

Analysing the market for preschool management system software

Case LittleLives Ltd. in Finland

Thanh Huong Nguyen

Author(s) Thanh Huong Nguyen	
Degree programme Bachelor of International Business	
Report/thesis title Analysing the market for preschool management system software	Number of pages and appendix pages 49 + 2
<p>This thesis investigates and analyses the market for preschool system management software in Finland for the commissioning company LittleLives Ltd. from Singapore. The purpose of this research is to understand the Finnish preschool management system software market including the market characteristics, how management software is used at preschools, and pre-primary teachers' opinion towards using software at work. Based on analysing and discussing the theoretical framework and results of this thesis, conclusions and recommendations can be made upon.</p> <p>The theoretical background of this thesis explains the necessary concepts and models that the author must fully understand before continuing with the primary qualitative research process. The theoretical framework of this thesis consists of marketing, preschool and software related theories. Marketing theories cover the key characteristics of the organizational market especially the institutional market, organizational buying behaviour and the decision-making process. Furthermore, the Finnish preschool education system, national preschool curriculum and teachers duties and competences are included in the theoretical framework as preschool related theories. Lastly, theories regarding preschool system management software are also studied in this thesis.</p> <p>The key methods used for this research are secondary research and qualitative primary research. Secondary data are collected from websites, articles, and books. Primary data are gathered from nine face-to-face interviews, online interviews and observations. Results and key findings of the empirical research will be presented.</p> <p>The findings show that there is a potential market for LittleLives Ltd. in the preschool system management software market considering its characteristics and customer buying behaviour being analysed through the research. Though system management software have been utilised at preschools in Finland before, it is not common to use this type of technology for administrative tasks and related purposed in pre-primary schools. Preschool teachers and administrators showed both positive and negative opinions and preferences towards using management software at work. These are the key findings of this research, which will support LittleLives Ltd. in making its market entry decision to the Finnish preschool market.</p>	
Keywords Preschool, Management System, Software, Preschool teachers, Institutional market	

Table of contents

1	Introduction	1
1.1	Background	1
1.2	Case company	1
1.3	Thesis Topic	2
1.4	Demarcation	3
1.5	International aspect	4
1.6	Anticipated benefits	4
1.7	Key concepts	4
1.8	Risk management	6
2	Understanding the pre-primary institutional management software market	7
2.1	Understanding the pre-primary institutional market and educational system	8
2.1.1	Types and characteristics of organizational market	8
2.1.2	Characteristics of institutional market	9
2.1.3	Organizational buying and the decision making process	10
2.1.4	The Finnish preschool system	12
2.1.5	National core Curriculum for pre-primary education	14
2.2	Preschool management software solutions.....	16
2.3	Preschool teachers' duties and competences.....	19
2.3.1	Competences	19
2.3.2	Duties	20
3	Research design and methods	22
4	Results	26
4.1	Characteristics and objectives of the preschool market and educational system	26
4.1.1	Characteristics of the Finnish preschool market	26
4.1.2	Characteristics and objectives of the Finnish preschool system	31
4.2	How management software are used in the Finnish preschools.....	34
4.3	Preschool teachers' opinion towards using management software at work.....	35
5	Discussion	38
5.1	Key findings.....	38
5.1.1	Analysing the Finnish preschool market and educational system.....	38
5.1.2	Analysing how management software are used in the Finnish preschools	39
5.1.3	Analysing preschool teachers' opinion towards using management software at work	40
5.2	Recommendation	41
5.3	Evaluating the research.....	42
5.4	Personal learning	43
	References	45

Appendixes.....	50
Appendix 1. Overlay Matrix of the Thesis	50
Appendix 2. Interview with preschool owners, teachers and administrators	51
Appendix 3, Interview with a member of the Finnish National Board of Education (expert interview)	52
Appendix 4. Interview with Statistics Finland Oy. (Expert interview)	53
Appendix 5. Interview with LittleLives Ltd.'s CEO (Software except interview)	54

1 Introduction

This chapter introduces readers to the study background, the creation of the research process and a brief profile of the case company. The thesis topic including research problem and investigative questions are clearly described as well in this chapter. Anticipated benefits, international aspect, key concepts and risk management are also included.

1.1 Background

Nowadays education is becoming more globalized and digitalized. From early to higher education, the application of technology to teaching and administration is growing rapidly. Finland, considered as one of the most important centres of technology innovation and increasing number of fast-growing technology start-ups, is well implementing software to education at a national and local level. Recently, Finland has been well known for its top ranking and high quality of education, especially early childhood education, which are provided equally to a large proportion of the population.

Seeing this potentiality of the market, LittleLives Ltd. – one of the leading preschool technology companies based in Singapore, is planning to enter the Finnish preschool market. The company has been running from 2008 in Asian countries and is now deciding to enter European markets. Before making any crucial decision, it is necessary to conduct a research on market analysis.

This research-based thesis is beneficial for my study due to its goals and content being strongly related to global marketing. Finnish education and technology industries, which I am extremely interested in, are going to be researched in this thesis process

1.2 Case company

LittleLives Ltd. is a preschool technology company from Singapore that creates an award winning, easy-to-use online software for all preschools around the world. Littlelives software system has been qualified by Ministry of Education Singapore and Association for Early Childhood Educators Singapore (AECES). Currently LittleLives serves more than 400 kindergartens and childcare centres in Singapore, accounting for approximately 25% market share. LittleLives is led by CEO Sun Ho, who is running a strong team of 25 personnel.

LittleLives's vision is to become one system used by preschool and elementary schools around the world.

LittleLives system is an integrated system with multiple functionalities provided for pre-schools. This system enables teachers to record attendance, health track, portfolio, and evaluation checklist for students while frequently and timely communicate with parents by instantly sending them updates of the locations, happenings and reports of their children. The system also allows preschools to plan and organize payment collection by generating invoices and receipts to ensure accountability with cash flow. LittleLives system connects centres by building a global network of educators and bringing different cultures to pre-school classrooms.

With LittleLives, technology can enable schools, administrators and educators to run schools better, reduce administrative tasks & improve teachers' quality of life. LittleLives team has spent their careers building enterprise systems, multi-million commercial projects and working with communities.

Seeing Finland as a potential market due to its top-notch early childhood education equality, LittleLives founder is planning to expand its market size by entering the Finnish pre-school market and education software industry in Finland.

1.3 Thesis Topic

This thesis's objective is to analyse the Finnish preschool software market for LittleLives Inc to enter Finland. Based on analysing and understanding the Finnish preschool market including market characteristics, how software is used at preschools and teachers' opinion about using software at work, recommendations would be made for LittleLives before deciding on entering the Finnish market.

The research question in this thesis is what is the market for preschool management software system in Finland.

RQ: What is the market for preschool management software system in Finland?

The research question is divided in the following IQs:

IQ1: What are the characteristics and objectives of the Finnish preschool market and educational system?

IQ2: How are management system software used in the Finnish preschools?

IQ3: What are preschool teachers' opinions about using management system software as part of their work?

The thesis topic will be researched in such a logical way as indicated in the overlay matrix (see appendix 1), which the author will elaborate more in details in the following chapters of this thesis.

1.4 Demarcation

The researched location is Finland. Primary research is conducted in Helsinki Metropolitan areas including only Helsinki, Espoo and Vantaa and not including Kauniainen area. The target market is institutional market or preschool market and target industry is preschool software industry.

The researched market is institutional market, which is a part of organizational market. Target customers of LittleLives Ltd. are pre-primary schools, day-care centres and kindergartens providing pre-primary education in Finland. Hence primary research including qualitative interviews is done with preschool teachers, administrators and owners, educational expert and software expert. The author focuses on researching both public and private preschools.

The target age range for preschool children are from 3 to 6 years old. At this age range, children in Finland receive early childhood education and care, and then pre-primary education when they are between 5 and 7 years old. Finnish children officially start comprehensive school at the age of 7.

This thesis focuses only on preschool management software. Software for higher-level institutions, educational and non-related software will be excluded from the research.

Theoretical models regarding Finnish education systems used are from the Finnish governmental bodies such as Ministry of Education and Culture or Finnish National Board of Education. The theoretical framework of this thesis does not include consumer market or any other types of organizational market but institutional market. Technical concepts related to software will not be researched in this thesis. In addition, this thesis does not provide industry analysis, PESTEL and SWOT analysis. Competition analysis will also not be mentioned, as there is not much competition going on in Finland regarding preschool software industry. Currently preschools in Finland use mainly excel for administrative tasks, which cannot be considered as a big threat.

Regarding empirical research part, the author will not include information provided by interviewees that are not related to the research problem and investigative questions.

1.5 International aspect

The thesis also covers the international aspect, as LittleLives is a Singaporean-based company deciding on entering a Finnish market. LittleLives also has its business operation in Malaysia, Brunei and Vietnam. LittleLives has also been to China, Vietnam, Uganda, the United States and the Netherlands.

1.6 Anticipated benefits

Toward completing a successful thesis and internship for the case company LittleLives Ltd., my expected benefits for the LittleLives is a successful market analysis report of the Finnish preschool software market, which assists in process of making market entry decision. The thesis is anticipated to summarize the Global Customer Relationship Management specialisation area of study. Regarding any other stakeholders, preschools in Finland would possibly benefit from LittleLives products to enable a paperless education for preschools pupils and better teaching quality. Also, preschool teachers and administrator would benefit from a more effective teaching and administrative tool, time saving and better teaching quality.

1.7 Key concepts

“Market is a group of people who are potential customers for a good or service” (Wood 2010, 49).

Organizational market refers to companies, institutions, non-governmental organizations and governmental bodies involved in the buying process of goods and services for the organizational use rather than personal purposes (Wood 2010, 49).

Institutional market refers to “schools, hospitals, nursing homes, prisons, and other institutions that provide goods or services to people in their care” (Kotler & Amstrong 2012, 204).

Non-profit organizational is a corporation or an association “organized for purposes other than generating profit and in which no part of the organization's income is distributed to its members, directors, or officers (CornellUniversityLawSchool 2015).

Market analysis is “a phase of marketing research conducted to determine the characteristics and extent of a market” (Merriam-Webster 2015).

Market size, which can be defined as “the number of buyers and sellers in a particular market, depends on two key factors: number of customers and purchases (Wood 2010, 53).

Organizational buyer behaviour can be referred to as “the buying behaviour of organizations that buy goods and services for use in the production of other products or services that are sold, rented, or supplied to others (Kotler & Armstrong 2012, 190).

Organizational buying process is “the decision process by which business buyers determine which products and services their organizations need to purchase and then find, evaluate and choose among alternative suppliers and brands” (Kotler & Armstrong 2012, 190).

Pre-primary education or preschool education refers to “the initial stage of organised instruction, designed primarily to introduce very young children to a school-type environment, that is, to provide a bridge between home and a school-based atmosphere” (OECD 2013).

Preschool program can be defined as “an early childhood program in which children combine learning with play in a program run by professionally trained adults (EncyclopediaofChildren’sHealth 2015).

Preschool curriculum is “ the content and organization of the preschool program, including all daily activities, transitions, and routines which have an impact on the child’s physical, social, emotional, intellectual and language development” (ThePreschoolProfessor 2015).

Software can be defined as “a general term for the various kinds of program used to operate computers and related devices” whilst hardware describes the physical aspects of them (Rouse & Doig 2006).

School management system software or school management software can be referred as “management information system designed to match the structure, management task, instructional processes and special needs of the school” so as to increase effectiveness and efficiency by saving time and facilitating development of alternative solutions for complex issues (Demir 2006, 32).

1.8 Risk management

Potential risks of the research are language barrier, time management, and research process related issues such as non-response, error in communication, misunderstanding, cultural differences, privacy, and so on. Time management poses as a big risk as the author plans to complete the thesis within a short period of time.

Possible solutions applicable are searching secondary sources in English, translation tool, applying versatile ways of approaching informants (e.g. email, phone call, visit, networking), and active networking by attending events and using current contacts to connect with potential respondents. Furthermore, organizing thesis writing charts and actively contact advisors for feedback would help improve time and task management for the writing process of this thesis.

In order to limit the risks in this research, the author made a concrete plan of researching and presenting this thesis's theoretical framework, results and discussion, which can be found in the chapters below.

