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# Customer perceived value on a new technology-based service:

## Mobile service innovation

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Customer perceived value on a new technology-based  
service: Mobile service innovation

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The purpose of this study was to investigate customer perceived value of Päikky mobile service a mobile service innovation. The theoretical framework of this study was centred on service, customer perceived value, mobile value and customer satisfaction.

This study used a quantitative research method in order to elaborate a web-based survey questionnaire. However, the data was analysed by employing multi-method approach. This methodology assists to facilitate the interpretation of the data in order to achieve the purpose of this study in the most factual and trustworthy way and to provide the reader credible, believable and relevant results. Moreover, this study used an abductive reasoning approach to produce and build new antecedents and explanations to the respondents' answers to the open-ended questions. The content analysis of 169 written responses produced a total of 319 discrete observations across the data set.

The Web-based survey questionnaire was served in three-day-care centres and five children's day-care in private families. Out of 288 questionnaires served 112 people responded the survey, 79 of which were parents and 33 day-care staff. The response rate was 39.0%.

Services, customer perception and satisfaction, as well as value in-use and customer perceived value are important dimensions to consider and monitor. It is not only important from the business perspective, but also a significant resource for managers, researchers, and practitioners. These terms should be known when approaching new ideas, services and products, as well as the integration of customers' participation, as co-creators during the service process since costumers have more expertise in creating new and original services or products than professional developers of information and communication technology (Steen, Manschot, and De Koning 2011, 54)

The findings supported the concept: "context affects customer value, because evaluations are based on interaction between the context, the customer, and the objective that the customer evaluate" (Gummerus & Pihlström 2011, 522). Moreover, the results of the Web-based survey indicated that the overall level of perception and satisfaction among the customers of Päikky service was good, but not yet excellent. Thus, in order to improve the satisfaction standards of parents and employees, companies and organisations must understand the importance of the positive and negative influences on the users' attitude towards adopting mobile services in current and future operating.

Finally, customers' education, overall training programs, employee training programme and further research are highly recommended.

Keywords Mobile Service Innovation, Customer Perception and Satisfaction, Value, Customer Perceived Value, The Mobile Value Framework, Päikky Mobile Service

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## 1 Introduction

“Times have changed”; I have often heard, my grandmother say this. Nowadays we live in a faster, busier, and technological era. This Master thesis, which investigated how a new technology-based service was perceived by its customers, originated in my thoughts after a gained working experience in Tenava-Tarina kindergarten.

In 2009, the kindergarten undertook an innovative customer service, the purpose of which was to improve the communication between parents and day-care staff. The service provided to its clients impressed the author of this research positively. It was an eye-opener to understand that people not only use their mobile phones to make calls, but also to access and engage with other external activities and services. Mobile devices develop faster; therefore, the production of newer tools and resources updated as well.

In January 2013, Sorvankaari kindergarten commenced testing a mobile service, called Päikky, (Päikky: a short term for day-care in Finnish). The mobile service has a particular feature of making possible non-traditional arrangements and the administration of the early childhood education and cares to become one department. The goal of Päikky is to engage firms in tandem with its clients (customers) into a new customer service concept. Moreover, it seeks to encourage and empower parents to participate in their child’s education and care.

This thesis focuses on how parents and day-care staff perceive (evaluate) a new technology-based service at day-care centres. The key motivation of this thesis was the vigorous debate on childcare issues and the introduction of mobile services as an innovative solution for childcare. In Finland, over the past two years there has been a growing interest in the review of early childhood education and care system. As well, the parental leave, the introduction of hourly billing at day-care centres, and the new reform law of the early childhood education and care system that dates back from 1973. Regarding the reform law of the early childhood education, Ritva Salmi (2014) argue, “it is unbelievable and unacceptable to think that a 41-year-old law is considered to be still in force, in instance that ”.

In 2013, the Finnish government planned big changes in the early childhood education and care system. The government’s policy attempts to encourage fathers to take parental leave, and thus to motivate mothers to return to work sooner. (Rosendahl & Ando 2013) The government also has proposed the introduction of hourly billing at kindergartens; this suggestion implies that parents will pay according to the hours that a child is present at a day care centre (Turun Sanomat 2013). The government of Finland, therefore, expects to reduce operating expenditures significantly by 2017. (Yle Uutiset 11.12.2014; Ministry of Finance 2013) However, neither the review reform law nor the other proposals have yet lodged with parlia-

ment (Yle Uutiset 11.12.2014).

Recently, in different health sectors, technology has changed traditional communication (face-to-face) by replacing them with electronic alternatives (Järvinen 2009, 1). One could reasonably argue that mobile devices are even used as a lifesaver (Bradford 2014, para.3) In the last years, several Finnish IT companies have developed a variety of m-services for the utilisation in kindergartens. The core idea of these services is to endorse the communication parents-staff and assist the administration to develop better services, and thus to anticipate future work (Tieto 2013; CGI 2013; MukavaIT 2013a; WOM 2014).

In Finland, the local authorities are expected to provide social welfare and health care services for families. (Ministry of Social Affairs and Health 2013, 10) In other words, families are entitled to acquire a social and health care allowance. Therefore, in order to fulfil part of the government's purposes, local authorities require integrating new operating strategies to support these action plans and similarly bring about positive outcomes.

At present, several municipalities have already tested or are right now testing a mobile service as part of their strategy and future operating conditions in kindergartens. (Toivainen 23.01.2014: Kaarina 11.11.2009) Certainly, mobile devices engender new challenges for the information technology (IT), and thus to transform the way of communicating with each other. Likewise, mobile devices help and reinforce more advanced economies. (Bradford 16.12.2014)

Unfortunately, to the author's best knowledge very few publications are available in the literature that address the issue of how customers perceive and evaluate mobile services at day care centres (Serkkola & Sukuvaara 2007; Järvinen 2009). Päikky service might sound an efficient instrument, but there is constantly room for improving a service.

The central research question of this study was, how do customers perceive (evaluate) Päikky-service in relation to a new technology-based service? Moreover, the objectives of this study were, first, are customers satisfied with this type of service? Second, what are the challenges and needs to improve this innovative service?

The pilot project of Päikky ended on 31.05.2014. It is worth noting that on July 11, 2014 the Nurmijärvi local newspaper published an article about Päikky service being tested at kindergartens based on this customer satisfaction survey's results. These results were used as hard evidence of the efficiency work of Päikky mobile service to the local community in Nurmijärvi (Nurmijärven Uutiset 11.07.2014).

## 2 Background

As described in the introduction of this study, the Finnish government has announced big changes in the early childhood education and care system for the next years. The proposals attempt to redefine what is day-care and what is early years education. (Yle Uutiset 11.12.2014) The Finnish government has propounded significant changes in the childcare system; these changes seek to renew the reform law of the early childhood education and care and the home child-care allowance. (Yle Uutiset 11.12.2014; Yle Uutiset 24.10.2013) Moreover, the introduction of the hourly billing at day care centres (Turun Sanomat 2013).

According to the early childhood education and care, (ECEC 2014,10) the well-educated and multidisciplinary day-care staff and the stable communication with parents contributes to the pivotal success of the Finnish childcare system. ECEC emphasises that the communication between parents and day care staff is based on a personal and daily relationship, in other words, the communication occurs verbally, through spoken conversation, face-to-face, and written messages. Moreover, the communication can also occur non-verbally such as the tone of the voice, gestures, and facial expressions (Kids Matters n.d., 3).

However, the OAJ allege that the system has a number of serious drawbacks that do not support the child's well being education and care. In addition, the OAJ (2014) argues that the childcare reform is not well followed and controlled by the authorities. The OAJ criticise that authorities do not properly regulate the maximum size limit of children in kindergartens. For example, although, the reform law does not limit group sizes, at least points out that there must be one adult per four children under-3, alternatively, one adult for every seven children older than that (Lastentarhauskielto 2014; ECEC 2014, 5-6). However, this compliance seems not to be controlled, therefore as a consequence, the number of employees can grow, as well as the number of children in the kindergarten groups, creating problem in the child's well being education and care (AOJ 2014).

Another government's plan is to encourage parents to be at short-term timework. By that, the government expects to reduce the operating expenditures on childcare fees (Ministry of Finance 2013). The last initiative of the proposed government's policies is the introduction of the hourly billing at day care centres. This plan attempts to promote the practice that parents will pay according to the hours that a child uses a day care centre.

Bearing in mind these points, the question surrounding to why the government's plans are relevant to this study is because they have challenged local authorities and business people to assume and adopt new operating strategies and create new service ideas to fulfil these policy.



As discussed above, the stable and personal communication is the pivotal foundation between parent-staff interaction; however, the introduction of a mobile service could empower and profound this communication to be highly effective. Therefore, technology in tandem with mobile-services could be an excellent action plan to facilitate and ameliorate the gaps between the early childhood education system and the government's plan.

MukavaIT Oy, a Finnish technology company, developed an m-service, called Päikky. This innovative service attempts to assist local authorities achieve to a greater extension part of the important mission that the Finnish government has set for the next years. MukavaIT Oy has created and offered to the early childhood education and care a service that combines resources and information into one department. A new non-traditional customer service is the basis of this mobile service. Moreover, smartphone technology, tablet, Internet, web-platform, and software applications (apps) support this mobile service as well.

Smartphones are devices with capabilities for e-mail, text messaging, video records, and wireless Internet access. Recently, the use of smartphone technologies for implementing health promotion and health monitoring intervention has grown quickly. At present, the use of apps on smartphones has become an integral element in health and education. For instance, in the study of Kratzke and Cox, (2012, 74) mobile phone owner students used apps as a primary way to access digital information.

In January 2013, MukavaIT Oy and the Nurmijärvi early childhood education and care commenced operating a pilot project called Päikky. The idea of this project was to develop a compatible system, according to the needs of the early childhood education requirements.

The decision makers around this project divided the testing time into three stages. As Pyhäjärvi (2012, 8) points out, "The testing time is an investment that brings quality knowledge". During the first phase, the pilot project focused on mobile attendance records, which means logging in and out the attendance of children and the day-care staff by using mobile devices (smartphones or tablets). The attendance information was used for the early childhood administration in reporting and billing.

In the second stage, the mobile login was supplemented with the participation of parents. In addition, a web platform was planned for the use of them. Therefore, in order to access the web platform mukavaIT provided each parent with a password. At this phase, the idea was to involve parents so, that they could communicate effectively with the day-care staff through sending and receiving information of daily report about the child's care at the kindergarten.

The third stage, MukavaIT Oy included the concept “the tomorrow’s family day care in early childhood education. In this phase, the focus was on the administration functionality. Moreover, the test is focused on the hourly billing and the monitoring of the hourly. Throughout the pilot project, the principal idea was to collect information that could help parents to get more involved in the care and education of their child/children and gather information about the administration to improve the service and future operating decisions. (MukavaIT 2013a)

In order to support and fulfil each purpose of these three phases in the pilot project. MukavaIT provided each group, whether at the kindergartens or at the children’ day-care in private families, with smartphones (Samsung Galaxy S2) and tablets (Samsung Galaxy Tab 3 10.1 4G). These devices were equipped with apps (e.g. Chrome) to support this work and mobile setting. Moreover, MukavaIT provided parents with passwords and an exclusive web-platform in which they were able to write, modify, and add information about their child/children.

In January 2013, the pilot mobile service commenced at Sorvankaari kindergarten. However, in September 2013, the project was extended to two other kindergartens (Mutkapolku and Tähkärinne) and five children's day care in private families.

Initially, this study rose from the personal interest of the researcher in order to graduate from Master’s degree in health promotion. However, it is worth notion that the collaboration and participation of the Nurmijärvi early childhood education and care in tandem with MukavaIT were salient to this study. Consequently, it added validity and reliability to this study. Next, the working life partners are briefly discussed.

## 2.1 Nurmijärvi day care centres

Sorvankaari kindergarten is located in the city of Nurmijärvi. It is worth mentioning that Nurmijärvi is the largest rural municipality in Finland in terms of population and area (Nurmijärvi 2014). The last two integrated kindergartens into this project are part of the Nurmijärvi city. However, Tähkärinne kindergarten is located in Klaukkala and Mutkapolku kindergarten is situated in Rajamäki. The five children’s day care in private families are located in different parts of the town of Nurmijärvi.

Sorvankaari, Tähkärinne, Mutkapolku kindergartens, and the five children’s day care in private families consist of highly qualified day care staff including kindergarten teachers, nursemaids, and child minders. These kindergartens offer a safe and versatile day care and education to children aged 1-8 years. In addition, they provide genuine listening to parents about the needs of the child. In this way, parents and day-care staff provide and contribute to the child's best activities, education, and care.

One of the main purposes of the Nurmijärvi early childhood education and day care centres is to work in partnership with parents. This initiative attempts to encourage parents to participate in the primary education of their child/children. Thus, parents' engagement in the children care is seen as an integral element in the care and education system in Finland (ECEC 2014, 10). For instance, when children are about to start at the day care centre, parents establish an initial conversation with the nursemaid. The purpose of this is to get familiar with the child and parents. Additionally, parents can share about their children, home environments, hobbies as well as their hopes and interest for the day care. Open and trusting relationships between parents and educators are essential in order to create a secure foundation for the child's wellbeing in the early childhood education. For this reason, by implementing at day care, a mobile service that interacts between parents-staff, as mediator, could assist and improve the communication (Nurmijärvi 2014).

