Despite the topic was demanding, the author found the overall process motivating since she made important professional connections during the process while conducting the research. The author feels like she has gained valuable information about the topic that can be of use in the future and she is prepared to further develop the ideas and suggestions that this thesis provides. The author is seeing future work possibilities in the field of study, which is why she enjoyed investigating the topic as her main goal. The thesis topic helped in its own part for the author to get a trainee position in Brazil.

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Appendices

Appendice 1. Question framework.

1) EdTech Products

    a) What kind of educational technology is currently adapted to classrooms?
    b) What kind of educational technology are you interested in adapting more?
    c) Is there offering in Brazilian EdTech start-ups/companies?
    d) What buying channels do you use?

2) Operational environment

    a) How do you see political and economic hurdles and the election of new president affecting EdTech start-ups?
    b) Does the government and public sector support education and EdTech start-ups?
    c) Are the schools willing to invest in technological innovations in teaching?
    d) Do the social classes have importance in accessing technological innovations?

3) Finnish EdTech

    a) Have you heard about Finnish education?
    b) Is there demand for Finnish innovations in EdTech? Is it easy to enter to the market?
    c) What do you think are the challenges for foreigners, especially Finns, doing business in Brazil?