2 Understanding the pre-primary institutional management software market

As mentioned in the research question and objectives, this thesis focuses on market analysis to understand the characteristics, potentiality and related influencing factors of the market. This chapter indicates a full background of theories for the author's research before initiating with the research methods. The relationships between investigative questions and literature used in this thesis are indicated in the overlay matrix (see appendix 1). Examples of theoretical models used are various organizational and institutional market analysis models, the Finnish education system model and pre-primary school curriculum model. The theoretical structure is elaborated as the figure below

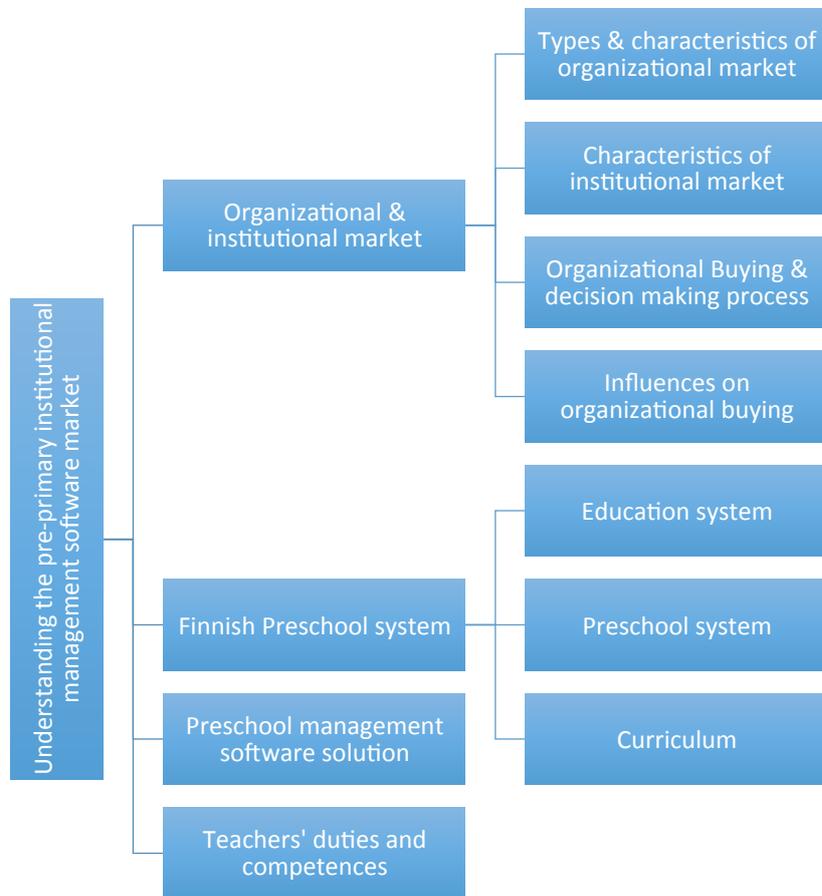


Figure 1. Theoretical frame of reference

The first two following sub-chapters provide efficient models and knowledge for the author to answer the first investigative questions regarding the Finnish preschools' characteristics. Before practically analysing the Finnish preschool software market, it is crucial to understand which category of in the market that preschools belong to. Finnish preschools are institutions providing educational services to people in their care, non-profit organizations with low budget normally.

Hence in this thesis the author analyse types, characteristics of the organizational and institutional market. Knowledge of organizational buying behaviour, decision-making process and influences indicated in this thesis also reflect on whom and what kinds of indicators the author should take into account in the empirical research part.

Furthermore, institutional market would not have been established without its educational system and curriculum, which are designed by the government, municipality and pre-schools. Thus it is crucial to study the Finnish education system, preschool system and national pre-primary curriculum.

To answer the second investigative question as how software are used in Finnish pre-schools, it is important to understand what preschool software solutions are and how teachers and administrators apply them nowadays. Therefore, a preschool software solution is the main topic to be studied in the sub-chapter 2.3.

Last but not least, preschool teachers' duties and competences are also studied in the second chapter of this thesis before presenting findings on what their opinions of using preschool software at work are, which is the last investigative question.

2.1 Understanding the pre-primary institutional market and educational system

This subchapter presents theoretical analyses of organizational market with strong foci on institutional market, the organizational decision-making process and major influences. A brief background of Finnish education system, preschool education system and the national curriculum for pre-primary education are included in this sub-chapter as well.

2.1.1 Types and characteristics of organizational market

Organizational market can be categorised into commercial, institutional and governmental sector as in the figure below. Commercial market includes distributors, original equipment manufacturers, retailers and users whereas institutional market consists of non-profit and community-based organizations such as hospitals, universities, charities and churches and governmental or public organizations deliver healthcare, education, policing, military, transportation and similar services. (Ellis 2011, 33.) This thesis focus only on analysing the characteristics of institutional market as preschools market belongs to this sector.

Table 1. Types of organizational customer (Ellis 2011, 33)

Commercial	Institutional	Governmental
<ul style="list-style-type: none"> • Distributor • OEMs • User organizations • Retailers 	<ul style="list-style-type: none"> • Government related (hospitals, schools) • Non-profit organizations (charities, churches) 	<ul style="list-style-type: none"> • Health • Education • Military • Transportation • Civil Services

Organizational markets involve far fewer but larger buyers in comparison with consumer markets. A few buyers usually account for a larger proportion of sales. In general, organizational demand is often derived driven, inelastic and fluctuating. This means organizational demand, which results from final consumers' demand, does not depend drastically on price changes especially in a short term. Organizational demand changes more dramatically than consumers demand as a small increase in consumer demand can lead to a significant rise of organizational demand and vice versa. (Kotler & Amstrong, 191-192.)

2.1.2 Characteristics of institutional market

According to David Aaker, when analysing a market it is necessary to outline and understand the current market size, growth rate, potentiality and key success factor (Aaker 2010). The main focus of this sub-chapter is to study institutional market's characteristics.

Institutional market buying involves many bureaucracy and complex procedures. For instance, schools are required to make numerous purchases, ranging from computers, desks, tables to books and other library resources and so on in order to operate. Its key principle in institutional buying is to focus on customer needs regardless of whether customers are patients, passengers or pupils. The same thing applies to other kinds of government-related institutions and community-based organizations such as museums, hospitals, etc. These institutions can also be run privately or under control of public-private partnership. (Ellis 2011, 35.)

Institutional market, which can be massive, is usually characterized by low budgets and limited sponsorship. Marketers should necessarily meet special needs and characteristics of institutional buyers by setting up different divisions, for instance, of product or services offered to them distinctly. (Kotler & Amstrong 2012, 204.) Institutional market, or pre-schools market studied in this case, mainly consists of non-profit organizations. Non-profit organizations can be seen under the form of corporation, individual enterprises, unincorporated associations, partnerships, foundation or condominiums. Non-profit organization examples are public schools, professional association and some governmental agencies. (CornellUniversityLawSchool 2015.)

2.1.3 Organizational buying and the decision making process

Buying activities in an organization include two main parts: the buying centre and the buying decision process, which are affected by international organization, interpersonal, individual, external and environmental factors. Business buying decision can vary in a form of routine or complicated process, revolving around few or very many decision makers and influential factors. (Kotler & Armstrong 2012, 194-195.)

The organizational buying process, which tends to be more formalised nowadays, includes more complicated buying decision than consumer buying process, and is usually based on a long-term relationship. Buyers and sellers depend a lot on each other, as marketers may work with customers during all of the buying stages ranging from helping them define problems, sort out solutions, and support the after-sales step. Especially in the information technology industry, it is crucial to build strong relationships with customers. Nowadays, organizational buying involves a more professional purchasing effort and more buyers who are well-trained buyers and higher-level supply chain managers. The more complex the purchase, the more time and people, including technical experts and top managers, are involved in the decision making process. Participants in the organizational buying process are indicated in the table below. (Kotler & Armstrong 2012, 192.)

Table 2. How buying centre participants influence purchases (Kotler & Armstrong 2012, 196)

Buying centre participants	
Users	Organization's member using the product or service, often initiating the buying process and defining specifications
Influencers	Often help define specifications and provide information evaluating alternatives. Important influencers are most likely technical people
Buyers	Have the formal authority to select suppliers and negotiate purchases, and sometimes to help shape product specifications. Buyers may be high-level officers in complex buying situations.
Deciders	Have the formal and informal power to select or approve the final suppliers. Buyers may be deciders as well in routine buying cases.
Gatekeepers	Control the information flow to other buying centre participants

Regarding the preschool software market researched in this thesis, the business buying process participants can be applied as following:

Table 3. Buying centre participants in the preschool management software market

Centre participants	Day-care centre, nurseries, kindergartens, other organizations providing preschool educations
Users	Teachers, parents
Influencers	Teachers, Administrators
Buyers	Owners
Deciders	Owners, Teachers
Gatekeepers	Administrators

Buying decisions are affected by many influences (see figure 4). When making buying decisions, organizational buyers are exposed to economic and emotion reasons, of which the later plays an important role in advertising nowadays whilst economic factors are crucial especially in a rough economy. When product or service offers from suppliers are similar in prices and benefits ranges, buyers allow themselves to let personal factors affect their decision and vice versa. (Kotler & Amstrong 2012, 197-198.)

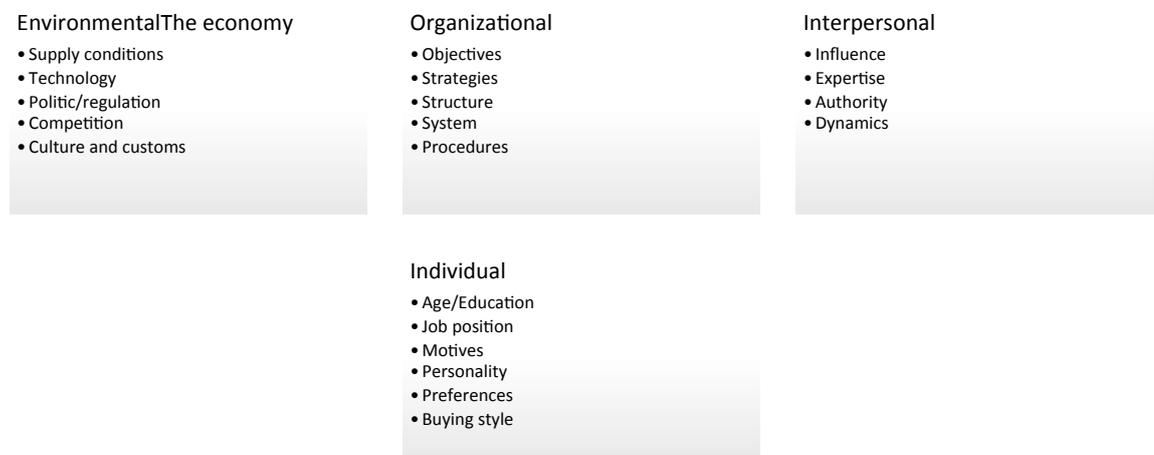


Figure 2 Major influences on organizational buyers (Kotler & Amstrong 2012, 198)

First of all, environmental factor consists of the economic environment involving demand level, supply level, economic outlook, money cost. Other factors in this category are technological, political and competitive environment. Especially in international marketing environment, culture and customs play an important role in determining reactions to buyers' behaviour. Environmental influencing factors could also be the organization's market share and objectives. It is crucial to understand the budgeting and buying cycles of a certain industry and geographical location. For example, growing cities or countries tend to

expand their expenses on construction and telecommunication infrastructure, which may create opportunities for suppliers in the relevant fields. (Kotler & Armstrong 2012, 198)

Secondly, organizational factors consist of each buying organization's mission and vision, objectives, strategies, structure, systems, procedures. Marketers must be able to know how many people are involved in the buying process, who they are, what their evaluating criteria are, and what their policies and limits are to successfully market and sell their products or services. (Kotler & Armstrong 2012, 198) Two of the most important organizational considerations to take into account are the size of each organization's budget and the timing of purchases, which vary diversely within an industry (Wood 2010, 60). Hence, financial budget or governmental financial support of the government for each organization should be taken into account when analysing organizational market.

Thirdly, as many participants who influence each other run an organization, it is essential to understand each individual's role and their interpersonal influences among each other. Since these participants' roles may not be clearly defined as key decision markers or not influential personnel, marketers must understand their relationships with the others and design strategies accordingly. (Kotler & Armstrong 2012, 198.) Hence roles of each buying participant involved in the decision making process of preschools were discussed above.