Thus, the importance of having a sound and seamless communication between parent-staff is imperative and necessary. However, a regular communication can also be difficult since communication is specifically directed to the child's pick-up or drop off moments. By way of example, when a child is dropped off to the kindergarten, parents may give some information about the child's situation and, correspondingly, when parents pick up the child the staff report about the child's day. According to Endsley and Minish (1989, 2) the average time for discussion at these meetings is approximately 12 seconds. Most of the conversations are usually very routine, in which the discussion is an overall of the child's health or behaviour during the day at the kindergarten. In addition, Endsley and Minish (1989, 2) have shown that parents were less active in the morning than in the afternoon. Parent-staff communication is clearly influenced by numerous factors such as lack of time and being too busy at work. The communication in kindergarten is often face-to-face, but this communication increasingly has shifted to electronic alternatives forms as well. Currently, there are manifold day care centres that have introduced a variety of IT tools to facilitate the everyday communication. This study examines how parent-staff perceive electronic forms of communication.

## 2.2 MukavaIT

MukavaIT Oy is a Finnish technology company that develops, produces, provides, and sells mobile software/ information technology for the needs of the local government sector. MukavaIT Oy uses technology as a useful, easy and practical service tool in which moves out traditional ways of doing service into a new customer service level in which the users/clients are put first. (MukavaIT 2013a)

The primary goal of MukavaIT and its product Päikky is to connect parents, day-care staff, and management board into one unit department.

This connection is possible by using smartphones or tablets likewise computer and Internet as shown in Figure 1 (MukavaIT 2013).



Figure 1: Päikky service in connexion with devices

MukavaIT through its product Päikky offered expertise, experience, mobile technology, and an innovative customer service into the early childhood education programme. Päikky is an online m-service where the main core service is to combine three important departments into one unit. (See Figure 2.)

On the one hand, parents received a password that allows them to access the web service provided. Parents can also use their smartphones, tablets, or computer to access the web-platform in order to book daily schedules according to their needs. Among other things, parents are able to keep the child information up-to-date and have straight access to add and check up for information, for instance about food allergies and permission to photograph. Moreover, parents can send messages to inform who will pick up their child or, if their child is sick and is not attending the day care. Additionally, parents can see in detail what their invoice amount will be.

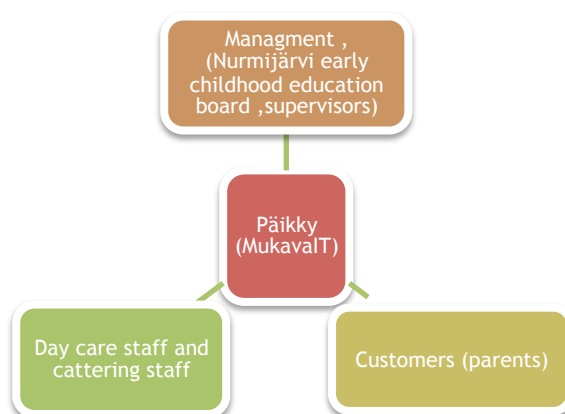


Figure 2: Connecting parents, staff and management board into one unit

On the other hand, the day-care staff by using smartphones or tablets can register (sign in/out) the child attendance to the day care centres as well as their own attendance day at

work in the system. This function also assists the staff to anticipate in advance the group size of children and the time (coming and leaving) of every child. Also, employees can be in touch with parents all the time that the day care is open. In addition, staff can also send pictures and news to parents about their children and the activities done during the care times. This connectivity is based on the touch of all parties being connected in real time.

Kindergarten directors are also able to see the information and provide staff in accordance with the number of children attending to the day care centre. Managers can also track and receive in real time the attendance numbers of children, staff, and formed groups. Moreover, they can visualise the daily day care centre activities. In addition, this system assists managers to provide care times to occasional children in need of it in those centres where there is space and enough staff. In other words, managers can use mobile services as a resource to anticipate necessary changes, increase the transparency and understanding and the awareness of service opportunities. Additionally, they can save administrative time and enhance the security of the children that they care for (Kindstöm & Kowalkowski 2014, 98). This m-service system is also meant to play a useful role for the catering staff. By way of example, the catering staff can visualise and receive in real-time information on the number of children attending the day care centre and the number of particular allergy menus to be prepared.

### 3 Theoretical framework of customers' perception on a new technology-based service

The theoretical framework of this study is to review the literature on mobile service. It begins by defining service and service innovation; customer perceived value concepts as well as satisfaction. Firstly, in order to provide the reader with a natural understanding, these concepts are well defined. Secondly, customer perception and satisfaction, as well as value are in detail discussed to discover what consumers evaluate and the factors that customers rely on in forming their judgements (Zeithaml, Bitner & Gremler 2009, 111). Thirdly, services, customer perception and satisfaction; and value in use and customer perceived value, are important dimensions to consider, monitor, and highlight. It is not only important from the business perspective but also a significant resource for managers, researchers, and practitioners. Therefore, these terms should be known when approaching new ideas, services, and products; moreover, the integration of customers' participation, as co-creators during the service process is crucial since customers have more expertise in their needs. Thus, in order to maintain high levels of customer satisfaction companies, organisations and firms should continuously improve the service that they deliver. (Hill, Roche & Allen 2007, 6.)

#### 3.1 Service

Services have been defined in a myriad of ways from the simple to the complex. According to Walker, (2010, 5) scholars seem to have provided "too ambiguous" definitions to determine a unique definition for service. However, from all those given definitions, at least, it is possible to conclude some pivotal terms that scholars often depict services, as an intangible, a process, a performance, and an interaction. A considerable amount of literature has continually published to hallmark a service on the use of four terms (Zeithaml, Parasuraman & Berry 1985; Lovelock & Gummensson 2004). These words are commonly named as "the four pillars" or "IHIP" (intangibility, inseparability, heterogeneity, and perishability). (Walker 2010, 5)

For Rao (2009, 122), a service refers to an intangible product, which cannot be touched, photographed and "tried out". He also describes that a service product consists of a bundle of characteristic and customer benefits. Despite Rao (2009, 122) attempts to provide a preconception of service, He however acknowledges that is difficult to define what a service is. The term "service" is defined by the Finnish professor of service and relationship marketing Grönroos in four fundamental characteristics, namely intangibility, heterogeneity, inseparability, and perishability (Cite in Bouwman, De Vos, & Haaker 2008, 16). According to Grönroos these terms are intended to assist and provide a comprehensive definition of what a service might be.

- Intangibility or non-material. The acquisition of services does not result in ownership like in the case of physical products, although it results in the right to receive a service.

By way of illustration, when a person purchases a camera, he will end up with palpable goods. However, when the same person purchases an appointment with a doctor, he will not end up with a tangible commodity. Bateson (1979) has also described that intangibility as the relevant differentiation from which all other differences emerge, distinction between physical intangibility, which is not touchable and mental intangibility that cannot be grasped mentally.

- Heterogeneity, outcomes and processes are hard to standardise. Quality control and homogenising services before service delivery is impossible, in contrast to the kind of quality control that is found with a physical product. The evaluation of the quality of a service depends on customer's individual and subjective expectation. This type of service is hard to systematise before the service is delivered.
- Inseparability, production and consumption take place at the same time. In contrast to physical products, services cannot be stored. In the words of Walker (2010, 8) "Services can be produced and consumed only when the service provider and the service customer interact simultaneously."
- Perishability. It is characterised by the fact that if a service is not utilised, either it can be transferred or resold to a third party (Bouwman 2008, 16). Lovelock and Gummensson (2004, 2) have also asserted that perishability is "the inability to inventory service output".

Bearing in mind the previous points, Walker (2010, 9) has also explained and supported the view of Rao, that a service cannot be stored in inventory as tangible goods can. He also maintains that these characteristics can affect the development and delivery of a service in relation to the customer participation and service quality; and experience. Grönroos (2001) provides a comparison table between the traditional services and physical goods 'characteristics. (See Table 1.)

Services	Physical Goods
<ul style="list-style-type: none"> <li>• Intangibles</li> <li>• Heterogeneous</li> <li>• Production, distribution and consumption simultaneous process</li> <li>• An activity or process</li> <li>• Core value produced in buyer-seller interactions</li> <li>• Customer participates in the production</li> </ul>	<ul style="list-style-type: none"> <li>• Tangibles</li> <li>• Homogeneous</li> <li>• Production and distribution separated from consumption</li> </ul>
<ul style="list-style-type: none"> <li>• Cannot be kept in stock</li> </ul>	<ul style="list-style-type: none"> <li>• A thing</li> <li>• Core value produces in factory</li> <li>• Customer does not (typically) participate in the production</li> </ul>
<ul style="list-style-type: none"> <li>• No transfer of ownership</li> </ul>	<ul style="list-style-type: none"> <li>• Can be kept in stock</li> <li>• Transfer of ownership</li> </ul>

Table 1: Differences between services and physical goods.

In contrast to Grönroos, Van de Kar and Verbraeck (2008, 28) argue that this comparison may not be conventional in all situations; they consider this comparison to have “consequences for adapting product design theories for service design”. They also point out that services and physical goods are related and interdependent. For instance, they refute if indeed a mobile information service can be acknowledged as a “pure service” because a mobile service depends on a cell phone. The question that surrounding of mobile service as a “pure service”, still remain. However, it has been demonstrated that the characteristics of a mobile phone are essential for designing mobile service information (Gummerus 2011; Grönroos 20011; Bouwman et al. 2008).

Bouwman et al. (2008, 17) propounds the view that instead of trying to find differences between goods and services, it would be more practical to refer to them as “the extremes of goods-services continuum”. Their view is grounded on the assumption that services, to some extent, need physical product and physical evidence for their usage or production, by way of illustration, a ground transportation service requires a bus as a physical product; consequently, the physical proof of the field transportation is the bus ticket. Vargo and Lusch (2004, 2) agree that a service is “the application of specialised competences, knowledge and skills through deeds, processes, and performances for the benefit of another entity or the entity itself.”

As has been observed, the literature shows no consensus on describing a unique definition on services; in this review, however, the most prominent way to define service is perhaps found in the differences between the core and the support services. According to Bouwman et al. (2008, 18), the core service refers to the supplier’s primary business, whilst the support service refers to the potential to increase the client’s experience of the essential service. By way of illustration, the core service of Päikky is the communication or interaction in real-time, online presence between the parents and the day care staff. Whilst, the supplementary services are booking, text messages, prices, billings, interaction, photos and information (MukavaiT 2013b).



Rao (2009, 123) assures that there are three key elements in service, namely the core service, facilitating services, and supporting services (See Figure 3). Lovelock, Patterson, and Wirtz (2014, 99); and Rao (2009, 123,124) agree that service core is the reason for being in the market. Rao (2009, 124) puts forward that facilitating services or goods are the features that customers use to facilitate the access to the core service. Whilst supporting services or products increase the value of the service offering. Lovelock et al. (2014, 99) observe three key elements that encircle a core service. 1) The core service is the basic sound the customer is buying; 2) Supplementary service is the value adding-services or the augmented service (Levitt 1980, 83-91). Supplementary services are used in order to differentiate service offerings from other similar firms and 3) delivery service is the manner in which the service is delivered

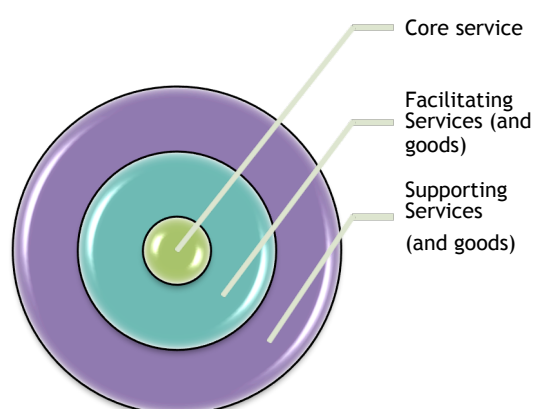


Figure 3: The basic service package

Lovelock (2003, 342) designed the flower of services as shown in Figure 4. This illustration provides a clear understanding as to how the core service is "surrounded by a cluster of complementary services. (Lovelock et al. 2014, 99) The flower of service is comprised of eight petals; four of them are the facilitating supplementary services information, order taking, billing and payment. The other four petals are the enhancing supplementary services consultation, hospitality, safekeeping and exceptions (Lovelock et al. 2014, 100; Lovelock 2003, 342).

It has theoretically described that customer-perceived service quality consists mainly of two dimensions. Berry and Parasuraman (1991) differentiate these dimensions as the process and the outcome, while Grönroos (1990) differentiate these dimensions as the functional quality and technical quality. The process or the functional quality is related to "how" a service is released, whilst outcome or technical quality is related to "what" a customer receives, in other words, "the benefits of using a service". (Cited in Van Riel, Liljander & Jurriëns 2001, 361) These dimensions play a fundamental part in how a customer will perceive a service or a

product. All components of the service, to a great extent, influence overall satisfaction, perception and loyalty (Van Riel et al. 2001, 362).