Lastly, each participant's motives, perceptions, preferences, and personal characteristics can affect the buying decision A buying decision of an organization is made by various individual participants, each of whom play a specific role and responsibility in the buying process. Buying decision is affected by each participant's age, gender, education, job position, income, personalities, attitudes, opinion and so on. (Kotler & Armstrong 2012, 198.) These factors can also be categorised as customer characteristics and needs (Wood 2010). Therefore, the author will study the opinion of respondents who are target customers of the commissioning company in this thesis.

To conclude, buying decisions for organizations, governmental agencies and NGOs that are made by individuals or groups usually take lots of time, effort and consideration because they involve a large sum of money, internal review and impact on operations and management. Therefore, organizational behaviours have to be analysed for deeper understanding of the target business market. (Wood 2010, 59.)

2.1.4 The Finnish preschool system

This subchapter gives an overview of Finnish education and Finnish preschool education system including a brief summary of the National core curriculum for pre-primary educa-

tion officially published by the Finnish National Board of Education and applied in all centres providing preschool education in Finland.

The long-term objective of the Finnish education policy is that all citizens have the equal opportunities to receive high-quality education and training. The key principles are quality, efficiency, equity, and internationalisation. Finnish education is based on lifelong learning and free education. These national objectives, principles and policy are implemented locally. (FinnishNationalBoardofEducation 2015.)

Children’s growth, development and well-being are the main goals that are supported and followed by Finnish education. Compulsory education in Finland starts when a child reaches the age of 7 years old. Before this age, the child can attend pre-primary education, which aims at developing children’s learning skills in their early childhood. The first stage of children’s learning is early childhood education and care, followed by pre-primary education and basic education as illustrated in figure 6 below. (MinistryofEducationandCulture 2015.)

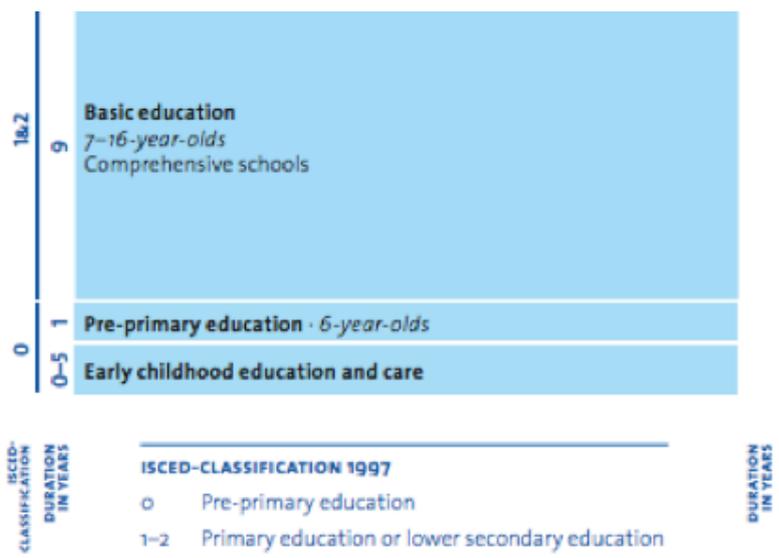


Figure 3. Pre-primary and basic education system of Finland (FinnishNationalBoardofEducation 2015)

Pre-primary education acts as a part of the Finnish early childhood education and care . Preschool education is the systematic education and instruction provided in the year prior to basic education. Pre-primary education takes place in pre-primary schools, kindergarten and day-care centres. Education is based on a local curriculum determined by the National Core Curriculum for Pre-primary Education. “Early childhood education, pre-primary and basic education form an integrated whole progressing consistently following the child’s development.” (FinnishNationalBoardofEducation 2015)

2.1.5 National core Curriculum for pre-primary education

In Finland, early childhood education and care, preschool education and basic education form an integrated progressing regarding a child's development. The purpose of Finnish preschool education is "to promote children's growth into humane individuals and ethically responsible members of society by guiding them towards responsible action and compliance with generally accepted rules and towards appreciation for other people." (Finnish National Board of Education 2010, 5.)

The core promotion tasks of Finnish pre-primary education system focus on building and children's favourable growth, development and learning opportunities. The process of developing physically, psychologically, socially, cognitively and emotionally of children are involved. Kids are supported, monitored and prevented from any possibly occurring risk. Important elements that Finnish preschool education ensure children at their early childhood education should necessarily achieve are healthy sense of self-esteem, positive learning experience, diverse social interaction, new areas of interest discovered, gender-specific needs and equal education opportunity. (Finnish National Board of Education 2010, 5-6.)

The objectives of Finnish pre-primary education system are:

- Strengthening children's positive self-concept and basic skills and knowledge including: learning-to-learn, learning through play in peer group, and facing new challenges with confidence and creativeness.
- Enabling children to learn and understand the importance of rights and wrongs, responsibilities, the rule of co-existence and commitment, the ability to control themselves, behaving appropriately and deal with everyday situations, equality, accepting people's differences and maintaining health and well-being.
- Familiarising children with their own linguistic and cultural identity concerning artistic and cultural aspects as well as enabling children to express themselves diversely
- Raising children's interest and responsibilities for the environment around them, thus teaching them to observe, analyse and enjoy the diverse beauty of both natural and built-up environments.

(Finnish National Board of Education 2010, 6.)

Pre-primary education should be organised as to create a good and safe environment for children with the most favourable conditions enabling their well-being, development and learning. Pre-primary school education encourages interaction, collaboration, joint re-

sponsibilities, and involvement with a strong focus on children's opportunities. In collaborative preschool education operations, the integrated roles of children, teachers, community members, expert and family members should be taken into account. Preschool education learning, which is active and goal-oriented, is based on previous knowledge base and learning experiences. This is a foundation giving stimuli for the development of children's thinking and imagination. (Finnish National Board of Education 2010, 7-8.)

Preschool learning environment is considered as "the physical, psychological, social, cognitive and emotional environment in which activities are carried out". Interaction between teachers and children, interaction between children themselves, operating methods and assignments are crucial factors of the learning environment. A good learning environment, which should be joyful, open, encouraging and not hurried, act as a guidance to children's curiosity, interest, motivation, active involvement and self-direction. (Finnish National Board of Education 2010, 8.)

Preschool education is based on the integration of different themes related to children's sphere of life and learning process, which are more important than individual content. This aims at building diverse experiences and skills evolving from various knowledge branches, through which children develop their perspectives of the world while exploring themselves. Core content of preschool education include the following areas:

- Language and interaction: Children will learn to communicate in everyday life and learning situations and to perceive the important of obtaining elements for thinking, reading, asking questions, concluding and evaluating. Preschool children will develop their literacy skills and vocabulary by reading diverse texts and interacting.
- Mathematics: Children will be guided to perceive mathematics seen in everyday life situations and expand develop their understandings by means of play, stories, songs, physical exercises, discussions, games and illustrative instances.
- Ethics and religion: Ethical education in preschool education starts with the development of self-esteem, followed by inter-personal social skills. Cultural philosophy and religious education helps children deal with issues related to relationships the environment, community, and cultural identity. Tolerance, moderation, justification, and benevolence are the main skills to learn in this sector of preschool education.
- Environmental and natural studies: Pre-primary education also supports children in understanding the natural and artificial environments around them. Children will learn to describe, compare, categorize, analyse information and present the findings based on their observations and measurements of these information.
- Health, physical and motor development: Children will learn how to take care of their health, personal hygiene, personal relationships, eating habits, emotional

health, and daily physical exercise; and to avoid the use of violence. This will enable them to develop their physical, psychological and social health and growth.

- Arts and culture: In preschools children will develop their creativity and personality-expressions by making pictures, music and object by hand, drama, dance and movement. Children will learn through play, exploratory and experimental artistic activities and be familiarised with communication media and expressing themselves verbally and physically.

(Finnish National Board of Education 2010, 10-15.)

Running the preschool curriculum smoothly requires not only teachers to run different duties efficiently but also require teachers and administrators to be able to manage administrative tasks and keep track of children's individual learning plan and development portfolio. This will be discussed in the following sub-chapter.

2.2 Preschool management software solutions

Firstly, system management software can be defined as a management information system designed to match with the organizational objectives, structure, management task, and instructional processes. Management system uses the information needed for the organizational management at every level of operational decision-making. Management system deals with previous, current and anticipated information related to internal operations and external intelligence. The main goal is to design and implement procedures and routines giving suitably detailed reports accurately, continuously and punctually. (Demir 2006, 2.)

For schools, management information systems aim to provide support for the managing and educational activities by processing information. Management system contributes to schools by making study program more effective, teaching process and learning environment professional, allowing teachers to exchange experiences in a more structure mean, team-working, keeping track student's needs and learning plan, and assisting staff in developing their duties and performances. (Demir 2006, 2)

"Management information systems are being used by schools to support a range of administrative activities including attendance monitoring, assessment records, reporting, financial management, and resource and staff allocation. MIS provide managers with the information required to manage organizations efficiently and effectively. These systems are distinct from other information systems in that they are designed to be used to analyse and facilitate strategic and operational activities in the organization" (O'Brien, 1999). Solutions are more or less the same in the preschool context, though management software

are used less often. This subchapter presents and discusses a list of preschool management software solutions, meaning the theory background for IQ2

According to Sun Ho, preschool management software system provides solutions in social, and administrative perspective. Social aspect of management software is something under developed because teachers only look at the child's growth without connecting them with the world. Most schools still have standardized testing as goals so the main focus is only on preparing for the test in the end of the semester. Management software system brings out the connections and opportunities to equalise the standard quality in each school. This way teachers' experiences of working with children, curriculum and parents could be shared with more schools, parents and benefit more people. On the administrative side, most management software act as a tool for schools to manage student lists and parents; to manage human resource, portfolio, health check, incidents, accountability and to run schools more efficiently. Preschools are much less developed in term of technology than primary, secondary schools and universities, which usually have their own system. Preschools' administrative tasks today are still mainly ran using papers; hen technology would definitely help them to run schools more efficiently, communicate with parents and be accountable. (Ho 2015.)

Recently ICT has been implemented experimentally at pre-primary school on a large scope of skills and knowledge acquisition. Findings showed that ICT contributed substantially to classroom learning as an efficient tool. As kids learn more quickly in an interactive-functioning environment, the use of ICT can support the teaching process way much better than utilizing traditional teaching methods. Thanks to computers and modern gadgets children are able to learn at their individual speed, which is controllable based on children's level of knowledge. This means once children achieve a certain level of knowledge, they can proceed to the next one. (Michail & Nicholas 2012,1.)

According to Ed Harker, ICT tool as a valuable method of keeping records of children's learning track. For instance, storing digital photos of children during their preschool activities is a great way of recording observations of their learning progress and building individual learning diaries for them. Photographing is much easier and more engaging than writing paper notes, describing paper reports or transcribing speech, which may be interrupting. She further stated that "The best approach to children in the pre-school context using ITC has to be where it can act as documentation to make visible their progress. This is where the concept of the digital learning log could be very useful, with a concentration on mapping the child's learning journey. The more that the pedagogic and learning experience can be made visible and its impact made explicit, the better technology's benefit

could be. We want computers to support children's curiosity, not compare their performance." (Harker 2006.)

Software management can also be used as e-portfolios, which appears in many forms such as software, a particular presentation of material or all of the content selected from a particular presentation. Educational portfolios, in a professional context, are collections of documents and objects proving the achievements and ability of a person. E-portfolio in this thesis refers to a system enabling users to record significant abilities, events or plans. E-portfolio or management software system allows users to link and store data resources, and to integrate personal data with institutional data, which can be recorded and reviewed by recipients from time to time. Information of a learner can be provided and developed under different profiles by other devices and maintained in the portfolio. It is a useful tool for aggregating assets in multiple ways, communicating with various audiences efficiently at a fast pace, and providing users with full control of sharing the information. In other words, e-portfolios or management software system can be a digital storage or collection, a personal diary, feedback and cooperation system, or a digital theatre. The vision of e-portfolio is to provide institutions with a life-learning tool updated throughout a long period of time. It can be used not only to create a tracking system of study progress but also to assess pupils' performances towards their learning goals in the whole study program. (Stefani, Mason & Pegler 2008, 9-13.)