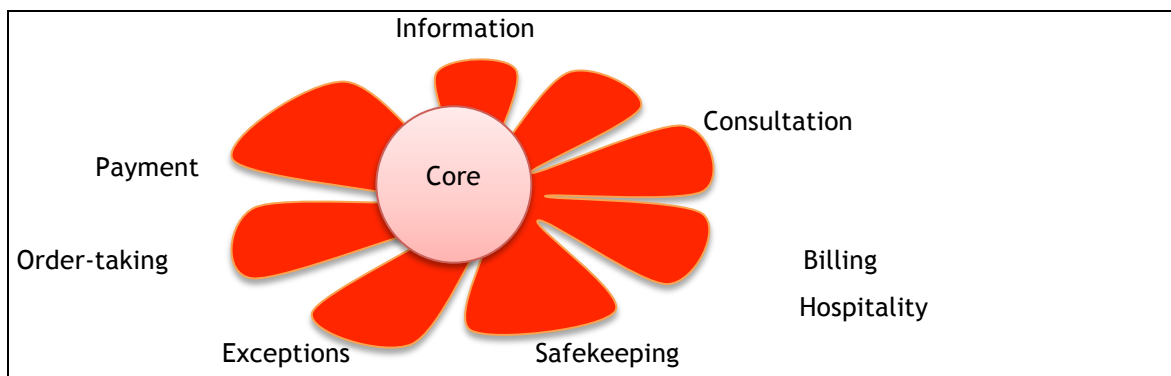


Figure 4: The flower of service

Whilst it is generally agreed that the customer satisfaction and perception of a service quality are influenced by the service process, and outcomes of the service process (Bouwman et al. 2008, 18) Grönroos (2007) also agrees that services must allow for customer participation (cited in Bouwman et al. 2008, 18). Moreover, Grönroos states “the interactions between the customer and the supplier or service provider, creates value for customers throughout the relationship”.

“The focus is not on products but on the customers’ value-creating processes where value emerges for customers and is perceived by them, ... The focus of marketing is value creation rather than value distribution, and facilitation and support of a value-creating process rather than simply distributing ready-made value to customers (Grönroos 2000, 24-25).

In an era when companies see online support as a way to shield themselves from ‘costly’ interactions with their customers, it’s time to consider an entirely different approach: building human-centric customer service through great people and clever technology. So, get to know your customers. Humanize them. Humanize yourself. It’s worth it (Smaby n.d.).”

That is to say that customers do not want only a product or a service, just because these are in the market; they want an experience that lasts (McGovern 23.09.2013). Therefore, customers should be allowed to be the co-producer of a service or a product.

Current researchers appear to validate this view; for instance, Steen, Manschot, and De Koning (2011, 52) have observed that co-producers or co-creators (Arantola-Hattab 2013; Grönroos 2011) are crucial part to service design process. In the words of Grönroos (2011, 5) “both the service provider and the customer are always as co-creators of value. The benefits of implementing co-design approach in businesses are the improving of customer’s loyalty, the

reducing costs, the increasing peoples welfare, and the organising innovation processes productively (Steen et al. 2011, 53). The term of co-producer in service design is conceptualised as the process of planning and organising human resources, framework, communication, and different fundamental material of the service. The main purpose of co-producer in services is to improve the service's quality and cooperation, and the customer's experiences (Steen et al. 2011, 53).

### 3.1.1 Service innovation

Having considered that service is an important part of the business core, a new word or concept has emerged to the service, known as innovation. Currently, markets and customers demand for new services and products. For the purpose of meeting those requirements, companies should turn to innovation (Phillips 2012, 2). According to a definition provided by Phillips (2012, 2), "innovation is the ability to create new products and services that originate new markets or please/enchant customers while innovating on a relatively consistent basis". In the words of Ekström (2014) "not every innovation is an invention". In other words, it is not necessary to create or invent a new goods or a service in order to set up an innovative firm, but rather to reinvent or recreate an idea, a service, or a product. Kanter (1983, 20) has described innovation as "the process of bringing any new, problem-solving idea into use". Firms, therefore, should aware and understand that the sustainability of their products and services is on the increase and improve their innovation capabilities (Phillips 2012, 8).

Innovation is about to move out from an unusual, infrequent activity to a more standard, consistent capability, regularly applied, to advance the company's vision, culture, and profits in order to succeed today and in the future (Phillips 2012, xix).

Fritsch (2011, 25) points out that innovation does not have anything to do with technology, even though the world is moving from an industrial mind-set into one of technology. Slow development time are being pressured by rapidly-changing customer demands, global outsourcing, and new software's making businesses change gears, only innovation can help companies keep up with this drastic change. It was observed that Western economies depend on innovation services for the sake of their future growth and employment creation; and opportunities as well. Service innovation helps traditional services and products to fulfil market and consumer demands. Therefore, service innovation is possible through the development of innovative services such as electronic and mobile innovation services, and many others technologically related services (Bouwman et al.2008, 3). Moreover, information and communication technology (ICT) has driven to new information and communication services. New technologies support the performance growth services provided by processing innovations. In addition, service quality is heightened due to thorough process innovation so that new services emerge (Bouwman et al. 2008, 22).

Bouwman et al. (2008, 22) affirm that there are two types of service innovation approach. On the one hand, service innovation has a strong focus on service delivery but disregards technology developments. This strategy puts more emphasis on the skills of the staff members and the cooperation between the departments; and within the service provider company, than on technology. This innovation approach in services is directed at the quality of the service and at improving customer satisfaction; as a result, the stores are open for a longer period, and service quality is based on face-to-face strategy, or frequent buyer program.

On the other hand, the alternative type of innovation is technology, particularly information technology (IT). IT has a powerful role in the service-delivery. To a large degree, this approach is characterised by the increasing significance of information communication technology (ICT), which supports services and service innovation. The Internet makes possible for service innovation to open up new total markets, by way of illustration Google, Adobe, eBay, Skype, and Facebook.

These enterprises advance from work-intensive and interactive services to become asynchronous, which means that they facilitate the communication between the Internet (sender) and devices (receiver) (Beal 2014). Consequently, the need for service delivery staff is not required (Bouwman et al. 2008, 23).

Berry, Shankar, Parish, Cadwallader and Dotzel (2006, 57) assert that, "technology has transformed many former inseparable services into services that can be consumed at any time or place". By the same token, ICT appends capacity to the service delivery process, for instance, CRM, tracking and tracing, retells the customer interface by adding online communication and service marketing. All in all, the characteristics and capabilities of information systems play a pivotal role in innovation and mobile services (Bouwman et al. 2008, 23)

Similarly a remarkable phenomenon as well rises and goes almost hand in hand with service innovation. Numerous studies have demonstrated that at present, customers are more expert in enunciating and expressing their needs and demands; and, thus they are becoming co-creators/producers of services (Bouwman et al. 2008, 3-9). The term of co-creation was introduced as to "any act of collective creativity". (Sander and Stoppers 2008 cited in Steen et al. 2011, 53) in other words, co-creation refers to the creative participation during the process of delivering and usage. Grönroos (2011, 5) concludes "both the service provider and the customer are always a co-creator of value". The scholars, who assert, "In co-design, both clients and users are seen as experts to cooperate creatively, support this view. (Steen et al. (2011, 53)

When customers share their story, they're not just sharing pain points. They're actually teaching you how to make your product, service, and business better. Your cus-

customer service organization should be designed to efficiently communicate those issues (Smaby n.d.).

Sander (2002) points out that there are three ways of interacting with customers during the design (innovation) process the "say," "do" and "make," where "make" is related with co-design (Cited in Steen et al. 2011, 54). In addition to the last, Sanders highlights that the benefits of co-designing are various such as collective learning, integrating different people's ideas, and strengthening communication. In recent studies have been observed that ordinary customers showed more expertise in creating new and original services or products than professional developers of ICT (Steen et al. 2011, 54). According to Bouwman et al. (2008, 11) producers and consumers can create a service together. Many experts in the field of service have supported this quotation, to a greater extent, because service involves human activity as well (Bouwman et al. 2008; Grönroos, 2011; Gummerus 2011).

Because the expertise and the abilities of modern technologies and rapidly changing needs and requirements of companies or services providers, suppliers have to act and respond immediately and make changes in their service offering. This complexity feature makes, to some extent, service innovation sound too ambiguous (Bouwman et al. 2008, 3). According to Grönroos (2007, 52) service is typically a process consisting of a series of more or less intangible activities. However, a service not always takes place in interaction with customers and service employees, physical resources or products or systems of the service provider.

Schumpeter (1934, 66) defined "five types of innovation of new products, new methods of production, new sources of supply, exploration of new markets, and new ways to organize business". According to him, it is through these types of innovation that customer needs are fulfilled. Service innovation serves to increase revenues and create profit (Bouwman et al. 2008, 10). Kindström & Kowalkowski (2014, 105) state that service innovation creates benefits for customers and providers, whilst; Kanter (1983, 20) says that innovation brings new, problem-solving idea into use.

### 3.1.2 Mobile service innovation

It has said that a new type of client has risen in town (Laudon & Traver 2013, 115). Researchers agree that the era of technology has changed the way in which people is communicating or interacting with each other. Lighter and uncomplicated operating system laptops and tablet computers have replaced traditional desktops or laptops PCs (Laudon & Traver. 2013, 115). It has forecasted that the primary access online will be through smartphones and laptop computers rather than PCs by 2013 (Laudon and Traver 2013, 231). The ownership and use of the smartphones growth and develop quickly in the world (Zhou 2014; Liljander, Gummerus, Pihlström & Kiehelä 2013; Gummerus & Pihlström 2011; Bouwman et al. 2008; Harper 2003).

Besides, it has estimated that every person in the world will use a mobile phone and over 500 million people will use health applications on their devices. Interestingly, it has noticed that the adoption of the smartphone has been growing faster among the 55 to 64-year-old group (Kratzke & Cox 2012, 72). In 2011, the population of mobile phone users was an estimated four billion global. According to these statistics, it reveals, "The Internet world is turning into a lighter mobile platform" which has radically influenced the e-commerce as well (Laudon & Traver 2013, 231). Additionally these studies show that owners of a smartphone value the freedom of time and place that the device provides. (Liljander et al. 2013, 261)

In 2012, the China Internet Network Information Centre (CNNIC) provided a report in which highlighted the number of mobile Internet users in China. They said that it had surpassed the 388 million users, "accounting for 72 per cent of its Internet population 538 million" (cited in Zhou 2014, 22). In 2007, a study conducted in Finland revealed a gradual increase in the use of mobile data-services (Cited in Bouwman et al. 2008, 91). The Nielsen statistics (Nielsen 2011) disclosed that about 66 per cent of mobile phone owners in the USA have a smartphone. According to Laudon and Traver (2013, 115), approximately 25 per cent of the world's mobile phone users are smartphones users.

### 3.1.3 The increased availability of mobility

Liljander et al. (2013, 261) have pointed out that one of the main reasons for people using a mobile phone is simply the freedom of time and place that a smartphone allows. The increased availability of mobile phone and health applications has growth rapidly during the last years, however nearly little, or nothing is known about the impact of mobile device technology. (Kratzke & Cox (2012, 72) Kratzke and Cox (2012, 73) have observed that smartphones technology and apps have the potential to transform healthcare and health promotion from sporadic to regular care intervention.

In addition, they assert that the integration of mobile technology in health programme could improve specialists-patient interaction and services from remote areas. Furthermore, Kratzke and Cox (2012) denote that the use of mobile technology in education may help scholars learning by encouraging out-of-classroom teachings. Flexible and available devices can enhance and support students' learning everywhere they go. In their study of smartphone technology and apps, they have indicated that the use of smartphones can assist people, not only to be in touch with each other but also to improve the quality of life. (Kratzke et al. 2012, 73)

The study conducted by Harper, (2003, s.6) it shows that scholars have observed that the relationship between a user and its mobile phone has become more emotional than a relation-

ship with a device. Fortunanti presented a significance analysis and discussion on this subject in 2011. She reported that the social connectivity that a mobile device bestows makes possible that customers treat their devices in an emotionally distinct way (cited in Harper 2003, s.6). According to Harper (2003, s7) “it is precisely the ability to be in touch (sense) at any time that provides the value of mobility to mobile phone users. Next, customer perception is briefly discussed.

### 3.2 Customer’s perceptions

This world is overflowing with sensations. In marketing, the process of perception is perceived and absorbed by sensations (Solomon, Bamossy, Askegaard & Hogg 2013, 121). Hobart, Frankel & Walker (2009, 5) refer to perception as the act of individual interpretation of the senses. These interpretations may conclude that the customer perception is how a consumer perceives services and experiences quality in a service around him (Zeithaml et al. 2009, 102). Solomon et al. (2013, 122) illustrate how the process of perception is divided into three phases: exposure, attention, and interpretation as shown in Figure 5. All of them select, organise and interpret a stimulus.