According to Glenn Calcutt, technology is a real support in expanding the nursery learning experience at the site. The earlier children are exposed to ICT the faster they are familiarized with computers and other technologies, which assist in bringing up a natural aptitude or interest in working with ICT for them. By enabling teachers to be comfortable with utilizing ICT tools, we can integrate and embed technology better into their educational experiences. (Futurelab 2006.)

To conclude, "management software plays a vital role in the area of decision-making as it can monitor by itself disturbances in a system, determine a course of action and take action to get the system in control. It is also relevant in non-programmed decisions as it provides support by supplying information for the search, the analysis, the evaluation and the choice and implementation process of decision making". (Obi, 2003.) These systems have the ability to provide its users the processed information, analytical models, real-time updates and hypothetical scenarios to assist their decision-making process.

2.3 Preschool teachers' duties and competences

This sub-chapter aims at explaining what are the duties and competences of Finnish preschool teachers according to the Finnish legislation including local municipality, national curriculum, the national standard and expected requirements of preschools particularly. Current information about different competences and duties of Finnish teachers were also found in reliable articles.

2.3.1 Competences

There are lots of requirements for becoming a teacher in Finland. Becoming a teacher in Finland is highly competitive, as teaching is perceived as one of the most admired profession in regular perspective from high school graduates. Every year only 1 out of 10 among thousands of applicants to the Departments of Teachers Education in 8 universities in Finland will be accepted to study to become a teacher. Approximately 5000 teachers are chosen among 20000 applicants. (Pasi 2010, 2.)

Teachers are chosen in universities in Finland based on high scores in matriculation examination, excellent interpersonal skill, the high school diploma, and relevant records out of school accomplishments. Besides, a written exam in assigned book of pedagogy result, clinical activity replicating school observation skill, social interaction skill, communication skills, interview results are further requirements for teachers to be accepted in Finnish Education Department Universities. (Pasi 2010, 2) Teachers' education assure that all teachers have well-grounded skills and knowledge to develop a curriculum (Pasi 2011, 37).

"The entry requirement for permanent employment as a teacher in all Finnish basic and high schools today is a master's degree. Preschool and kindergarten teachers must have a bachelor's degree. "Pre-school teachers get a bachelor's degree in educational science, the extent of which is 180 credits (ETCS). This degree qualifies to serve as a kindergarten teacher and as a pre-school teacher." (Pasi 2010, 2-3.)

Teacher's education's goal is to develop personal and professional development in a balanced way. The main focus is also on building pedagogical thinking skills so that teachers will be able to manage the teaching process according to contemporary educational knowledge and practice. All teachers receive the same level of academic expectations for teacher education from all levels of schools. (Pasi 2010, 4.)

Finnish teachers' education is aligned with the European higher Education Area framework. Finnish teachers are ensured to receive balanced teaching knowledge and skills in theory and practice. In other words, potential teachers gain deep understanding of educational psychology and sociology perspectives. They also are able to manage well curriculum theories, assessment, special-needs education and pedagogical content knowledge of different subjects. (Pasi 2010, 4.)

2.3.2 Duties

Finnish teachers have demanded more autonomy and responsibility regarding curriculum, student assessment and leadership during the time when Finnish education reforms since the 1980s. Teachers' engagement in the following areas has made remarkable contributions to their status, satisfaction and effectiveness. (Pasi 2011, 37.)

One important duty of preschool teachers is to engage pre-schoolers in the curriculum. Though the national curriculums do provide frameworks and guidance for teachers, schools and municipalities are responsible for curriculum planning. While school principles plays a crucial role in designing the school-level curriculum, educational authorities and teachers approve that curriculum. Designing and engaging the curriculum assists teachers in shifting the emphasis on professional development from in-service training to more well structured and theoretically grounded improvement efforts. (Pasi 2011, 37.)

Standardized assessment tools are not used in Finnish preschools. Therefore preschool teachers' role in assessing students is essential. Education legislation emphasises on teachers' drive in practices at school based on curriculum, teaching and learning rather than testing. One important responsibility of Finnish teachers is to determine students' academic performance and social development, which are reflected through the teaching and learning process and improvement. Teachers themselves design and conduct assessments, which are believed to widen the curriculum and teaching content flexibility and prevent unethical practices related to manipulating external standardised test results. (Pasi 2011, 37.)

Besides running classes, other important duties of Finnish preschool teachers such as leadership and personal development are ran outside classrooms. Parts of Finnish teachers' voluntary work are to improve classroom practices, school advancement and to work with the community. As teachers have the authority to experiment and improve their own methods, some of their important work tasks are conducted outside classes. Finnish teachers spend less time teaching than teachers from many other nations. (Pasi 2012, 37)

“Finnish teachers’ annual duties include three days devoted to planning and professional development. According to a Finnish national survey, teachers devoted about seven working days per year on average to professional development in 2007; approximately half was drawn from teachers’ personal time.”(Pasi 2010.)

What’s more, pre-primary teachers’ duties are indicated in the Finnish National Curriculum. Pre-primary teachers’ role is to support learning and guide children to become conscious of their individual learning and to be aware that learning themselves affects their own success. Preschool teachers will guide children in learning, concrete experimenting, exploring, active participating, acquiring information and solving problems whilst interacting with parents and other kids. Working in pre-primary education is based on playful activities designed based on children’s own development level. Children need to learn through imagination and play. A current topic, a fairy tale or a story is a good drama-based approach to integrate different art subjects, experiences and knowledge. To develop linguistics and interaction skills, children will be read and told tales, narrative factual texts, poems, rhymes, and so on, which provides them with chances to hear, relate to what they hear and develop their capability to think and understand based on their obtained elements. Preschool teaching methods take into account children’s comprehensive manner of functioning and learning through play, movement, creative activities, experimentation, observation and questioning, in interaction with other children and adults. (Finnish National Board of Education 2015, 11.)

To conclude, by understanding the full theoretical framework of this thesis including the pre-primary institutional market, preschool management software solutions and Finnish preschool teacher’ duties and competences, the empirical research step can be proceeded accordingly. The research design and methods described in the following chapter were created based on all the literature mentioned above, which the author will explain more detail as following.

3 Research design and methods

This sub-chapter aims at explaining my research design and research method plan of whom, what and why I was going to interview for the research process of this thesis. My analysing approach is going to be qualitative. The data collection methods are both secondary and primary research. Research methods and design are indicated in the figure below. Results of these interviews and secondary research are going to answer my IQs and RQ eventually. The relationships of this thesis's theoretical background (chapter 2), research method (chapter 3) and empirical research results (chapter 4) are visually described in the overlay matrix (see appendix 1).

Secondary data are useful sources to study all the investigative questions not only to gain the full theoretical background of the study before conducting qualitative interviews, but also to present facts and figures in the research results, thus supporting the author's key findings, conclusions and recommendations.

As explained on the table 3 of subchapter 2.1.3, preschool owners, teachers and administrators are important participants involved in the institutional buying process regarding the researched preschool management software market. Preschool owners are the deciders while teachers and administrators are end users of the product. Hence the author decided to interview these informants, who would provide mainly information on how management software are used at their preschools and their opinion of using this software at work, thus bringing answers to mainly the second and third investigative questions, and the first one. Interview questions planned (appendix 2) cover general facts (size, financial factors), what preschool teachers' duties and competences are, how management software system is used at preschools and what teachers' opinion towards using it at work is. These questions directly provide information for chapter 4.2 and 4.3.

Besides data interview with preschool owners, teachers and administrators, the author would also interview experts in both education and management software field. These informants' knowledge and experiences in their own fields confirm the reliability and validity of the information expected to gain from them. To answer my first investigative question, I expected to get information regarding the preschool market characteristics through interviewing one educational expert of Statistics Finland as this is one of the biggest and most trustworthy organizations providing national statistics and figures in Finland. The aim of this interview is to gain facts and figures of the preschool market regarding centres' number, pre-primary children and teachers' number, preschool financial factors and related statistics. Interview questions were designed upon as in the appendix 4. The author

decided to plan the same interview questions for preschool owners, teachers and administrators because Finnish preschool is normally small in size and flat in its structure.

To answer my second investigative question, I was going to interview a software expert who would explain to me the preschool management software solutions existing in the market at a global level. The answers can be found in subchapter 2.2. Interview questions are as the appendix 5. The target interviewee is the commissioning company's CEO since she can explain more about LittleLives Ltd.'s background and structure to me as well.

Last but not least, I planned to get information about the Finnish preschool system, how preschool curriculum and management software are applied at preschools in Finland from the interview with another educational expert of the Finnish National Board of Education, who is going to provide me with answers for all the investigative questions. This expert is capable of providing information on Finnish curriculum and how it's applied practically, legal and financial aspects of the Finnish preschools, and how management software systems are used in the Finnish preschools at a national level. My interview questions were targeting this wide variety of aspects (appendix 3). The information is then used throughout chapter 4. The research method is designed as following, which the author will explain more in detail in the following sub chapter.

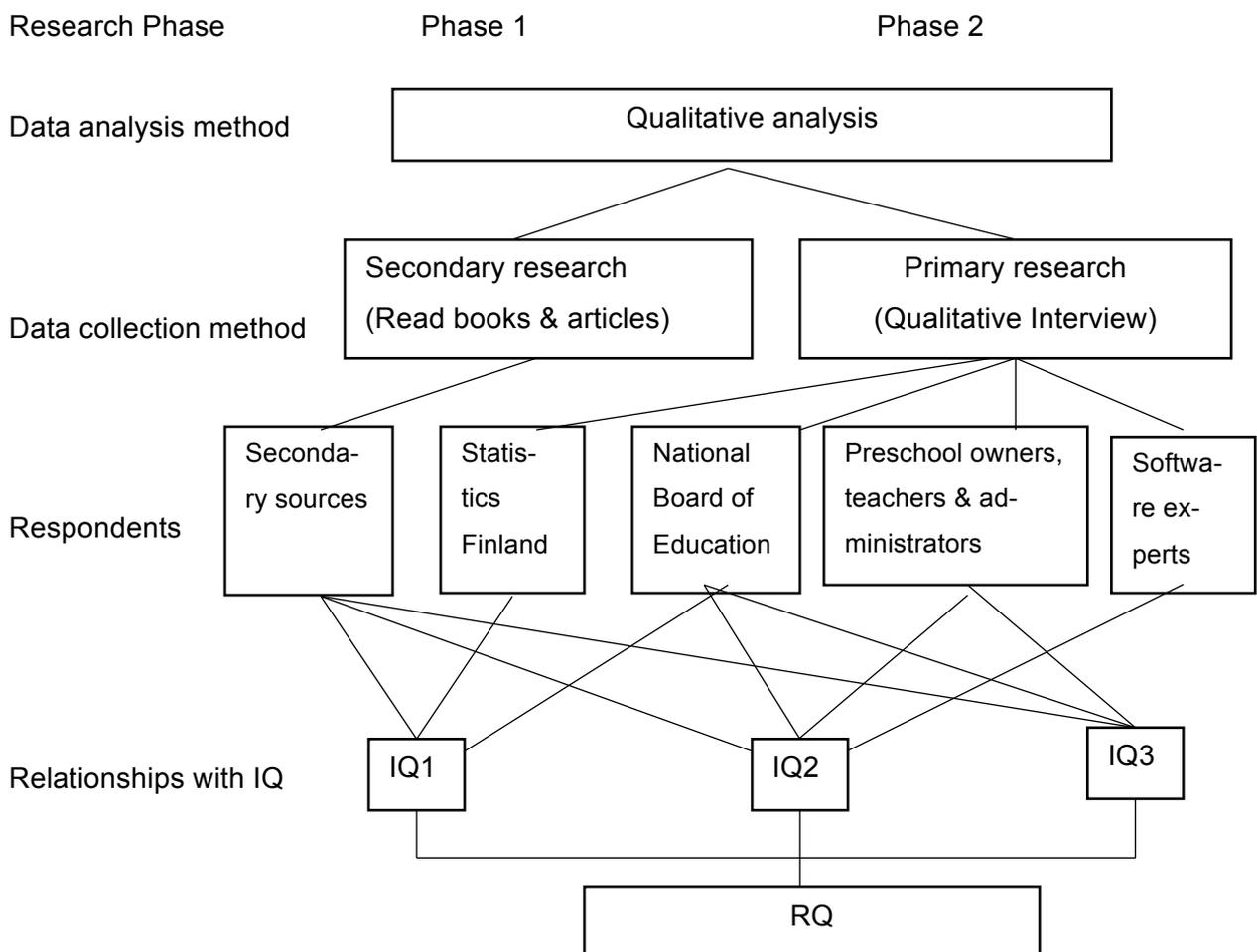


Figure 4. Visualisation of the research design and method

To gain practical insights into the Finnish preschool software market, I contacted and interviewed eight informants in total. Regarding data interview, I discussed with five preschool owners, teachers and administrators of four different kindergartens, nurseries and day-care centres. Expert interviews were done with one board member of the Finnish national board of education member, one education specialist of Statistics Finland Oy, and one expert of the preschool software industry. The details of these interviews are indicated in the table below.