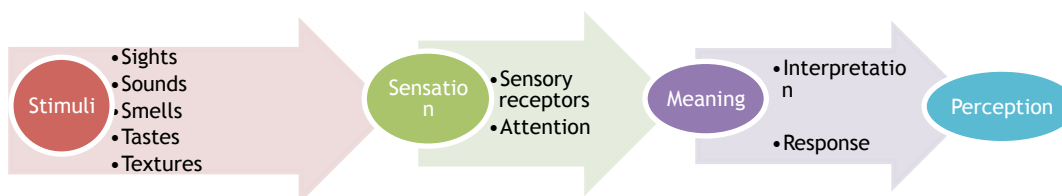


Figure 5: The process of perception (Solomon et al. 2013, 122)

#### 3.2.1 From a sensation to perception

The exposure or sensation phase refers to the immediate response of the sensory receptors. In other words, humans process the raw data into perceptions or meanings. Perception is the interpretation of the senses such as sights, sounds, touch, and smells. Currently, markets are paying extra attention to the impact of sensations on the product experience (Solomon et al. 2013, 124). That means that a new era of sensory marketing is rising. Companies to-day are required to enhance and develop creative, and competitive, innovative services. New technology facilitates the connection between human senses and a questionable reality, for example, virtual reality such as second life. This technology allows ordinary people to create new environments in which the experience is unique. "Your world, your imagination." (Second Life 2014; Solomon et al. 2013, 125; Laudon & Traver 2013, 223)

New technology-based service, such as the mobile website or the mobile application is gaining more attention from suppliers, employees and consumers (Laudon & Traver 2013, 223). According to Laudon and Traver (2013, 223) Apple's firm "allow and encourage customers to handle apple's product inside their store". Solomon et al. (2013, 129) refers to a study that has demonstrated that participants who touched an item for over or fewer 30 seconds generated better levels of attachment to the product (Solomon et al. 2013, 129).

The attention phase refers to how consumers focus on stimuli within the spectrum of exposure. There is an increasing amount of advertising information the purpose of which is to persuade and gain customers attention. Nevertheless, trying to gain the attention of consumers, in particular, young people, is a challenge. According to Solomon et al. (2013, 135) it is because young people are selective about their options or choices. The final phase in the process of perception is interpretation. This process defines the eventual interpretation of a stimulus. Humans "pay attention according to learned patterns and expectations" (Solomon et al. 2013, 144).

The degree to which interpretation is consistent with previous experience will affect the meaning that is assigned to the final ended product. Customers' emotions play a critical role when the perceptions of satisfaction are evaluated. Some of these emotions are already in the "pre-existing emotions" or moods (Zeithaml et al. 2009, 105). For example, when someone is in a happy stage (mood) in life because of holidays, this emotion will influence how he will perceive a service or product. On the contrary, if the same individual is in a bad mood, this negative feeling will be perceived in his response towards the service or product.

Optimistic emotions such as happiness, pleasure, elation, and a sense of warm-heartedness enhance customers' satisfaction. On the contrary, negative emotions such as sadness, sorrow, regret, and anger lead to diminishing customer satisfaction (Zeithaml et al. 2009, 105).

Zeithaml et al. (2009) point out that the key determinants of customers' satisfaction will depend on how the service or product is featured. Personal factors such as the consumers' emotional state and situational factors such as "member opinions" will ultimately impact the satisfaction outcomes. Next, customer satisfaction linked to customer perceived value is discussed.

### 3.3 Customer satisfaction linked to customer perceived value

If the product matches expectations, the consumer is satisfied; if it exceeds them, the customer is highly satisfied; if it falls short, the consumer is dissatisfied (Kotler, Armstrong, Saunders, & Wong, 1996, 12)



Mullin (2010, Xiii) state that customers are the core element of any business strategy. However, it has been observed that customer satisfaction plays a pivotal role in any business field and it is also a crucial concept in marketing (Grönroos 2005, 6). Customer satisfaction has rapidly gained attention within different market fields (Chen, Chang, Hsu, and Yang (2011, cited in Dhakal 2013, 68). Most companies consider customer satisfaction, as a standard reliability to measure whether is the products or services achievement and approach to retaining their clients (Zeithaml et al. 2009, 387).

Zeithaml et al. (2009) define customer satisfaction as the customer's evaluation of a product or service, in which the product or service has met the client requirements, needs, and expectations. However, if the evaluation of a product or service has not met the needs and expectations of the user, it will probably result in customer dissatisfaction.

Customer satisfaction is based on feelings and attitudes that a customer experience with an organisation or brand (Hill et al. 2007, 3) In addition, Customer satisfaction has also been related to feelings as contentment, pleasure, happiness, ambivalence and sense of relief. According to Ennew and Waite, (2013, 426) satisfaction depicts as the customer 'satisfaction judgement that a product or service experience provides when the basic needs of the client are met.

In addition, it is crucial to bear in mind that quality and satisfaction are based on customers' perceptions of a service. It is clear, then, the quality, value, and satisfaction influence the customers' expectation and perception of a service or a product (Zeithaml et al. 2009, 103).

Service quality is one of the fundamental parts of customer perception whether in pure services such as health care and education and customer service with physical products such as IT services. At this point, it is important to highlight that service quality should not be confused with customer satisfaction. Customer satisfaction is a wider in scope than service quality, which is merely a part of the customer's level of satisfaction (Hill et al. 2007, 31). Hill et al. (2007, 33) argue that in order to have an attitude towards a product or service, a customer must gain an experience during the process, in order to make a satisfaction judgement. Over the past years, researchers have observed that consumers judge the quality of services accordingly to their perceptions. These judgements are based on the technical result provided, the process delivery, and the quality of the physical environments (Hill et al. 2007, 33).

Zeithaml et al. (2009) observe that customers perceived quality in a multi-dimensional context, in other words, "the perception that combines cognitive and emotive perspectives of consumption". (Gummerus & Pihlström 2011, 522) Likewise, they refer to the customers 'emotions in which can also affect their perception towards a service or product. Although

satisfaction and service quality may appear similar, yet they focused in specific areas. On the one hand, satisfaction is a wider and more all-embracing concept perception of service quality, product, quality and price, as well as personal factors and situational factors. On the other hand, service quality concentrate on dimensions of service. Moreover, it is also focused on the evaluation of reliability, assurance, responsiveness, empathy and tangibles (Zeithaml et al. 2009, 103).

Reliability is one of the most important components of the perception of service quality. This concept refers to the accomplishment delivery of promises accurately and dependably. Consumers expect that firms keep their promises about the service delivery and core service attributes. Responsiveness is about the willingness to assist and help customers in trouble or with questions. Moreover, it emphasises attentiveness to provide opportune and timely service in dealing with customer requests or complaints. Assurance is about the ability to inspire trust and confidence. Empathy is defined as the ability to understand and treat the client as an individual and unique; therefore his needs are understood and met. In other words, consumers wish to feel part of the firm. Finally, tangibles are described as the physical facilities (Zeithaml et al. 2009, 111-115).

The impact of value and customer perceived value in different fields have been widely discussed and examined. However, "how to contextualise and measure value perceptions in mobile services has not yet been an agreement (Gummerus & Pihlström 2011, 522). According to Gummerus, (2014) it is not yet clear the factors and the impact of mobile devices on mobile services. She also emphasises that researchers have given little attention to the role of the context (mobile phone) and to the role of consumers perceived value while using a mobile service. Therefore, these dimensions should be analysed and researched.

Next, value and perceived value will be discussed to open up other concepts regarding value. Moreover, a new conceptual framework is portrayed; this structure plays a critical role in the evaluation and analysis of this study. Gummerus and Pihlström (2011, 526) developed and designed a new conceptual framework, which helps to comprehend how a consumer perceives or evaluates a mobile service in different circumstances and situations.

### 3.4 Value

Recently, the value of mobile service has profoundly been considered and studied, however, little attention has been given to the user's value perceptions of mobile services. (Gummerus 2011; Pura & Gummerus 2007; Bouwman et al.2008; Harper 2003) According to Van De Kar and Verbraeck, (2008, 35) value perceptions of mobile services should be more emphasised,

prioritised and researched since mobile technology is influencing nearly every aspect of societies and social life.

The last decades, the field of ICT have revolutionised the way in how humans communicate with each other; similarly, an interesting phenomenon has been also observed around mobile technology and it is precisely in how consumers relate to their mobile devices (Harper 2003, 2). Harper (2003, 3) states that the increased amount of data on human behaviour related to the use of mobile technology, as a mediator of communication, is enormous and significant enough to warrant attention. Therefore, the importance of value perceptions around mobile services is critical to comprehend and research. Before proceeding to examine customer perceived value, context value, and value-in use; it will be necessary to organise a conceptual foundation of value. Various literature resources have defined value in a myriad of ways and from different perspectives. (See Table 2)

Definitions of Customer Perceived value	Authors
Customer perceived value is defined as the outcome of an evaluation made by a single customer, and it constitutes of three overlapping dimensions, namely the object that the customer evaluate, the context, and the underlying values that measure what is desirable for the customer.	Rescher 1969
Value is the consumer's overall assessment of the utility of a product based on perceptions of what is received and what is given.	Zeithaml 1988, 14
Buyers' perceptions of value represent a trade-off between the quality or benefits they perceive in the product relative to the sacrifice they perceive by paying	Monroe 1990, 46
Consumer choice is a function of multiple consumption values. These are functional, social, emotional, epistemic, and conditional value. The consumption values make differential contributions in any given choice situation. The consumption values are independent.	Sheth, Newman & Gross 1991, 160
Values is an interactive relativistic preference experience... Characterising a subject's experience of interacting with some object. The object may be any thing or event.	Holbrook 1994
Customer value is a customer's perceived preference for and evaluation of those product attributes, attribute performances, and consequences arising from use that facility (or block) achieving the customer's goals and purposes in use situation	Woodruff 1997, 142
A value judgement is the customer's assessment of the value that has been created for them by a supplier given the trade offs between all relevant benefits and sacrifices in a specific use situation	Flint, Woodruff & Gardial 2002, 171

Table 2: Definitions of customer perceived value

However, what is not yet clear is the actual difference between value and values. According to Sánchez and Iniesta (2007, 428-429) the concept of value has become one of the most overused and to a great extent misused concept. Several marketing academics have presupposed that value and values are the same notions, despite the meanings are different.

For Flint, Woodruff, and Gardial (2002, 171) on the one hand, value refers to the result of an evaluative judgement that indicates a trade-off between benefits and sacrifices. While, on

the other hand, "values" describe rules, paradigms and goals that serve as foundation for an evaluative judgement. Sanchez and Iniesta (2007, 429) assert that values are related to personal beliefs that a person holds and employs in making a decision judgement. They believe that the conceptual confusion arises because both constructs "value and values" have common features. Often, value is associated with a preference for an object or outcomes that are perceived by the consumers. By the same token, Gummerus & Pihlström (2011, 522) point out that value can be either unidimensional or multidimensional. Unidimensional refers to the "cognition based- perception" and multidimensional refers to the "perception that combines cognitive and emotive perspectives of consumption" (See Table 3).

Similarly, Willkie (1994) asserts that value is associated with a preference for an object or outcomes that are perceived by the consumers (Cited in Chen & Dubinsky 2003, 327). The economic-based perspective on value, states that consumers spend their income to maximise their satisfaction they get from a product or service (Bowmann & Ambrosini, 1998, Cited in Bouwman et al.2008, 18).

A value is, according to Grönroos (2008), the feeling of becoming better off than before using a service (Cited in Gummerus 2011, 14). According to this view, value represents the increased sense of customer's wellbeing. For Grönroos (1984, 38) customer value is not only about what a consumer gets from a service or product but it is about what types of benefits a customer receives from the product or service. By way of illustration, Mobile phones users consider that they get value in their processes of communicating with others, paying billings, and operating on the Internet (Grönroos 2005, 12). Nevertheless, if these features do not work as expected, they create inhibitors or resistance instead of value perceptions. (Zhou 2014, 23)

To conclude, value refers to the perceptions or evaluations that customers receive, not to how valuable customers are (Wise Geek, 2013). In 1998, Zeithaml pointed out some of the primary ways in how customers define a value, a) value is low price, b) value is everything someone wants from a service, c) value is the quality someone gets for the price it pays, and d) value is what someone gets for what a service. Ennew and Waite (2013, 425) say, "Perceived value is the consumers' overall assessment of the utility of the service based on perceptions, of what is received and what is given". Equally important, Slater (1997, 166) advocates the creation of customer value is the prosperous existence of any firm and the crucial strategic in building a competitive advantage.

Uni-dimensional nature	Multi-dimensional nature
<ul style="list-style-type: none"> <li>✓ Roots in economic theory and cognitive psychology</li> <li>✓ Utilitarian and economic conception</li> <li>✓ Cognitive approach</li> <li>✓ Simplicity</li> <li>✓ Knowledge of how value is evaluated</li> <li>✓ Lack of agreement regarding the antecedents of value</li> <li>✓ Confusion about the relationship among the antecedents</li> <li>✓ Direct observation of value</li> <li>✓ Widely embraced in the literature</li> </ul>	<ul style="list-style-type: none"> <li>✓ Roots in consumer behaviour psychology</li> <li>✓ Behavioural conception</li> <li>✓ Cognitive-affective approach</li> <li>✓ Richness and complexity</li> <li>✓ Specific direction on how to improve value</li> <li>✓ Lack of agreements regarding the components of value</li> <li>✓ Confusion about the relationship among the components</li> <li>✓ Observation of value through its components</li> <li>✓ Hardly embraced in the literature</li> </ul>

Table 3: Comparing approaches to the nature of perceived value.

A broader perspective Woodruff has adopted, (1997, 142) who defines a value as:

A customer's perceived preference for an evaluation of those product attributes, attribute performances, and consequences arising from use that facilitate (or block) achieving the customer's goals and purposes in use situations.

Next, I will briefly open up the discussion around value-in-use and a new conceptual framework of mobile service. Value-in-use (or In-use value) is further discussed in section 3.4.2 In-use value

#### 3.4.1 Value-in-use

Much of the available literature refers to value-in-use as the experience of using a service or the interaction between a consumer and an object. (Gummerus 2011, 25, 61-62; Holbrook 1994, 27) According to Gummerus (2011, 62), value-in-use captures the experience of using a mobile service, emotional, esteem, monetary, convenience, and performance value. Indeed, mobile services create value for customers in different situations. This study is about how customers in day-care facilities perceive or evaluate a mobile service. Therefore, the in-use value is a paramount definition in this study.

#### 3.4.2 A new conceptual framework

Miles & Huberman (1994, 18) state that a conceptual framework explains the main things to be studied. They observe that a framework can be rudimentary or elaborative, theory-driven or commonsensical, descriptive or casual. Gummerus and Pihlström (2011, 526) create a new conceptual framework to capture how customers interpret or experience context value and in-use value in mobile services. (See Figure 6.)

According to Gummerus (2011, 10) value-in-use in mobile services captures the experience of using a mobile service emotional, esteem, monetary, convenience, and performance value. As well, how consumers perceive value in mobile services. Gummerus and Pihlström (2011, 530-531) observe that mobile services provide enormous and wide range of benefits that through other channels are not possible to feature. However, to better understand value-in-use, it is important to comprehend that context is also a fundamental part of the user experience. Holbrook (1994, 27) points out that value-in-use is the interaction between a user and an objective that is inserted in a use context.

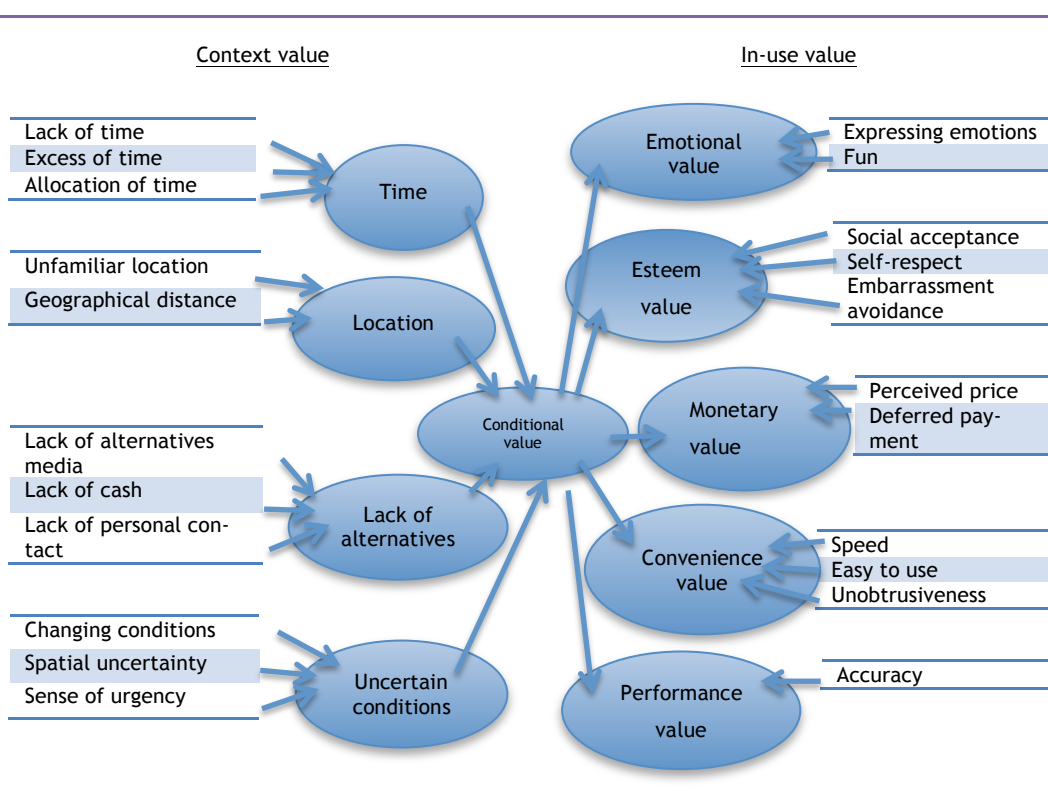


Figure 6: The Mobile Value Framework

Therefore, there is a need in understanding how customers perceive value, but also how value is formed from “a customer value creation perspective.” (Gummerus & Pihlström 2011, 521) According to Gummerus and Pihlström (2011, 526) value use in mobile services is a holistic phenomenon, which means that each part that forms a service is important and integrated to the whole of the service.

Gummerus and Pihlström (2011, 526) create a new conceptual framework that differentiates between context value and in-use value. Moreover, the proposed structure, they remark that “conditional value exists in a specific context” and it is acquired from the synergy between

humans, mobile content, the service interface and the environment. Conditional value, therefore, is contrived when contextual elements impact on value perceptions.

### **Conditional value**

As the conceptual framework describes, contextual elements originate conditional value, which leads to improving in-use value perception. Thus, the conditional value plays a central role in the evaluation of value perceptions. Gummerus and Pihlström (2011, 526) observe that conditional value is based on two conclusions “ a) the emphasis placed on context when the value perceptions were formed that joined to the situation inserted nature of the value result, for instance when terms are expressed by words as “when” and “if and b) the users ‘referrals to use intentions being conditioned under these very contexts”. Gummerus and Pihlström (2011, 526) also point out that conditional value is an important part between context value and in-use value. Conditional value could be interpreted as the facilitator between the contextual factors, the service use and the service to improve value-in-use as experienced by the service user.

Next, context value and in-use value are described. These two value categories have similarities and differences (Gummerus & Pihlström 2011, 527), therefore, they are interrelated, rather than separated value contextual elements. (Pura & Gummerus 2007, 37)

### **Context value**

It has been denoted that context can impact the evaluation of customer’s value perception of mobile services. Since value evaluation interacts between the context, the user and the object that the user evaluate (Gummerus & Pihlström 2011, 522). Braiterman and Savio (2007) affirm that in mobile interactions “context is everything”. Context is an intrinsic part of the use experience and it is expected to affect the value of mobile services. Context includes contextual elements and conditional value. Context value indicates customer perceptions of value connected with the use context. In previous research, four classification of context have been suggested, computing context, user context, physical context and time context.

In this study, context value was based on Gummerus and Pihlström (2011, 522) study, the observed that, context value is consisted of time, location, lack of alternatives and uncertain conditions. Time is perceived as a resource, to be used to gain balance when there is lack of time or excess of time (kill time), or when multitasking is suitable. Location is seen to overcome location barriers. If location is unknown or geographical distance is great.

Lack of alternatives is seen when m-services is able to offer attractive alternatives when other channels cannot. Uncertain condition, is perceived when mobile services offer peace of

mind in circumstances of need, for instance in emergency situations or when is needed for accurate information (Gummerus & Pihlström 2011, 528).

### **In-use value**

In-use-value captures the experience of using a mobile service, emotional, esteem, monetary, convenience, and performance value (Gummerus 2011, 10).

Sheth, Newman and Gross (1991, 161) define emotional value as the perceived utility acquired from an option's capability to bring out feelings or affective states. Often goods and services are related with emotional responses. Emotional value is associated with aesthetics, and pleasure. Moreover, emotional value can be perceived as enjoyment. Rao and Troshani (2007, 66) state that perceived enjoyment refers "to the degree to which using an innovation is perceived to be enjoyable" and is considered to be a source of motivation.

Esteem value is observed when m-services assist in circumstances of embarrassment. It is also linked to generate social acceptance. In the words of Rao and Troshani (2007, 67) "social influence refers to the degree to which individuals perceive that important others believe they should use an innovation". Individuals learn and use behaviours based upon which they observe in their surroundings groups. These behaviours are influenced by external and interpersonal. For example, external factors refer to the mass media and expert opinions; and interpersonal behaviours refer to the word-of-mouth by referent groups, namely relatives, peer, friends, computer and technology experts. Therefore, these factors play a relevant character towards adopting, for instance mobile service innovation.

Monetary value is viewed as an economic utility, assumed from characteristic or attributes such as durability, reliability, and price (Sheth et al. 1991,160). Monetary value in mobile service is positively observed and more affordable than other alternatives. (Gummerus & Pihlström 2011, 528.)

According to Gummerus and Pihlström (2011, 530); Pura and Gummerus (2007, 40) convenience value is associated with fulfilment and efficiency. They also state that mobile services "aim for efficiency". They also state that convenience implies a wide range of characteristics such as speed, ease of use and unobtrusiveness. Rao and Troshani (2007, 67) observe that perceived ease of use is a fundamental part of adopting mobile service. They also say that perceived ease has a positive influence in the attitude of customers towards adopting mobile service. Perceived ease can also be interpreted by user as freedom of difficulty with the use of mobile technology and services in everyday usage.



Performance value, this value describes how a service is doing its work (Gummerus & Pihlström 2011, 530). Rao and Troshani (2007, 66) describe this value as perceived usefulness. They state that perceived usefulness refers to the degree to which an individual believes that using a particular mobile service would enhance his job performance". This value is also related to accuracy and reliability of the service content. Next, the importance and the effects of customer satisfaction are briefly depicted.

### 3.5 The importance and effect of customer satisfaction

In the past, mobility was driven by technology change. With increasing penetration, the momentum is now on usage. Tomorrow, it will be on mobile content. Yet the frameworks we deploy to understand industry change originate from technologists, not marketers. (Steinbock 2005, 1)

Nowadays, customer satisfaction is one the most significant event to carry out in every single business, whether it is in big enterprises or small local businesses. Even managers agree with the following statement "maximising customer satisfaction will maximise profitability and market share" (The Juran Institute 1994, cited in Vavra 2002, 6). In other words, if the customer is happy, then his happiness will be reflected in the customer loyalty towards the service or the company's product. (Zeithaml et al. 2009, 109)

Some policymakers consider that customer satisfaction is a crucial indicator of the national economy, health and quality life. (Zeithaml et al. 2009, 109) Studies show that companies that invest in services and customer satisfaction engender superior returns at a lower systematic risk. Therefore, the whole experience that a customer may feel and perceive with an organisation, service or product will form the attitudes and future behaviours towards it. Thus, companies should understand that it is impossible to manage customer satisfaction without a complete understanding of clients' feelings and attitudes. Consequently, consulting customers is the only way of producing this level of understanding.

All alternative measures are incomplete. Internal metrics can provide accurate and useful information on the hard factors but not the soft ones such as how friendly and helpful the staff is. Therefore, the way an organisation handles the problem is a crucial part of the customer experience, however, it is only part of it. Thus, analysing complaints does not come close to an understanding of customer satisfaction. Nor interviews with lapsed clients, who give views on their entire customer experience, but from only a small part of the customer base. Consequently, the levels of satisfaction are not representative of customers as a whole (Hill et al. 2007, 11).

It has observed that the cost of garnering a new customer is five times that of retaining an existing client. (Zhou 2014, 22) According to Zhou, (2014, 22.) a mobile user adoption has two phases a) the initial adoption refers to as the first-time usage, and b) the post-adoption is

seen as the continuance usage. In the words of Zhou, (2014, 23) technology acceptance model (TAM) has been the most used theory to investigate mobile user conduct. He hypothesises that perceived usefulness and perceived ease of use are the primary dimensions affecting user adoption of a new technology and consumer satisfaction. Zhou (2014, 23) maintains that service quality and perceived value also affect customers' satisfaction and the "post-purchase intention of mobile added service. These factors create resistance to change, which means "a user's opposition to switching" from a traditional service to an alternative or a modern one.

Despite the studies conducted on resistance to change or resistance to innovation, there is not yet consensus on what resistance to change is or how to conceptualise it. Some writers have attempted to define the resistance to change as the consumers negative reaction towards innovation. (Ram & Shet 1989 cited in Cornescu and Adam 2013, 457-458) By the same token, Cornescu and Adam (2013, 458) have observed that the resistance to change happens when customers perceive the risk of changes being greater than the benefits. Similarly, Zhou (2014, 22) has also denoted that trust and switching cost have strong effects on resistance to change because they affect continuance usage. He also found that the effects of these factors on consumers influence other dimensions such as the perceived usefulness and the flow experience. According to Zhou, mobile services providers, therefore, should increase the user's resistance to change to assist their continuance usage. Zhou as well (2014, 22) supports that the trustworthiness of the current service provider as something that will increase the customer's loyalty.