Table 4. Personal data of qualitative interviewees

Respondent name & title	Organization	Date	Time	Place
Ria McCormick Owner	International Child-care and Education Centre	17 th March 2015	10.00 – 11.00	Espoo, Finland
Anna Toivonen Teacher	Fountain Square Playschool	23 rd March 2015	10.30 – 11.00	Helsinki, Finland
Linda Kirsi Teacher	Fountain Square Playschool	23 rd March 2015	11.00 – 11.30	Helsinki, Finland
Anne Ahlgren Administrator	Hansa Kindergarten	26 th March 2015	13.00 – 14.00	Espoo, Finland
Angie Hamäläinen Head teacher Administrator	Finnish-American Kindergarten	8 th April 2015	14.00 – 15.00	Helsinki, Finland
Arja-Sisko Holappa Counsellor of Education (Education expert)	National Board of Education	13 th April 2015	14.00 – 15.00	Helsinki, Finland
Mika Tuononen Chief Advisor (Educational expert)	Statistics Finland Oy	31 st March 2015	13.00 – 14.00	Helsinki, Finland
Sun Ho LittleLives's CEO (Software expert)	LittleLives Inc.	13 th February 2015	10.00 – 11.00	Singapore
		14 th May 2015	9.30 – 10.00	Skype

Normally interviews for answering listed questions designed for respondents as in the appendixes take approximately 30 minutes, though the total meeting time takes up to one hour. Email and phone contacts are done before and after before the actual face-to-face visits or online meetings. During every interview, questions were listed down whereas verbal answers were recorded and then transcribed, summarised and analysed in the two chapters below. Software expert interview was done via Skype with the commissioning company's founder and CEO via Skype. She was also interviewed face to face in Singapore.

By following this research structure, the author have collected results though reliable qualitative data, which would be presented in the following chapter. Although the secondary resources and interview results are collected through a complex timeframe, results have been collected and organized in a way corresponding to investigative questions, linking results and theories together.

4 Results

In this chapter, the results of the qualitative research done are presented according to a combination of both primary and secondary research. Key data, which are secondary, sources and interview answers provide answers to investigative questions mentioned in the chapters above.

4.1 Characteristics and objectives of the preschool market and educational system

This subchapter aims to answer IQ1 by elaborating what the objectives of the Finnish preschool system and characteristics of the preschool market. The primary information will be analysed based on the organizational characteristics of the pre-primary institutional market and based on the Finnish preschool educational system.

4.1.1 Characteristics of the Finnish preschool market

This sub-chapter indicates the size, potentiality and influential factors including legal aspect and financial aspect of the Finnish preschool market.

Recently Finland has been considered as one of the world's leading literate countries with its high levels of education being achieved. More than 98% of children attend preschool, 99% complete compulsory basic education, 95% graduate from upper secondary school, and approximately 90% complete vocational upper secondary school (Statistics Finland, 2010) (Ministry of Education and Culture 2015.)

The tables below indicate the total number of pre-primary age children and number of pupils receiving preschool education of Finland and in particular Uusimaa Area including only Helsinki, Espoo and Vantaa.

Table 5. Number of pre-primary age children in Finland according to region (Tilastokeskus 2014)

Region	Pre-primary age children	Preschool children	Day-care children
Finland	60380	11424	48956
Uusimaa	17894	2041	15853
Helsinki	5760	601	5159
Espoo	3214	723	2491
Vantaa	2502	84	2418

Table 6. Pupils in pre-primary schools and comprehensive schools and with leaving certificates from comprehensive schools by region 2014 (StatisticsFinland 2014)

Region of school	Schools	Pupils, pre-primary education	Pupils, grades 1-6	Pupils, grades 7-9	Pupils, additional education (10th grade)	Pupils total	Pupils, grade 1	Leaving certificates
Whole country, total	2 633	11 424	355 139	175 686	683	542 932	60 279	58 009
Mainland Finland, total	2 610	11 423	353 230	174 742	682	540 077	59 936	57 658
Uusimaa	582	2 041	104 262	49 738	275	156 316	17 884	16 091
Varsinais-Suomi	224	341	28 994	14 938	39	44 312	4 898	4 958
Satakunta	133	485	13 889	7 175	25	21 574	2 280	2 419
Kanta-Häme	92	137	11 812	5 871	17	17 837	2 013	1 930
Pirkanmaa	200	1 816	32 410	15 521	109	49 856	5 621	5 062
Päijät-Häme	78	293	12 644	6 456	28	19 421	2 089	2 074
Kymenlaakso	93	208	10 546	5 789	18	16 561	1 715	1 939
South Karelia	57	67	7 681	4 030	0	11 778	1 293	1 349
Etelä-Savo	93	292	8 522	4 546	18	13 378	1 348	1 622
Pohjois-Savo	124	472	15 178	8 011	43	23 704	2 495	2 646
North Karelia	80	428	9 541	5 144	1	15 114	1 611	1 714
Central Finland	129	565	18 189	8 645	18	27 417	3 167	2 913
South Ostrobothnia	152	889	13 290	6 818	8	21 005	2 130	2 249
Ostrobothnia	142	733	12 342	5 950	12	19 037	2 123	2 047
Central Ostrobothnia	58	181	5 142	2 492	0	7 815	877	819
North Ostrobothnia	223	2 016	33 177	15 403	58	50 654	5 770	5 014
Kainuu	39	114	4 691	2 463	1	7 269	781	835
Lapland	111	345	10 920	5 752	12	17 029	1 841	1 977
Åland, total	23	1	1 909	944	1	2 855	343	351
Åland	23	1	1 909	944	1	2 855	343	351

The number of pre-primary education pupils was approximately 60,400, of whom 11,400 were in pre-primary education in schools and 49,000 in day-care centres, meaning 89% of pre-primary age children receive preschool education in day-care centres whilst only 19% of them attend preschools. Approximately 1500 children skip preschool because their day-care centres do not provide preschool teaching or that their family has lived overseas. (StatisticsFinland 2014.)

The number of municipal kindergarten and day-care centres providing preschool education is approximately 2700 and family homecare account for almost 1000 in 2013 (StatisticsFinland 2013.)

Table 7. Number of municipal kindergarten and day-care centre by region (Tilastokeskus 2013)

Area	Number of municipal kindergarten and day-care centres (2013)
Finland	2692
Uusima Area	921
Helsinki	305
Espoo	182
Vantaa	127

Considering the above-mentioned figure that there are approximately 49000 pre-primary age children in 2014, it can be calculated that there are about 18 students per center. However, qualitative interview results have shown that the number of children in interviewed kindergartens or day-care centres vary between 18 and 25 per unit.

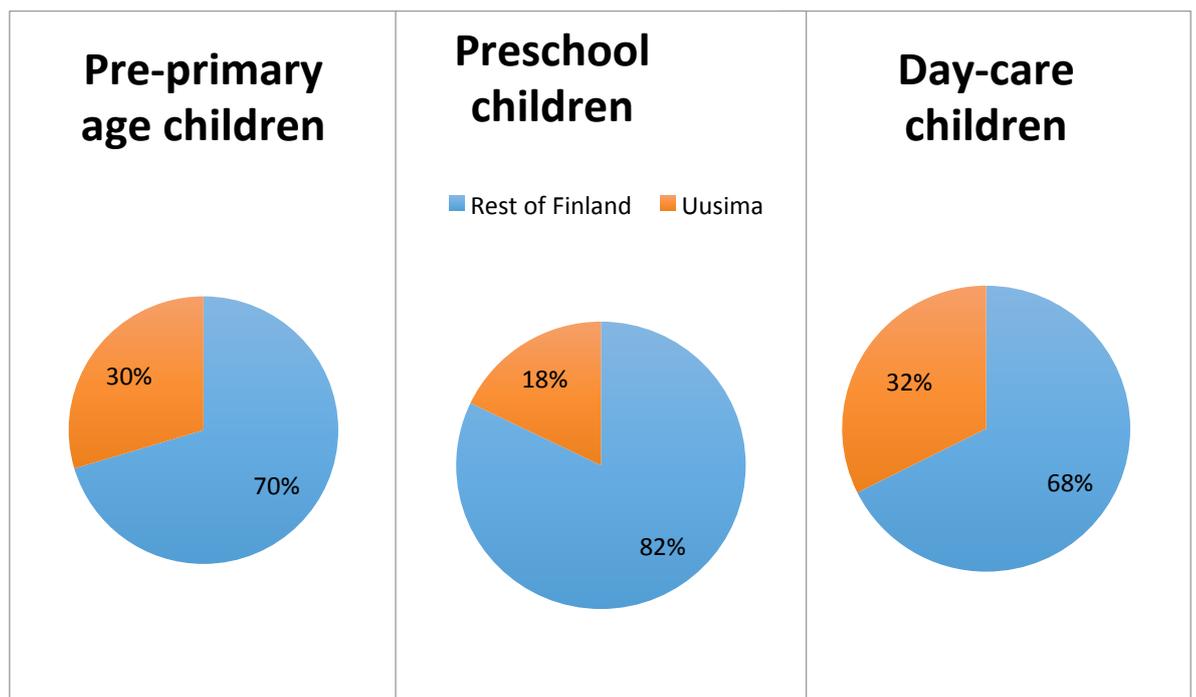


Figure 5. Percentage of pre-primary age, preschool and day-care children by region (StatisticsFinland 2014)

Regarding the Finnish preschool's legal aspect, all children under 7 years old have a subjective right to early childhood education and care (ECEC) in Finland. The municipalities are in charge of arranging this education and care services. Families can also choose to send their children to private settings. The Finnish ECEC is based on an integrated approach to care, education and teaching, which is also called the "Educare" model. Every

public kindergartens, day-care centre and organizations providing preschool education in Finland must follow the Finnish early-childhood education and care regulation as well as the National Curriculum. (FinnishNationalBoardofEducation2015.)

“According to the Basic Education Act, education shall be provided according to the pupils’ age and capabilities and so as to promote their healthy growth and development. In pre-primary education are also entitled to teaching according to the curriculum, guidance counselling and sufficient support for growth and learning immediately when the need for support become apparent.” (Finnish National Board of Education 2010, 7)

Before 2015, preschool education is voluntary for children and families. All children under school age have an equal right to receive early childhood education and care, which is arranged by the municipalities. The Finnish early childhood education and care (ECEC) is based on the integration of care, education and teaching. Playing while learning is emphasized. Pre-primary education, as a part of the ECEC providing preparation prior to the start of compulsory education or basic education, is free of charge to all children. The pre-school curriculum is built upon the National Core Curriculum for Pre-primary Education. From August 2015, Finnish children are obliged by Finnish regulation to attend pre-primary school, which was not compulsory for Finnish children previously. The Finnish national Board of education decide the national core curriculum of preschool education and the Basic Education Decree provides preschool minimum requirements for the organization of time. (MinistryofEducationandCulture 2015.)

Regarding financial aspect, in 2012 the current expenditure on Finnish education system is approximately 12.1 billion in total, which is 2.8 % higher than 2011 (table 6). Expenditure for pre-primary education in 2012 is 342 million euros, which is 6% higher than 2011 and has been continuously growing steadily ever since 2000. (StatisticsFinland 2014.)

Table 8. Current expenditure on regular education system by type of expenditure 2012 (StatisticsFinland 2014)

Type of expenditure	EUR million	%
Pre-primary education ¹⁾	342	2,8
Comprehensive school education	4 363	35,9
Upper secondary general education	727	6,0
Vocational education	1 736	14,3

Type of expenditure	EUR million	%
Apprenticeship training	171	1,4
Polytechnic education	928	7,6
University education and research ²⁾	2 340	19,3
Other education	478	3,9
Administration	227	1,9
Financial aid for students	837	6,9
Total	12 149	100,0

As can be seen from the table, expenditure on comprehensive school, which was 4.4 billion Euros, accounts for the largest proportion of the expenditure on the regular education system of Finland, followed by university education and research expenditure. Pre-primary education has not been invested much from the government, as its expenses number comes at one of the lowest compared to other categories.