Zhou (2014, 27-28) concludes that retaining users and facilitating their continuance to usage are pivotal for mobile service providers. To put in another way, mobile service providers should need to append importance to the resistance to change to facilitate post-adoption usage of services. The effects of satisfaction and the quality service are matters of great concern, however yet managers neglect the impact of resistance to change in user's behaviour (Zhou 2014, 28). According to C. Merle Crawford's study, (2008) it revealed that only 10% of the new products launched onto the market survive. Although, the outcomes about new products or services launch are favourable, the reality is different once on the market (Cited in Cornescu & Adam 2013, 458).

Equally important, Cornescu and Adam (2013, 458) describe, "Not all innovations that organisations tend to sell are defined by consumers as changes to their style of life". Thus, the importance of consumers 'point of view should be enough to warrant attention because a new product will often represent "the change" that the customer will meet. Consequently, if a product is deemed satisfactory, the consumer will accept the change. Nevertheless, if a product does not match the requirements expected, the client will "exert resistance to this

change" (Cornescu & Adam 2013, 458). Similarly, Kotler et al. (1996, 12) infer that, if the product matches expectations, a consumer then is satisfied but, if it exceeds them, a customer is highly satisfied; however, if it falls short, then the consumer is dissatisfied. Moreover, Ellen, Wiener, and Cobb-Walgren (1991) agree, "It is not an innovation in itself that people resist, but to its associated changes". (Cited in Cornescu & Adam 2013 459)

Indeed, customers' satisfaction is an excellent process of measurements and companies should understand this phenomenon. However, it is impossible to manage customer satisfaction, without a complete understanding of consumers' feelings and attitudes towards resistance to change. Moreover, to understand the inhibitors that cause the resistance to innovation in consumers' behaviour (Cornescu & Adam 2013, 464) Thus, consulting customers is the only way of producing this level of understanding.

Therefore, the importance of understanding customer satisfaction to mobility in current and future consumer services is salient in order to understand better consumers' attitudes and feelings towards innovation. Moreover, to pay careful attention to those factors that determines the resistant behaviour in consumers (Cornescu & Adam 2013, 464).

We are moving away from the business of ears to the business of eyes; that is how The Mobile Revolution began. (Steinbock 2005, 1)

Once, companies and organisations confront the consumers' resistance towards their product or service; only then, they could be able to analyse the patterns that underlie the resistance behaviours and to design better solutions and strategies "to face the criticisms" and the factors affecting the resistance to change (Ram 1987, Cited in Cornescu & Adam 2013, 459).

#### 4 Aim of the study and research question

Most research on customer satisfaction has emphasised that customers are satisfied if their expectations meet perception. (Kotler et al. 1996,12) The aim of this study was to investigate an overall customer satisfaction and perception of Päikky service at three day-care centres and five children's day care in private families. Päikky is a technology-based mobile service that purpose is to combine information and resources into one department. (MukavaIT 2013a) In order to investigate the satisfaction and perception of Päikky among the parents and day care staff, an overall customer satisfaction survey was conducted.

Collins (2010, 10) states that humans constantly try to understand the environment and how this appears to their senses. These ways are through experience, reasoning and searching for information. This study aimed to answer the following questions: How do customers perceive

Päikky-service in relation to a new technology-based service, a mobile service innovation? Are customers satisfied with this type of service? And what are the challenges and needs to improve this innovative service?

This study was the only thorough customer satisfaction evaluation conducted within Päikky service; therefore, this study was immensely significant for the researcher and the working life partners. From the researcher perspective, this study was part of her final work to graduate from Master's degree in health promotion. From the working life partners perspectives, this study provided hard evidence that underpin the work of MukavaIT through its service, Päikky and measurements of how customers perceive this m-service. Moreover, this study provided a strong proof for future decision making at the Nurmijärvi early childhood education administration.

## 5 Method

This chapter explains the nature of the research methodology being used. A quantitative research method was used in order to examine customers' perception and satisfaction of Päikky mobile service. Therefore, an overall customer satisfaction web-based survey was elaborated and conducted among the users of Päikky mobile service. However, in order to achieve the purpose of this study in the most trustworthy and accurate way, and to provide the reader credible, believable and relevant findings, (Collins 2010, 10, 49) the researcher used a few approaches. First, a multiple method tool was applied for the analysis of the data. A multiple method is used as a tool from both quantitative and qualitative approaches to answer the research question. Collins (2010, 50) proposes that a quantitative data can be inserted in a qualitative method and vice versa. This resource is also known as embed the data. (See Figure 7)

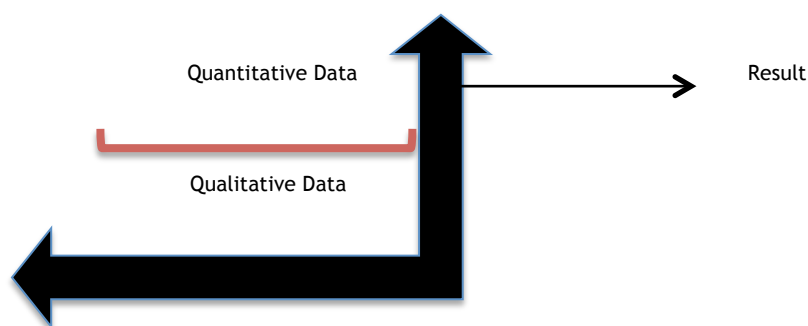


Figure 7: Embed the data

The purpose of this study was to investigate an overall customers' perception and satisfaction of Pääkky m-service. Second, in order to discover how do customers evaluate a mobile service, the respondents' answers to the four open-ended questions from the web-based survey were analysed using a qualitative, abductive reasoning process.

## 5.1 From The Theory to Data Building

This study employed a new proposed mobile value framework. (Gummerus & Pihlström 2011, 526) Thus, in order to examine the customer perceived value of Pääkky mobile service, this study commenced building from a known theory. The purpose of this type method attempt to generate the "best explanation" for observed fact results and builds new dimensions (Dubois & Gadded 2002; cited in Gummerus and Pihlström 2011, 525). This method is known as the abductive reasoning approach. The abductive reasoning approach is further discussed in section 5.5.1.

Next, quantitative method, Web-based survey, Likert scale and data collection are depicted.

### 5.1.1 Quantitative survey questionnaire

"If you cannot measure it, you cannot improve it". Lord, William Thomson Kelvin

The research was based on a quantitative research method. The research data was gathered by using a quantitative web-based survey questionnaire. According to Leedy and Ormrod (2001) the objective of the quantitative researcher is to seek explanations and predictions as well as establish, validate relationships and develop contribution to the theory (Cited in Dhakal 2013, 27). A quantitative research comprises of the problem statement, involves the formation of a theory, literature review, and a quantitative data analysis.

A quantitative approach to research is one in which the researcher mainly uses thinking, reduction, hypothesis and questions. In quantitative studies the researchers also employ strategies in inquiry such as experiments and surveys and collect data on predetermined instruments that generate statistical data (Creswell 2003, 17-19). The result from a quantitative research can be explanatory, analytical, and confirming.

The main goal of a quantitative research is to test theories and explanations. Grigoroudis and Siskos (2010, 171-176) state that a quantitative method is economical, untroubled, easy going, and friendly. The reason for choosing a quantitative research technique, or rather a web-based survey in this study was to ensure that nobody (customers) was ostracised from the survey and to get results in the fastest, cheapest and convenient way.

### 5.1.2 Data collection: Web-based survey

The quantitative data collection tool used in this study was a questionnaire web-based survey. Surveys are good ways of collecting data about point of views, behaviours, and opinions (Easterby-Smith, Thorpe & Jackson 2012, 230). In this study, the questionnaire web-based survey was carefully designed, in order to provide the participants a clear and an easy survey to be completed in only couple of minutes, likewise to get the most factual and dependable information. All the designed questions employed in the survey were based on the use of Pääkky mobile service. Moreover the context of the survey is reflected in the theoretical framework of this thesis in Chapter three.

A Web-based survey is the collection of data through a self-administered electronic set of questions on the Web. With Web-based surveys, “the manager has control over the physical appearance and can create attractive and inviting forms”. (Archer, 2003, 1)

The benefits of Web-based surveys are include the following:

- They are more inclusive and with the potentially of including a global audience.
- They are cheap to carry out, making it easier to recruit large numbers of participants
- The data is captured directly in electronic format, making analysis faster and cheaper.
- This allows more data to be collected than with conventional mailed paper questionnaires.
- They allow interactive data capture with rapid checking of responses (Wyatt, 2000, para.4)

Therefore, using a web-based survey questionnaire, the data was collected. The questionnaire survey was located on Pääkky website platform. On the one hand, parents had entrée to the questionnaire survey link by accessing their web-based addresses. On the other hand, the staff had entrée to the questionnaire link by accessing the smartphone message folder. By adding the link in the smartphone message folders, everyone (day-care staff) who was meant to take part in the online survey participated and responded.

Once, the questionnaire survey was completed online the responses were stored in an online database (Google Drive) for statistical processing later. The application tool used, in order to create the questionnaire survey and to store the database was the Google-Drive application. This application was easily accessible, no costs for the user, the instructions for use were easy and the outcomes were easy to follow. This application was an excellent instrument, especially for those without higher level of SPSS software training, or beginners in making and conducting a web-based survey.

The questionnaire survey had 20 questions, ten questions of which were designed with Likert scale, one closed-ended question YES/NO (also known as dichotomous), two demographic questions, four selected responses and finally three open-ended questions. (See Appendix 2.) The open-ended responses section was made available for the respondents in order to include their perceptions, feelings, challenges, experiences, needs, and development ideas that they perceive with the technology-based mobile service.

## 5.2 Likert scale

According to Punch (2003, 59) a four point-Likert scale is a recommended starting point when the researcher has the appropriate questions for the topic of the particular project. There are many ways how questions can be scaled. Which way is most appropriate will depend on the way the question is worked. One of the advantages of this type of question asking is its flexibility and applicability to a wide assortment of situations. On the other hand, Malhotra (2006, 85) says that respondents are slightly often asked to answer questions they are uninformed or subjects that are totally unknown by the respondents. In this research study, the researcher took the risk of using both four- and five point-Likert scales. A five point-Likert scale explanation does not need major description in this study, however a four point Likert scale would be a good reason to be explained it why it was used.

A four point-Likert scale is also know as the “forced” rating scale (Malhotra 2006, 88), which means that respondents are “forced” to express an opinion, because a “neutral, do not know and no opinion, option is not provided. If a vast proportion of respondents do not have an opinion on the topic, because he/she does not know the topic, marking on the middle position will misconstrue measures of central tendency and variance (Malhotra 2006, 89). In order to use this type of four point-Likert scales is necessary to make a careful search on the topic and the respondent. The respondents, in this study, were asked to denote their perception and satisfaction of Päikky service as well as improving services of Päikky performance. The questions structured by four point-Likert scales were carefully selected and designed in order to help the respondent to answer meaningful and reliable. Punch (2003, 58) says that meaningful means the related idea that respondents can confidently and positively select the one response category for the item, which suit to them.

The selection of the right and proper questions as well as the most appropriate response scale format were depending among others on the topic selected and questions in relation to the service researched. Moreover, the more points used in the Likert scale will be determined by the type of question, respondents and by the combination of common sense and the use of pilot testing, beforehand (Punch 2003, 58-59).

Regardless, researchers do not consider that four Likert scale as the best option, I took the risk and prompted as well the four point-Likert scales. The reason for making such determination was because the researcher wanted to avoid the selected “ I do not know” answer, in bias that the respondents were aware of the service. In other words, all respondents invited to take part in this survey were already familiarised and somehow orientated or acknowledged about Päikky service.

### 5.3 Implementing the customer satisfaction survey on the Internet

On April 09, the web-based survey was launched and the URL was shared with 288 participants. The URL was closed on May 11, 2014. The selected questionnaire survey was served to 220 parents and 68 early childhood employees. Out of 288 questionnaires served 112 people responded the survey, 79 of which were parents and 33 day-care staff. The response rate was 39.0%. The distribution was served at three-day care centres and five children’s day care in private families. The covering letter was distributed on 10.03.2014 of March, during the day care centres hours. The covering letter, questionnaire survey and the reminder note were translated into Finnish language from English due that the main language used by the customers is in Finnish. (See Appendix 1: the covering letter in Finnish and in English language and Appendix 6: the reminder note in Finnish).

At first, the response time determination was established for a three weeks response time from 10.03-31.03.2014, only. However, the survey was extended the time respond by two weeks more. The reason was due that five children’s day cares in private families were mistakenly ostracised from the customer satisfaction survey process. Therefore and in order to include them and their valuable responses in this survey, the response time continued until 11.04.2014. The web-based survey was undertaken at Sorvankaari, Tähkärinne and Mutkapolku day care centres, and at five children’s day care in private families all of them located at the city of Nurmijärvi.

### 5.4 Permission

In October 2013, the first meeting with the working life partners was organised at Sorvankaari day care centre. The primary goal of the meeting was to introduce and communicate the purpose and objectives of the thesis plan. As well as to discuss the content of the study in order that the survey would be fruitful for both parties. Moreover, it was to obtain the requested permission by Laurea ethical code, signed up by the two working life partners. This document was a significant step to start the thesis planning.



The project manager of Nurmijärvi early childhood education, Leena Laine asked the researcher to write down a summary of the research being performed. This request is an unofficial document, but has a great significance to the development of this study. (See appendix 4.) The summary letter and the Laurea thesis contract were posted through electrical mail. A week later, the researcher received the permission letter requested (by Laurea) signed. (See appendix 5.) In addition, the Nurmijärvi early childhood education project manager included in the mail post a confidentiality letter agreement to sign. This paper is an important document in which the researcher commits to respect the obligations and agreements of confidentiality of the Nurmijärvi early childhood project when conducting a thesis work. Finally, on 30.01.2014 the researcher received the permission granted by the Nurmijärvi early childhood education board to continue officially conducting a customer satisfaction survey of Päikky service at day care centres and family private day care facilities.

## 5.5 Data analysis procedures

Since the study was to conduct a survey on customer perception on a new technology-based service. The techniques used in the analysis' process of this study were two. The first technique used was the Microsoft Excel Software analysis and the second technique was a mixed method approach, in tandem with other process as the conventional content analysis.

It is important to mention that most of the data obtained from the Microsoft Excel Software analysis was used in order to elaborate a report to the working life partners. (See Appendix 3.) Only a small sample of the Microsoft Excel analysis was used in the elaboration of this study (Further information See section 6.3). Then An abductive reasoning approach in tandem with the conventional content analysis were used to develop, examine and build the present study.

### 5.5.1 Conventional content analysis

The qualitative content analysis is used as embed the data, which means that the qualitative text data obtained from the respondents' answers to the open-ended questions is converted into knowledge and information. Moreover, it could assist to explain and underpin the quantitative outcomes (Collins 2010, 50, 179). In other words, the content analysis used in this study, whose aim is to describe a phenomenon, in this case, the customer perception on a new technology-based service, helped to explore and understand the study much better and easier. Observe Figure 6 embed the data (Collins 2010, 50) in which shows how quantitative data can be embedded in a qualitative study and vice versa.

A qualitative content analysis is one of the most used research methods to analyse text data. Studies using a qualitative content analysis focus on the characteristics of language as communication in tandem with attention to the content or contextual meaning of the text. According to Kondracki and Wellman (2002) text data could be in verbal, print, or electronic form and might have been obtained from narrative responses, open-ended survey questions, interviews and so forth (Cited in Hsieh & Shannon 2005, 1278). According to Weber (1990) a qualitative content analysis is more than just “counting words to examining language for the purpose of classifying large amounts of text into an efficient number of categories that represent similar meanings”. The goal of a content analysis is “to provide knowledge and understanding of the phenomenon under study” (Cited in Downe-Wamboldt 1992, 314).

A conventional content analysis is appropriate when existing theory or research literature on a phenomenon is limited or when the researcher does not have sufficient understanding of the subject (Collins 2010, 43). In this study, the researcher used the conventional context analysis since the researcher used an existing theory and started to move from theory to data. Dubois and Gaddad (2002) refer to the abductive reasoning approach as the production of the “bests explanation and presenting condition under certain assumptions hold. An abductive reasoning approach commence with actual existence observations and going back and forth between the findings, theory and analysis (Cited in Gummerus and Pihlström 2011, 525)

The respondents’ replies to the open-ended questions section were rich and strong responses; filled with positives reviews, innovate ideas and constructive criticisms on the m-service. The results of the conventional analysis data helped and underpinned to explain upon the data outcomes obtained from the web-based survey as well as to add additional information (Collins 2010, 131).

The technique process used in this review was, therefore, an abductive reasoning approach and a conventional content analysis (Hsieh & Shannon 2005 1279). A conventional content approach highlights the exact “real-life observation” (Gummerus and Pihlström 2011, 525) words from the respondents’ answers to the open-ended question to capture key concepts and new dimensions. After that, the researcher approaches the text by making notes of her first initial analysis. As the process continues, labels for codes emerged that are reflective of more than one key concept. These often come directly from the text and are then become the initial coding scheme. These codes then are sorted into categories based on how different codes are related and linked. These emergent categories are used to organize and group codes into meaningful clusters (Hsieh & Shannon 2005, 1279).

In this study, the 169 open-ended responses were first analysed in detail and in the original language written form. After getting familiar with the theory by reading, the researcher move towards the data analysis. At this stage, the researcher translated into English the texts and

placed into the existing initial coding scheme by codifying with colours the texts and labelling the emerged data into the initial coding scheme. (See Figure 8.) Succeeding the initial coding scheme, the researchers sorted the schemes into categories based on how different codes are related and linked to the theory and the research question. Therefore At this stage, the codes moved from the category into a meaningful cluster. All unnecessary information was ruled out.

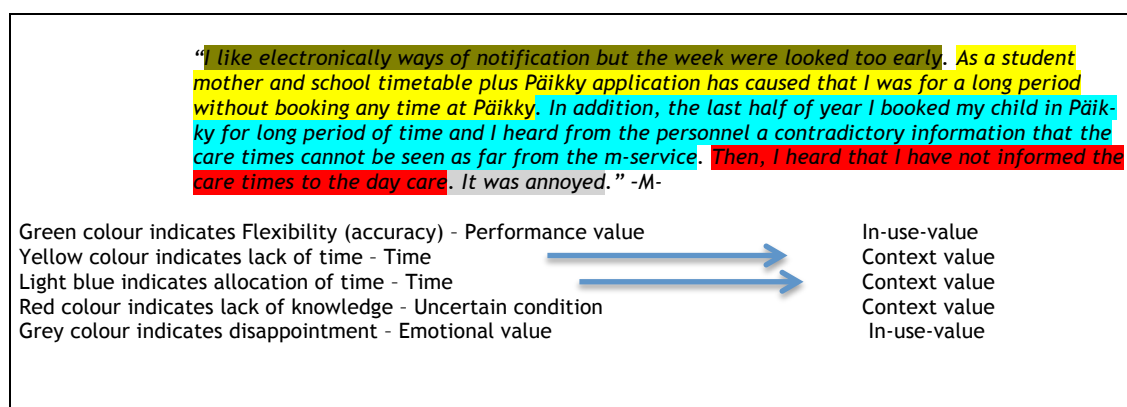


Figure 8: An example of multiple value elements

After the data was shaped to a reduced form, it was possible to view in full the emerged cluster and the aim and objectives of this study. See Table 4. According to Tuomi & Sarajärvi (2011, 112) the principal idea behind the clustering is to shape a ground or to give a basic foundation for the basic concepts in the research, which create the frame for the findings and lead to the theoretical concepts.

Text	Scheme	Category	Cluster
“Lack of time” -E-	Lack of time	Time	Context value
“It does not work with the mobile phone either with the tablet”	Lack of available alternative devices	Lack of Alternative	Context value
“I would probably visit often (the Web page) if there would be more content”	Lack of interest	Emotional Value	In-use value
“Too difficult to use it, so it has not risen any interest towards the service”	Difficult to use	Convenience Value	In- use value
“We were using the automatic function of the service that assume the time of needed day care for out child. We use the service once a week “ More flexible schedules”	Accuracy	Performance value	In-use value
“More diversity and easy apps”			Improving service
“More functions and clear performance of the service”			Improving service

Table 4: An excerpt of the data coding process.

The original data and the theory were side by side analysed several times in order to avoid wrong understanding and misuse interpretations. These going back and forward were related to the limited experience that the researcher had about the methods being used and the limited research done on the role of the contextual elements in mobile services (Gummerus & Pihlström 2011, 531).

The final themes created were four, three of which emerged from the conventional content analysis and one from the Microsoft Excel analysis. The themes emerged from the conventional content analysis are “Context value” which refers to the customer perception of value associated with the use context. The second theme “In-use value” refers to the experience of using a service. The third theme “Improving services” this theme answers the open-ended question “according to your experience, what need to be developed in the Päikky service? This section, respondents’ replies were rich and strong; filled with positives reviews, innovate ideas as well as constructive criticisms on the m-service. This practical information can affect positively the development and performance in future of the m-services. Lastly, “Overall customer satisfaction” this theme was created to provide the reader with accurate and tangible information about the m-service and an answer to the first objective question of this study are customers satisfied with this type of service. (Further information on the customers satisfaction see Appendix 3)

## 5.6 The Study Process Framework

The required time framework as shown in Table 5

January	Meeting with working life partners Tiina Ahokas and Petri Järvinen. The main idea of the meeting was preparing the survey questionnaire in order to distribute the survey form, as soon as possible to the customers.
February	On 04.02.2014 a covering letter was prepared (See Appendix 1). The main bullet points that expand on briefly. Title of the covering letter "Now, it is The Time to Make a Difference" <ul style="list-style-type: none"> <li>○ The purpose of conducting the study and questionnaire survey,</li> <li>○ Who is conducting the study and why,</li> <li>○ To motivate the customers (parents and employees) to participate more actively in the use of Päikky and moreover, to encourage parents at the latest to log in to Päikky service</li> <li>○ To inform the customers where they can find the questionnaire survey and how to access to the questionnaire survey and</li> <li>○ Finally the ethical issues, privacy and confidentiality are mentioned as well.</li> </ul>
March & April	The covering letter was sent out on 10.03.2014 to each Päikky customer. On 09.03.2014, the questionnaire survey was located on the website of Päikky. The survey had a maximum of

	one month to be answered from 10.03.2014 until to 11.04.2014
April May 26 of 2014  11.07.2014 18.08.2014	<ul style="list-style-type: none"> <li>○ Data analysis: Microsoft Excel programme, through DRIVE Google software</li> <li>○ The farewell party of Päikky project and the survey's outcomes being presented to the Nurmijärvi early childhood education board, commissioners, supervisors and working life partners.</li> <li>○ Nurmijärven Uutiset published an article related to this thesis investigation and Päikky service</li> <li>○ Päikky Report 2014</li> </ul>
August 2014 & April 2015	Conventional content analysis Write down outcomes, academic writing Theoretical framework review.

Table 5: The study process framework

## 5.7 Validity

Validity is concerned with the findings. Are the findings really about what they mean to be about? A researcher may misinterpret answers when analysing, if the respondents could not understand the questionnaire clearly or understand in another way than the researcher want. Thus, in this case, the research will not be valid. "Words and their meanings depend on where they are used, by whom and to whom". (Punch 2004, 231) The responses can also be influenced by different situational factors such as the person's mood, time pressure and technical factors. According to Ghauri and Grønhaug (2005, 80) there are two major forms of validity: The external validity and the internal validity. The first validity refers to the data's ability to be generalised to person, settings, and times. The second validity refers to the ability of the research instrument to measure what is purposed to measure.

Rao & Troshani (2007, 64-68) observe that users predisposition, facilitating conditions, and time factors might influence individuals' behaviours towards using particular technology system or services. For parents, the questionnaire survey was located on Päikky own website platform and for the employees in the smartphone message folder. Although, web-based surveys are useful ways of collecting data about point of views, behaviour and opinions (Easterby-Smith, Thorpe & Jackson 2012, 230) it could also be a fact that this application might have felt bored to fill it online and thus to affect the results of the respondents' answers.

The questionnaire was constructed in Finnish language, which was readily understandable to all the respondents. Moreover, the collected data employed a quantitative approach. The reason for choosing a quantitative research technique was to ensure that nobody (customers) was ostracised from the survey and get results in the fastest, cheapest and convenient way. Grigoroudis and Siskos (2010, 171-176) state that a quantitative method is economical, re-

spondents can answer the questions without pressure, it has easiness to cover different geographical areas and very importantly, respondents decide when and how they want to respond. Additionally, in a quantitative approach the researcher mainly uses thinking, reduction, hypothesis and questions. Besides, in quantitative studies, the researchers may also employ strategies in inquiry such as experiments and surveys and collect data on predetermined instruments that generate statistical data (Creswell 2003, 17-19). The result from a quantitative research can be explanatory, analytical, and confirming. Therefore, the primary goal of a quantitative research is to test theories and explanations.

In order to ensure the validity of this study, numbers of steps were taken into consideration.

- All the survey-designed questions were based on the Päikky service product. Moreover, the questions were reflected in the theoretical framework of this thesis in Chapter 3 in order to ensure the validity.
- The distribution was served at three-day care centres and five children's day care in private families. The web-based survey (URL) was launched on April 09, and the response time continued until 11.04.2014.
- The covering letter was distributed on 10.03.2014 of March, during the day care centres hours. The covering letter and the reminder note were translated into Finnish language from English due that the primary language used by the customers is in Finnish. (See Appendix 1 and Appendix 6)
- After the survey was served, no major things had been changed.