Finnish preschool education is free of charge and transportation fee are covered for pre-school children who live over 5 kilometres or travel through dangerous routes from home to school (Ministry of Education and Culture 2015) Participation in the early childhood education and care charged based on family income and children's number. Client fees in municipal day-care cover approximately 14% of total cost for day-care service. (National-BoardofEducation 2015) Parents can get 40% up to 50% of support from the government according to their income, and whether they are single or non-single families (McCormick 2015).

In Espoo, day-care fees are also decided based on the family's gross income. " The maximum day care fee is EUR 283 per month for the youngest child, EUR 255 per month for a second child and 20 % (EUR 57 per month) of the youngest child's full-time day care fee for other children in the family. Income includes all taxable earnings, unearned income and tax-exempt income of the child, parent or other guardian and their spouse or other person living in a relationship resembling marriage in the same household", adding 5% holiday bones. The family has to submit an income statement monthly for 11 months per year except July, otherwise the maximum day-care fee will be charged. The payment percentages are applied as the following table 9. (CityofEspoo 2014.)

Table 9. Payment percentages of day-care fee based on family's gross income
(CityofEspoo 2014)

Family size	Minimum gross income (€/month)	Payment percentage	Maximum gross income limit (€/month)
2	1355	11.5	3816
3	1671	9,4	4682
4	1983	7,9	5566
5	2116	7,9	5699
6	2248	7.9	5831

In addition, day-care required in addition to preschool education is charged as the table below. There are certain discounts (4% compensation or more) granted for regular absence if the child is not present usually for at least 4 and less than 12 days a month, for instance. (CityofEspoo 2014)

Table X. Day-care fee in addition to preschool education (CityofEspoo 2014)

Preschool education (4h) and daycare Total hours/day	Care fee (& of the full-time day-care fee)
More than 9h	80%
More than 7h – Maximum 9h	60%
Maximum 7h	35%

“In Vantaa, home care allowance is paid for children under 3 three years. A child can receive an additional Vantaa allowance, connected to the home care allowance, until 1½ years old if the other children in the family are also not in day-care” (CityofVantaa)

Although Finnish government is able to provide its citizens with low-tuition education system and high social support, one of the biggest challenges of Finnish education at the moment is resource. Recently the government has cut down on budget for education due to the economic crisis and that the government is spending more on social welfare. The cut on educational budget has led to the fact that there is not enough investment on ICT equipment for schools (Holappa 2015.)

4.1.2 Characteristics and objectives of the Finnish preschool system

To gain complete understanding the Finnish preschool market's characteristics, it is important for the author to analyse the Finnish preschool system, meaning its objectives and curriculum. This subchapter aims at analysing how the Finnish preschool education system

tem is applied practically. Finnish education has been developed on a long-term vision; therefore, all the targets have long-term based and been achieved successfully. Equality, the curriculum, teachers' professionalism and background, and knowledge base are several important factors of education in Finland. Finnish early childhood education strikes a balance between play-based learning and mastering the necessary content in a curriculum. Children learn through many forms of play. (Holappa 2015)

Another emphasis of the Finnish preschool system is equality, which has been a well-known background and probably has different influential rules. It's an idea from the 1800s and 1900s when the Scandinavian education model strengthened the concept that every child should have an opportunity to receive the best education possible. This applies throughout Finland though it is a small nation. Nowadays, it's an idea somehow built inside the society that education should obviously be equal for everyone. However, some problems are raised as a consequence. For instance, talented children sometimes have not got the best possible education. There is still not any solution for this, since all of Finnish education's strength or resources are devoted to increasing the lower education level to the average. Finnish education is not about being in the same school or classroom, but what is the best for each child. Recently, the idea of equality is changing in time. (Holappa 2015)

The education system of Finland follows common goals, meaning the curriculum. According to Holappa, one of the factors contributing to the high quality of Finnish education that is not so well known is the curriculum work and process as well as the instruction or guidance system. There's no inspector at schools, as it is not needed any more. "I think everybody really could see that we don't really need inspector. And as a matter of facts, we have some professionals who are called inspectors" (Holappa 2015)

For languages learning, there's curriculum for each language study. Our national core curriculum strongly focuses on language teaching, though in some special cases schools design the curriculums themselves. Learning and teaching languages have been emphasized, though it is still worried that this is dealing with Finnish society efficiency. Finland is so small area and there are people who know foreign languages. (Holappa 2015)

In Helsinki, the preschool day last for 4 hours during the normal school year. It is possible for parents to enrol their children to municipal day-care besides preschool education. Information about preschool education and regional collaboration between day-care centres are provided during parents' meetings. The activities at preschools aim to strengthen children's positive image and concept of themselves. (CityofHelsinki 2015.)

In Espoo, preschool education is also provided in day-care centres between 8am and 4pm per day during the school year time. Where to provide preschool education is determined by the Finnish Childcare and Education Committee. Day-care centres and schools provide day care in the mornings and preschool education in the afternoon. Preschool lesson plan consists of activities during which children talk, play, exercise, study, experiment, gain knowledge and deal with problems. The guided topics are "language and interaction, mathematics, ethics and philosophy, environmental and natural sciences, health, physical and motor development, art and culture". An individual learning plan is prepared for each child with his other guardians. (CityofEspoo 2015.)

Finnish preschool curriculum is used as a foundational tool whereas teachers organizes a wide variety of activities, a lot of which are based on a child's individual needs. Some important tasks of preschool teachers involved in running the curriculum is to ensure that by the time the children leave kindergarten they are ready for school, and that all the children are comfortable using books, excited about learning and are independent learners so they don't always need an adult to tell them what to do. (Hämäläinen 8 April 2015.)

Second language learning is also common and important in Finnish preschools. Here children are taught basic words and simple conversation. Teachers teach them through repetition, flashcards, stories, songs, games, colours, shapes and so on. The kids are separated by age because between age 5 and 6 as well as 6 and 7, the learning curve is much sharper. Between 2 and 5 years old, children are not here to learn much but to socialise. They may be taught some letters in the alphabet and recognition of the numbers from 1 to 10 so that by the time they move on to the next classes, they are well prepared for the activities there, which are similar but more intensified. Academic does not come into play till the children turn 6. It's only when children are around 6 and turning 7 that they actually need to learn to sit, listen to instructions, use logical thinking, understand and recognize some letters of the alphabet and be able to count from 1 to 50 or even 100. This is when the preschool program prepares children for primary school entering test, which usually occurs annually in February. (Kirsi & Toivonen 23 March 2015.)

To summarise, equality and being curriculum based are the two main aspects of the Finnish preschool system. Kindergartens, daycare-center and preschools in the Uusimaa region also mainly follow the Finnish preschool curriculum during planning their lessons. Regarding lesson plan, keeping children's individual learning plan is crucial, which can be done on paper or by management software. The following sub-chapter discusses how management software are used in the Finnish preschools.

4.2 How management software are used in the Finnish preschools

This subchapter aims to provide practical information about how management software systems are used for at preschools in Finland, thus answering the second investigative question.

Recently information and communication technology has made its way into schools in Finland. Finnish education know-how is currently witnessing increasing demand both domestically and abroad. (GoodNewsfromFinland 2013). Finnish schools have a good infrastructure including good data connections, hardware and software. European web-based learning platforms have been purchased significantly. (Koskinen 2013.)

International Childcare and Education Centre is currently using their own management system for different administrative purposes. Regarding administration, software can be beneficial tool for storing complete background information of children's profiles, photos, activities, allergies, parents' contact details and individual learning diary with just few clicks or touches on digital gadgets. Saving important information on applications enable teachers to not having to bring loads of papers once they go on trips with the kids. On the other hand, high-tech management software systems not usually used for taking attendance directly by teachers at pre-primary schools since registration in centres is often done in old-fashioned way by paper and pen. The attendance log is then collected on computer programs and reported to the municipality to ensure that centres follow the required curriculum and regulations. (McCormick 17 March 2015.)

Keeping digital learning log or e-portfolio is also an important function of preschool management software. Starting from early age, the children are already learning numbers, colours and shapes. The older they get the more advanced the activities are. Each kid has his or her own individual development plan based online. Teachers can make observations, which are cross-referenced to targets and outcomes. (McCormick 17 March 2015.)

Furthermore, management software can be an useful tool for communication between parents and teachers, as teachers can send photos to parents with automatic functionality such as face recognition through applications, which makes it easy to stay connected with the parents regardless of where the teachers are. It is important that news, calendar, on-goings at centres, resources (e.g. information, file, form, etc.), homework, contact details of parents are stored in one system. Pre-primary software enables this, which is a newer, easier and more efficient way of communicating. (Ria McCormick 2015) Consistent communication is a necessary part of administrating and educating children in Finnish centres

providing preschool education. Many parents wish to communicate through email, phone or face-to-face meetings though. Social media such as secret Facebook groups and pages can also be useful for parents to keep in touch with teachers and with each other. (Ahlgren 26 March 2015.)

A management system has been launched in Fountain Square Playschool before for communicating with parents. Teachers post activities, information, and pictures on this system so that parents can access to see the activities of their kids at preschools. However, many parents were either ignorant or lazy to do that. Afterwards teachers got back to using the old method of recording attendance by paper and pen, and sending parents a newsletter weekly via email. (Toivonen 23 March 2015.)

However, as mentioned earlier, the Finnish government has been cutting down educational budget in 2015. ICT has not yet provided adequate support for schools. The first and foremost reason is that there are not enough resources and equipment. There needs to be money for that first, and then good education in services and training for teachers along with lots of encouragement for them to try using it. (Holappa 13 April 2015.)

To conclude, despite the potentially high cost and certain limitations, preschool management software can be useful tool for administrative tasks such as keeping attendance log, digital learning log or e-portfolio as communication tools within teachers, administrators and parents. However, management software has not been used widely at preschool level in Finland since teachers are more comfortable with using other different programs to handle administration and communication. Finnish teachers shared both positive and negative perceptions towards using management software at work, which will be shown in the following sub-chapter.

4.3 Preschool teachers' opinion towards using management software at work

As can be seen in the previous chapters, preschool management software definitely have its benefits and drawbacks. When delivering these kinds of management systems to the end-users who are preschool teachers and administrators, it's essential to know their opinion and perceptions of using management software at work. This sub-chapter summarises preschool teachers' opinion towards using management software at work for mainly for administration, which are generated through interview answers and secondary research.

Some teachers and administrators are very interested in using technology for registration, communicating with children's parents about where they are and keeping them updated

throughout the day. Teachers have to keep records so it's fine to keep track of children's learning and development plan by management software if it is installed in the computer. Management software is being explored by preschool teachers and administrators at the moments. (Hämäläinen 8 April 2015.)

Another administrator at International Childcare and Education Centre thinks technology is the future of education, and that there is a need for an integrated system in which teachers can keep track of children's individual learning plan, communicate with parents and conduct all administrative tasks (McCormick 17 March 2015.)

On the other hand, Finnish preschool teachers' attitudes towards using technologies for schools are not always positive. They may not want to or are afraid of using technologies at work. However, some teachers show high interest in utilizing ICT for work. For instance, there's a project where ICT and play are combined in very different ways, which teachers are promoting a lot by word of mouth. (Holappa 13 April 2015.)

Many interviewees have provided negative perceptions, uncertainty and hesitation towards using preschool management software at work due to many reasons. Surveys have shown that Finland is no more one of the world leading developers and users of ICT in teaching in this century. The problem appears to be the subdued attitude of pupils and teachers towards using technology in teaching and using digital learning environment though there are clearly top experts in Finland. However, there are a large number of people lacking ICT skills, which is about to change. Finland has been focusing on foreign education technology only. (GoodNewsfromFinland 2013.)

While using management software at preschools, privacy needs to be surely respected. Important information should be backed up efficiently so the data won't be lost when software are updated, programs break down, memory sticks are lost or when gadget get viruses, causing information to be destroyed. Though the old ways of doing administrative tasks are more time-consuming, the information are safer than using management software. Also, technology lasts for shorter period of time and computers at preschools are changed every couple of years. Hence is crucial to assure that all the information are transferred over and are compatible.

Under the requirements of Finnish preschools, teachers have to bring the children outdoor twice a day. When going out they usually bring a roll-call sheet where they sign in for the children and sign out in case they are picked up earlier than planned. It is not comfortable to carry out a tablet, for attendance checking, to the park and other locations along with an

emergency backpack. Usually the preschool teacher only brings a sheet of paper for attendance recording. Technological gadgets and software are also problematic in case teachers have to change their shift and pass over information from one to another. (FS)

To solve these above mentioned problems evolved from using technology at work, technology provided for kindergarten and day-care centres have to support and work efficiently, meaning that it does not take away too much time for teachers to update as teachers can't stare at the screen whole day to put information on technical gadgets while working with the kids. Once the training and transition process is done, technology can then be integrated in the kindergarten. (Hämäläinen 8 April 2015.)

In conclusion, preschool teachers showed different opinions towards using management software system at work, based on different functions of the software system mentioned in the previous sub-chapter 4.2. Their perceptions are reflected through many work tasks, which are corresponding to the Finnish preschool curriculum and system. These topics are going to be discussed thoroughly in the next chapter.

5 Discussion

This last chapter of the research is used for summarising key findings, giving recommendations, confirming the data validity and describing the author's personal learning through the writing process of this thesis.

5.1 Key findings

Firstly, main results of the previous chapter are summarized, analysed and discussed in this sub-chapter. These results would also be linked to the studied literature in chapter 2 so as to strengthen the validity and structure of this research. The discussion content in this chapter is structured according to investigative questions so that answers for these questions and the main research question are provided logically. In the end of this chapter, a brief conclusion of the Finnish preschool system management software market will be provided as a result.

5.1.1 Analysing the Finnish preschool market and educational system

This sub-chapter discusses the characteristics and objectives of the preschool market and educational system, which cover investigative question 1. Based on the related theoretical study (chapter 2.1) and results (chapter 4.1), it can be said that the Finnish preschool market and educational system are strongly linked to each other, as the preschool educational system sets a strong background for preschool market to be built and developed.

First of all, the understanding of organizational market especially institutional market was taken into account before analysing the characteristics of the Finnish preschool market. Size and potentiality are two important factors involved in analysing market characteristics, which would be analysed in the next paragraph. As mentioned in sub-chapter 2,1,2, institutional market can be recognized by its bureaucracy, low budget and captive patron, which are also the main characters of the Finnish preschool market. Hence, legal and financial influences should also be analysed below as important environment factors affecting the institutional or organizational buying process.

Finnish preschool market can be characterised by its large proportion of children receiving pre-primary education (98% of the population). According to figure 5, the percentage of pre-primary children in municipal kindergartens and day-care centres in Uusimaa area account approximately 30% of the whole Finland. The number of kindergartens and day-care centre in Uusimaa area as indicated in table 7 is 921 centres, accounting for about 34% of that of Finland (2692 centres). Hence it can be concluded that Uusimaa, the capi-

tal and metropolitan area of Finland, is a potential market. Mostly children receive pre-primary education in kindergarten and day-care centres rather than pre-primary schools with a lower proportion of children attending in comparison with the whole pre-primary age population.

In addition, legislative influence has proven that the potentiality of preschool market, since it's regulatory compulsory for children to attend preschool as previously mentioned. This mean the market will grow in terms of customer as more teachers are required in pre-schools, kindergartens and day-centres to be in charge of children.

As the Finnish educational system demands a broad curriculum including various objectives, learning areas and attainments to follow and frequent reporting system, teachers and administrators are strictly required to record all the necessary information regarding children's personal data and individual learning plan. Preschool management system software or LittleLives software can enable teachers to keep these records by using the evaluation checklist functionality of the system.

Regarding financial aspect, the fact that most Finnish preschools, kindergarten and day-care centres are non-profit oriented lead to certain barrier for LittleLives Ltd. to enter the market since LittleLives charges centres and parents in other market for using their system. Preschool education is free in Finland as mentioned earlier. Besides, regarding children day-care fee, parents are mostly supported by the government according to their income. Hence LittleLives Ltd. would not be allowed to charge parents and centres without their allowance assuming the payment do not interfere with the Finnish preschool education regulation.

5.1.2 Analysing how management software are used in the Finnish preschools

Based on chapter 2.2, preschool management software can be a useful tool for administrative tasks such as keeping attendance log, designing e-portfolio, managing finances, and communicating within teachers, administrators and parents.

Although many Finnish preschool teachers are not familiar with using management software at preschools, they have tried out different system and devoted time and effort to learn and be trained. Madiha Shad's literature review indicated a positive influence of ICT in managing education. "Principals and teachers' skills in working with ICT have developed significantly over the years and they are using ICT to support a range of administrative activities at both class and school level." (Shad 2013, 4)

Further more, though management software systems are currently not in regular use at Finnish preschools nowadays, teachers utilise many different kinds of applications such as excel, messaging, calling, Facebook, emailing, or web-based platforms and website to connect with each other, communicate with parents or teachers in other centres whilst completing different other administrative tasks.

5.1.3 Analysing preschool teachers' opinion towards using management software at work

It was necessary for the author to understand the key duties and competences of Finnish preschool teachers before analysing their opinion towards using management software at work. As mentioned previously in chapter 2.3, two the most important duties of preschool teachers as mentioned earlier is to engage children in the curriculum and assess their pupils. Software management in this sense act as a benchmarking tool for teachers to assess students without using any standardized test. According to Visscher, "management information system can provide administrators and teachers with the information required for informed planning, policy making and evaluation". Another important duty of Finnish teachers is to improve their leadership and personal development. Management system software supports teachers in this perspective by connecting them with other teachers within their preschools or with teachers from different preschools. By using management system teachers are able to share their knowledge, skills, experiences and competences based on running various activities of their lesson plans. In 2000, Gurr claimed that management information system have changed management in terms of leadership, decision making, amount of work, communication, responsibility as well as planning. (Demir 2006.)

In practical, Finnish preschool teachers showed different opinion towards using preschool software at work, which is based on various professional, personal or emotional factors. Most Finnish preschool teachers interviewed were not eager to use management system software for their centre. Only one out of five data interviewee was positive towards testing, understand and learning how to use new system software. Other administrators and teachers were hesitating about changing their old system into management system software due to lack of resources including time, financial budget and equipment, lack of technological know-how and skills to use the system, and their incapability to bring along tablets and other needed technical gadgets for using software whilst organizing activities outdoor. One related factor is that parents also lack time and interest in using new management software to communicate and keep track of their children instead of using simple applications like messaging, phone call and email.

Hence, management software system need to be designed based on different needs of customers. Madiha Shah has argued in a research that every school has its own specific needs though most management software system integrates many important functions for administrative tasks. Information management systems usually need further enhancement responding to site-based management. Management systems should be created through an inductive process involving teachers, administrators and educators before the system can be used. Individual needs also need to be considered as "school managers needed quite different forms of analysis in some respect to those that were needed by teachers. it was clear that an important feature to consider was the relationship of data collection and collation to data use" (Shah 2013, 3-4) This argument enhance the important of organizational influencing factors mentioned in the beginning of this thesis's literature.

In conclusion, there is a potential preschool market for system management software in Finland, though there are quire many barriers regarding different legal and financial factors. Management software has been in use in preschools but not so often due to many reasons explained above. One of them is that some Finnish preschool teachers have negative attitude towards using management software at work. However, there are still teachers and administrators who provided positive perception of utilising management software for different administrative tasks. Before making any entry decision, it is crucial to understand well the Finnish preschool management software market's characteristics and influencing factors, based on which recommendations for the commissioning company can be made upon.

5.2 Recommendation

This sub-chapter aims at giving recommendations and suggestions for the commissioning company of this study based on analysing the results, discussion and overall conclusions made previously. This sub-chapter also answers whether there is a need for such pre-school management software as LittleLives system in the Finnish preschool market, and how their needs can possibly be meet.

Having carefully considered the preschool market characteristics and Finnish educational system, the author thinks this is a potential market for LittleLives Ltd. Market characteristics and educational system of Finland is potential in size and possibility for growth.

Due to its main objective and influencing financial factors analysed aboved, LittleLives should enter the market with a non-profit approach first. What LittleLives could do is to start building long-term relationships with preschools, kindergartens and day-care centres in Finland first and see how customers react after a period of time collaborating on a non-

profit oriented project or any other kind of partnership. The aim is to get these potential customers engaged in the business operations and promotions, and to further get to know their demand and motives. It is also recommended that LittleLives continues keeping in touch with preschool owners, teachers and administrator interviewed in this research, as most of them were open for any kind of non-profit cooperation and international connection. There have already been a lot of international connections going on between centres in Europe, for instance, via E-Twinning platform for European school connections or social media.

As reflected through interviews, teachers see certain limitations in management system software, which LittleLives should outline and find solutions to prevent or diminish whilst continuing developing other versions, functions and application to adjust to the needs of teachers and requirement of the Finnish preschool curriculum and lesson plans. Software systems should be user friendly and able to be modified so that non-needed functions could be eliminated. In addition, LittleLives is mainly operating in Singapore, meaning that there is a lack of human resource devoted to research and interviewing customers for that, let alone providing training services for preschool teachers and administrators in case the preschools require.

Further research are required to understand the market better, as the author demarcated a lot of related topics in chapter 1.4, especially competition level though the author did not find any big competitor in the industry through her research. If the new entry would be initiated, a marketing research and marketing plan should be conducted to identify clearly the target customers, competitors and partners for LittleLives in Finland. Though literature regarding preschool management software market and educational system change slowly, practical matters change fast and are hard to control.

Analysing a market is a complex process where many factors have to be taken into account It is LittleLives's own decision whether to enter the Finnish preschool management software market or not. This thesis collected the most significant analysis consider by its author, through which the companies could use as foundation to determine whether to enter the market or not.

5.3 Evaluating the research

This sub-chapter explains how optimal data quality, meaning its validity and creditability, was ensured and what the interfering factors are.

Firstly, the research design and methods were applied following a strict plan and structure designed in chapter 3. The sample size total number of interviewees is 9, which the author thinks is efficient for this research as it is still such an early stage in the marketing research process for market entry. Expert qualitative interviews were the most reliable methods as the people interviewed are professionals in their field. There were 5 data interviews conducted face-to-face throughout different locations of Uusima area of Finland; hence the data collected through them prove efficient and useful for this these as well. There was no data loss occurred.

Interview questions list and notes were always brought by the author in paper or digital form. All the interviews were recorded on phone and transcribed accordingly in order to ensure that no information is lost or misled after the interviews. In addition, the author collected secondary data from trustworthy sources such as books from Haaga-Helia libraries (Pasila and Vallila), governmental agencies' website (Ministry of Education, National Board of Education), municipal websites (City of Helsinki, City of Espoo, City of Vantaa), qualified company's website (LittleLives Ltd., Statistics Finland Oy), research journal studied before by universities or legal organizations, and so on.

On the other hand, there were certain challenges occurring during conducting the research methods. Language barrier, which is limited Finnish language skill, sometimes hindered the author's ability to communicate with interviewees. However, all the interviews were conducted successfully and every question were always explained clearly to the respondents. In total the author contacted approximately 30 centres though the respondent rate was only about 20%.

5.4 Personal learning

Approaching the end of this study, the author uses this chapter to elaborate the personal learning process and journey reflected throughout this thesis writing process. By publishing this thesis, the author would successfully completed research report writing requirement and work placement duties for the commissioning company.

The thesis writing process was an extremely efficient tool to practice managing a long-term project including time and tasks management. Organizational skill and lots of endurance were required to complete this research. Writing this thesis also enables the author to summarise important literature framework and concepts required to study for this research, and to develop critical thinking and argumentation skills. Hence the author learned how to organize different chapters to build a strong connection between the theoretical framework and empirical research category, therefore analysing, forming conclusions,

discussions and suggestions based on these findings. Through this thesis the author also had chance to develop her presentation and communication skills. By interview different informants the author were required to present to them about this thesis's topic and objectives, commissioning company's missions, overall background and LittleLives system software before actually interviewing.

All in all, the author has learnt a lot during the writing process of this thesis. Getting familiar with the education and technology industry fields, both of which the author is interested regarding future profession, was useful for the post-graduation stage. Besides conducting this research and writing a report, the author also had to build up a customer database whilst being in continuous contact with many kindergarten, day-care centre, children fitness centre in Finland whilst working on a project connecting preschools between Finland and Singapore.

References

Aaker, D. 2010. Market analysis.

URL: <http://www.netmba.com/marketing/market/analysis/>.

Accessed: 15 May 2015.

Ahlgren, A. Administrator. 26 March 2015. Hansa Kindergarten. Interview. Finland

City of Helsinki. 2015. Day-care options.

URL: <http://www.hel.fi/www/Helsinki/en/day-care-education/day-care/options/>.

Accessed: 27 April 2015.

City of Helsinki 2015. Preschool education.

URL: <http://www.hel.fi/www/Helsinki/en/day-care-education/day-care/preschool/>.

Accessed: 27 April 2015.

City of Helsinki 2015. Preschool education obligation.

URL: <http://www.hel.fi/www/Helsinki/en/day-care-education/day-care/preschool/>.

Accessed: 27 April 2015.

City of Espoo. 2014. Children's day care fees as of 1 August, 2014.

URL: http://www.espoo.fi/en-US/Childcare_and_education/Day_Care/Day_Care_Fees.

Accessed: 15 May 2015.

City of Espoo. 2012. Pre-primary education.

URL: http://www.espoo.fi/en-US/Childcare_and_education/PrePrimary_Education.

Accessed: 16 May 2015.

Cornell University Law School. 2015. Non-profit organization.

URL: https://www.law.cornell.edu/wex/non-profit_organizations.

Accessed: 14th May 2015.

Demir, K. 2006. School management Information systems in primary school. The Turkish Online Journal of Education Technology.

URL: <http://www.tojet.net/articles/v5i2/526.pdf>.

Accessed: 15th May 2015

Ellis, N. 2011. Business-to-Business Marketing. 1st Edition. Oxford University Press. New York.

Encyclopaedia of Children's Health. 2015. Preschool.

URL: <http://www.healthofchildren.com/P/Preschool.html>.

Accessed: 14th May 2015.

Futurelab. 2006. Tots, toddlers and technology: can ICT help the under-5s?

URL: <http://archive.futurelab.org.uk/resources/publications-reports-articles/vision-magazine/VISION-Article244>.

Accessed: 16 May 2015.

Hämäläinen, A. 8 April 2015. Administrator. Finnish American kindergarten. Interview.

April 2015. Helsinki.

Holappa, A. 13 April 2015. Counsellor of Education. Finnish National Board of Education.

April 2015. Interview. Helsinki.

Ho, S. 13 February 2015. CEO. LittleLives Inc. Pte Ltd. Interview. Singapore.

Ho, S. 14 May 2015. CEO. LittleLives Inc. Pte Ltd. Interview. Skype.

Finnish National Board of Education 2015. Education policy.

URL: http://www.oph.fi/english/education_system_education_policy_

Accessed: 27 April 2015.

Finnish National Board of Education. 2015. Early childhood education and care.

URL: http://www.oph.fi/english/education_system/early_childhood_education.

Accessed: 27 April 2015.

Good News from Finland 2014. Learning goes digital.

URL: <http://www.goodnewsfinland.com/archive/themes/education-technology/learning-goes-digital/>.

Accessed: 27 April 2015.

Hollensen, S. 2012. Essentials of global marketing. Second Edition. Pearson.

International Childcare and Education Centre. Teacher. March 2015. Interview. Finland.

Kirsi, L. 23 March 2015. Teacher. Fountain Square Playschool. Interview. Helsinki

Kotler, P & Armstrong, G. 2013. Principle of Marketing. 15th Edition. Pearson.

LittleLives Ltd. CEO. May 2015. Interview. Skype

LittleLives Ltd. Developer. May 2014. Interview. Skype.

McCormick, R. 17 March 2015. Owner. International Childcare and Education Centre. Interview. Helsinki.

Ministry of Education and Culture 2015. Every child in Finland has the same education starting point.

URL:

http://www.minedu.fi/OPM/Verkkouutiset/2015/01/pri_primary_education.html?lang=en

Accessed: 27 April 2015

Michail, K & Nicholas, Z. 2010. The use of ICT in preschool education for science teaching with the Van Hiele Theory,

URL:

http://www.researchgate.net/profile/Michail_Kalogiannakis/publication/233986287_Zaranis_N._Kalogiannakis_M._%282012%29._The_Use_of_ICT_in_Preschool_Education_for_Science_Teaching_with_the_Van_Hiele_theory_In_S._Divjak_%28ed.%29_Proceedings_of_the_8th_International_Conference_on_Hands-on_Science_Ljubljana_15-17_September_2011_219-225_%28e-book_available_httpwww.mptl-hsci.si%29/links/09e4150dc564740162000000.pdf

Accessed: 17 May 2015.

Ministry of Education and Culture. 2015. Education system in Finland.

URL: <http://www.minedu.fi/OPM/Koulutus/koulutusjaerjestelmae/?lang=en>

Accessed: 27 April 2015

OECD. 2003. Pre-primary education (ISCED 0).

URL: <https://stats.oecd.org/glossary/detail.asp?ID=5409>.

Accessed: 14 May 2015.

Rouse, M & Doig, M. 2006. Software.

URL: <http://searchsoa.techtarget.com/definition/software>.

Accessed: 14 May 2015.

Sahlberg, P. 2010. The Secret to Finland's Success: Educating Teachers.

URL: <https://edpolicy.stanford.edu/sites/default/files/publications/secret-finland%E2%80%99s-success-educating-teachers.pdf>.

Accessed: 27 April 2015.

Sahlberg, P. 2011. The professional educator lesson from Finland.

URL:

http://www.cimo.fi/instancedata/prime_product_julkaisu/cimo/embeds/cimowwwstructure/25535_American_educator_summer_2011.pdf.

Accessed: 17 May 2015.

Shah, M. 2013. Impact of management information systems (MIS) on school administration: What the literature says.

URL: [http://ac.els-cdn.com/S1877042814006764/1-s2.0-S1877042814006764-main.pdf?_tid=5e3ab382-fbdb-11e4-bcb2-](http://ac.els-cdn.com/S1877042814006764/1-s2.0-S1877042814006764-main.pdf?_tid=5e3ab382-fbdb-11e4-bcb2-0000aab0f27&acdnat=1431788212_cba23f82c3b3bad6673be53a0972f457)

[0000aab0f27&acdnat=1431788212_cba23f82c3b3bad6673be53a0972f457](http://ac.els-cdn.com/S1877042814006764/1-s2.0-S1877042814006764-main.pdf?_tid=5e3ab382-fbdb-11e4-bcb2-0000aab0f27&acdnat=1431788212_cba23f82c3b3bad6673be53a0972f457).

Accessed: 16th May 2015.

Statistics Finland. 2014. Comprehensive schools had 542900 pupils in 2014. URL:

http://www.stat.fi/til/pop/2014/pop_2014_2014-11-14_tie_001_en.html.

Accessed: 27 April 2015.

Statistics Finland. 2014. Current expenditure on regular education system increased in 2012.

URL: http://www.stat.fi/til/kotal/2012/kotal_2012_2014-05-08_tie_001_en.html.

Accessed: 27 April 2015.

Statistics Finland. 2014. Pre-primary and comprehensive school education 2014.

URL: http://www.stat.fi/til/pop/2014/pop_2014_2014-11-14_en.pdf.

Accessed: 27 April 2015.

Stephanie, L. Robin, M & Pegler, C. 2008. The educational potential of e-portfolios. 2nd Edition. Routledge. New York.

The Preschool Professor. 2015. What are the best Preschool Curriculum Programs?
URL: <http://www.the-preschool-professor.com/preschool-curriculum.html>.
Accessed: 14 May 2015.

Tilastokeskus. 2013. Tilastokeskusten PX-Web-Tietokannat.
URL: <http://pxweb2.stat.fi/Dialog/Saveshow.asp>.
Accessed: 15 May 2015.

Toivonen, A. 23 March 2015. Teacher. Fountain Square Playschool. Interview. Helsinki.

Tuononen, M. 31 March 2015. Statistics Finland. Chief Advisor. Interview. Helsinki

Wood, M. 2010. Essential Guide to marketing Plan. 2nd Edition. Pearson. Harlow.

Appendixes

Appendix 1. Overlay Matrix of the Thesis

Investigative Questions (IQs)	Theoretical Framework	Method	Source of information/Respondent	Results
IQ1: What are the characteristics of Finnish preschool market and educational system?	Chapter 2.1	Secondary research (Document analysis, national statistics) Expert interview	National educational policy documents National preschool policy documents Education expert	Chapter 4.1
IQ2: How management system software used in the Finnish preschools?	Chapter 2.2	Secondary research (Document analysis, national statistics) Expert interview Software specs	National preschool statistics Education expert Software websites Software experts	Chapter 4.2
IQ3: What are the preschool teachers' opinions about using management system software as a part of their work?	Chapter 2.3	Qualitative interview Survey	Preschool teachers	Chapter 4.3

Appendix 2. Interview with preschool owners, teachers and administrators

General facts

1. How long has your centre been running?
2. How many kids attend your centre yearly and at the moment?
3. How many teachers work here?
5. How much do you get support from the government?
6. Do the parents have to pay extra fee for pre-schoolers?

Curriculum

7. What do you teach kids here?
8. How long and often is the teaching program daily and weekly?
9. What kind of outdoor and extra activities do you provide for kids?

Software usage at preschools

11. How are administrative tasks carried out here?
12. Do you use technology for work?
13. Do your centre's staffs use any specific software for administration and teaching at your school?
14. What do you think about using software for teaching?

Teachers' duties and competences

15. How many hours do teachers work per day and per week?
16. What are teachers' work duties?
17. How do teachers get employed at your school?
18. What do you think are the necessary competences for preschool teachers?

Appendix 3, Interview with a member of the Finnish National Board of Education

(expert interview)

General facts

What are the principles, objectives and underlying philosophy of Finnish education?

What are the top 3 factors contributing to Finland's no.1 ranking in preschool education?

Why is there an emphasis on equality and small gaps between high and low achievers?

What are the success and challenges of early childhood education in Finland so far?

How do you think the future of Finnish education would be? What are the trends nowadays?

Financial aspect

Why is the government cutting down on the budget for preschool education especially since recently it's been compulsory for children to attend preschool?

Curriculum

How do you assure the Finnish preschools follow the national curriculum?

The Finnish education system recently introduced a policy to abolish subjects and allow students to choose what they want to learn. Does that extend to preschool education?

What are the reasons for this decision?

How important is it to strike a balance between play-based learning and mastering the necessary content in a curriculum?

Teachers' duties

How do you assure preschool teachers have all the necessary skills and competences?

Opinion about preschool software

As the world moves into a knowledge and tech based economy, will these start filtering into classrooms at an earlier age?

How does ICT especially management system software support preschool teachers in teaching and administration at preschools in Finland?

What do you think are the possible advantages and disadvantages of using software for administration and teaching in Finnish preschools?

What are the challenges when implementing technology at preschools and how would you solve that?

Appendix 4. Interview with Statistics Finland Oy.

(Expert interview)

Preschool market size and potentiality

How many preschool are there in 2014-2015 in Finland?

How many day-care and kindergarten centres are there in Finland?

How many international/English versus Finnish preschools are there? Proportion?

How many preschool, day care and kindergarten are there in Helsinki Metropolitan Area including Espoo and Vantaa?

How many kids younger than 7 years old are there in Finland?

What do you think these number say about the Finnish preschool education system?

Preschool teachers

How many preschool teachers are there in 2014-2015?

What is the proportion of preschool teachers per student?

How do you think these numbers reflects the teachers' duties and competences?

Your own opinion

What is your personal opinion of the Finnish preschool system?

Appendix 5. Interview with LittleLives Ltd.'s CEO

(Software expert interview)

Questions for LittleLives's CEO

What are LittleLives's mission and vision?

How many employees are working for LittleLives?

What is the current situation of the company regarding the Singaporean market including market share and customer base?

What were the sales volume and revenue turnover last year?

Who are the target customers?

What other foreign markets have the company entered?

How is the company doing in the foreign markets?

Why do you want to enter the Finnish market?

What are your strongest business assets?

How do you describe LittleLives system?

What makes your customers satisfied with LittleLives's product?

Questions for software expert

What are preschool software solutions?

What are the preschool software solutions in the preschool software market nowadays?

How are these software used at preschools nowadays?

What are the advantages and disadvantages of preschool software?