## 5.8 Reliability

Ghuri and Grønhaug (2005, 81) point out that reliability refers to the stability of the measure. In other words, research reliability refers to some extent to the degree in which the data collection method would produce similar results if another researcher conducted the same study in another place and time. In other words, reliability provides consistent results. According to Easterby-Smith et al. (2002, 53) reliability can be asked to respond the following questions.

- Will the measures produce the same result on other occasions?
- Will other observers reach similar observation?
- Is there transparency in how sense was made from the raw data?

The research was carried out to investigate the customer perceived value of Päikky service. Respondents evaluated Päikky service according to their gained experience. The collected data was a straightforward answer from the customers' perspective while using the mobile service at the day-care centres. In other words, it means that the data was an accurate re-

flection of what the customers felt, experienced and observed; therefore, the reliability of the gathered information can be assured and trusted. This study was also the first customer satisfaction survey on Päikky service, so there are no previous examples.

In the questionnaire design process, it was best tried to keep the questions simple so that the respondents would understand the clear concept of the question. The researcher attempted to accomplish the survey in a similar manner for each respondent. The questions structured by four point-Likert scales were carefully selected and designed in order to help the respondent to answer meaningful and reliable. Punch (2003, 58) says that meaningful refers to the idea that respondents can confidently and positively select the one response category for the item, which suit to them. (Further information see Chapter 5 and section 7.3)

## 6 Finding

In this chapter, the results from the respondents' answers to the open-ended questions are presented. The web-based survey involved four open-ended questions, and the results of the questions analysed were:

- How often do you use the service? If you answered “very rare” or “rare”, please give a reason?
- What do you expect from Päikky mobile service
- According to your experience, what should be developed in Päikky?
- Do you have good development ideas or other comments about Päikky service?

Analysis of the 169 written responses produced a total of 319 discrete observations across the data set. Mums' written responses represent 60,36% of the text data. Dads' written responses represent 16.57% of the text data, day-care staff' written responses 21.30% and other custodian 1.78% of the text data.

Three broad themes emerged from the analysis “Context value”, “In-use value” “and “Improving service”. The context value and the In-use value answer the research question: How do customers perceive Päikky-service in relation to a new technology-based service? The improving service explains the second objective of this study, what are the challenges and needs to improve this innovative service? The fourth theme, “The overall customer satisfaction” emerged from the Microsoft Excel analysis. All the results are aligned with the theoretical framework discussed in Chapter 3.

In order to present the reader with a clear and solid understanding of the data emerged from the content analysis; this chapter is divided into four parts. The first set of the analyses aims to provide an overview of this study. This part shows the general results obtained from the analysis of the web-based survey.

The second part aims to answer the central research question of this study, how do customers perceive Päikky mobile service in relation to a new technology-based service? Figure 6 shows the principal dimensions and inhibitors of the breakdown from the analysis. In order to assess these perceptions of mobile service, an abductive reasoning approach was used. An abductive reasoning approach moves back and forth from findings, theory and analysis (Debois & Gadde 2002; cited in Gummerus & Pihlström 2011, 525). The foundation of this study used the created framework of Gummerus and Pihlström to examine the overall users' perception and satisfaction of Päikky mobile service.

The original quotes in Finnish, the language that the participants employed in this study, is cited first succeeded by its English translation written in Italics. The role of the respondents is coded with letters P= Parents and E= Employer. Since customers took their time to reply and verbalise their answers, the researcher decided to include their "voices". As Sorsa, (2014, 24) emphasises in her academic work, "to make their voice heard."

The third part answers the first objective of this study, are customers satisfied with this type of service? In order to present the readers with a hard evidence of the overall customer satisfaction of Päikky mobile service, two charts are provided in section 6.3.2. The final part of Chapter 6 responds the second objective of this study, what are the challenges and needs to improve this m-service? Table 9 presents some of the main suggestions provided by both customers for improving the mobile service. Next, I give the overview outcomes of Päikky customers' perception

## 6.1 Overalls

In order to investigate the customer perceived value of the Päikky service, an overall customer satisfaction survey was conducted. Kotler et al. (1986, 12) stress, "customers are satisfied if their expectations meet perception.

Out of 288 web-based survey questionnaires served 112 people responded the survey, 79 of which were parents and 33 were employees. The response rate was 39.0%. Table 6 shows the distribution of the percentage of Sorvankaari, Tähkärinne, and Mutkapolku day care centres; and the five children's day care in private families. In addition, Figure 9 shows the participant's rate. In the charts, n= total valid number respondent.



	Employees n=33 Arrived / served Respond %	Parents n=79 Arrived / Served Respond %
Sorvankaari day care centre	16/20 =80%	19/60 =32%
Tähkärinne day care centre	6/26 =21,4%	30/75 = 40%
Mutkapolku day care centre	6/20 =30%	24/60 =40%
Children ´s day care in private families	5/5 = 100%	3/20 =15%

Table 6: Distribution of Percentages

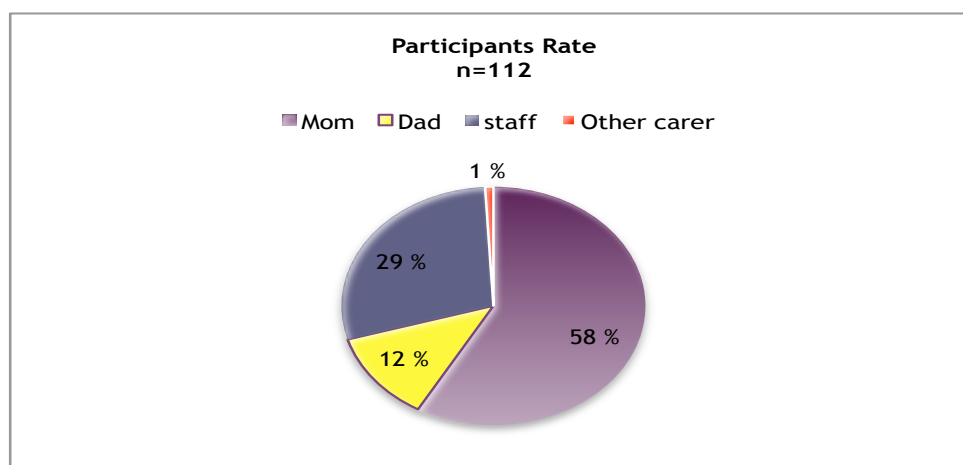


Figure 9: Participants Rate

## 6.2 Customer perceived value results

Chapter three provides an overview of services, customer perceived value, customer satisfaction and perception. In the study of Hobart, Frankel & Walker (2009, 5) perception is described as the act of an individual interpretation of his senses. In marketing, however, customer perception is defined as to how consumers perceive services and how they experience quality service around them (Zeithaml et al. 2009, 102). In other words, customer perception is influenced by the quality service, the perceived value and the satisfaction experienced by the consumers with the service or product.

In the present study, the issue under examination was the customer perception and satisfaction of Päikky mobile service. The development of context value and in-use value themes was based on an existing theory, the mobile value framework (Gummerus & Pihlström 2011). The

existing patterns in this theory were tested against observation from the analysis of the respondents' answers to the open-ended questions 18 and 19 (See Appendix 3). In other words, the researcher explored a known theory and tested if the arguments were valid in the given circumstances (Snieder & Larner 2009, 16)

Therefore, the themes under investigation were context value and in-use value. (Gummerus & Pihlström 2011) As observed in Section 3.4.2, the context value consists of four contextual elements, namely time, location, lack of alternatives, and uncertain conditions. Meanwhile, the in-use value is categorised by five value features emotional, monetary, performance, esteem, and convenience (Gummerus & Pihlström 2011, 526).

### 6.2.1 Context Value

Context value illustrates the customer value perceptions linked with the use of the context, the mobile device. Moreover, context value includes contextual elements and the conditional value (See Figure 10.) The conceptual framework describes that contextual elements originate dependent value, which lead to improving in-use value perceptions. Thus, the conditional value plays a crucial and pivotal role in the evaluation of understanding value as well. From the respondents' answers to the open-ended questions, the conditional value was found with the words "if" or "would".

The hypothesis of the context value consists of four value dimensions (See the section 3.4.2, for further study). In this study, the contextual elements emerged from the conventional content analysis were four, three of which are parts of the theoretical frame of reference identified by Gummerus and Pihlström (2011, 526). The fourth element emerged, the lack of knowledge, Gummerus and Pihlström mentioned in their conceptual framework; however, as part of the in-use-value. The epistemic value or the knowledge dimension was already identified by Sheth et al. in 1991 and indicated by Pura and Gummerus (2007, 41) in their analyses of value perception of mobile services. Their findings, however, lend support to the claim that this element is a critical and influential dimension between the context, the customer, and the objective that a customer evaluates. (See Figure 10.)

Although, most of the data sustain the contextual values from the used framework, this study, however, could not support the phenomenon of uncertain condition value. Thus, time, location, lack of alternatives, and epistemic value, which is the lack of knowledge, are the results for context value.

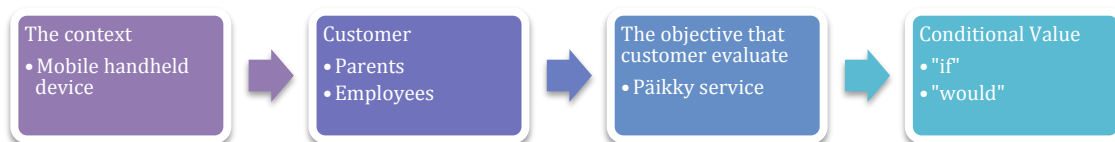


Figure 10: The elements in context value

Next, the evaluation results of Päikky service perception. (See Figure 11)

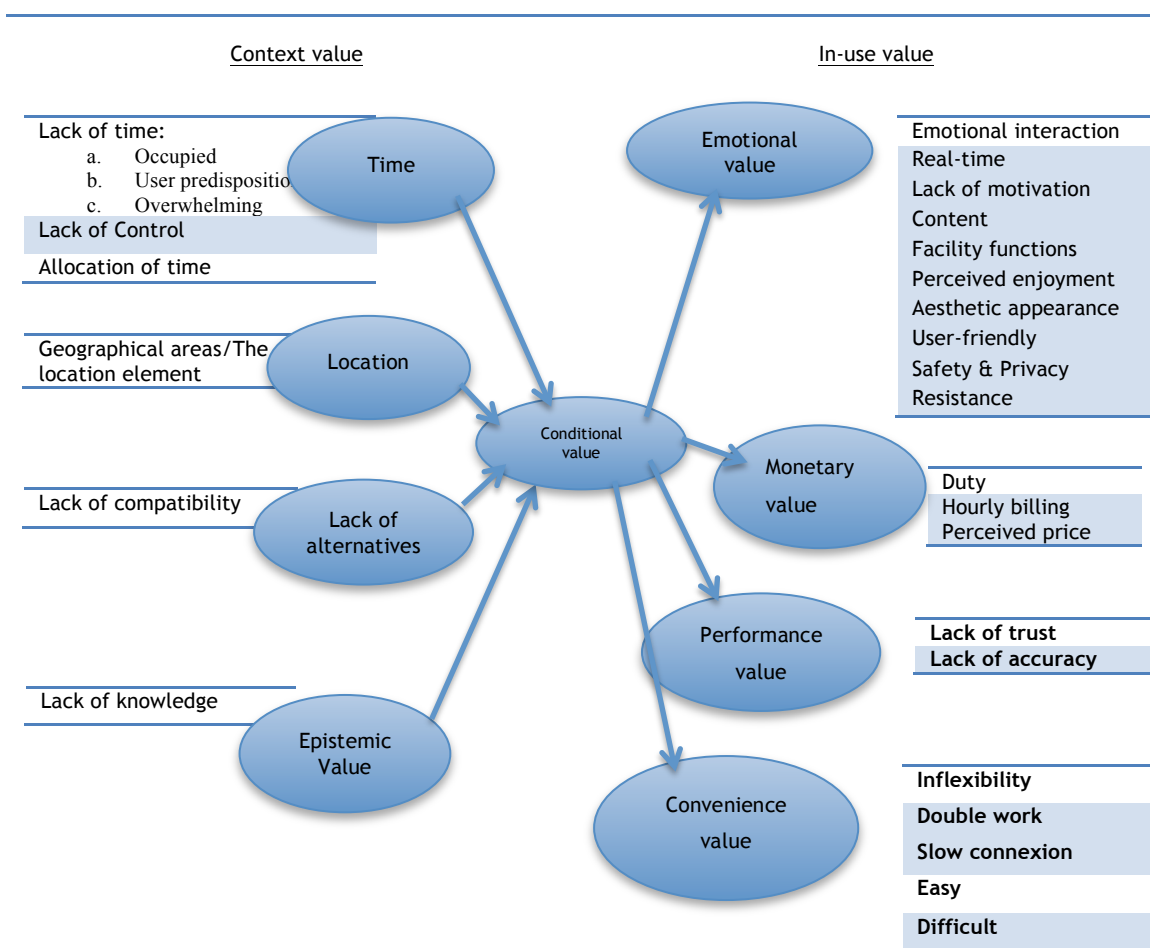


Figure 11: The framework of context value of Päikky service. Adapted from Gummerus and Pihlström (2011) study.

## Time

The first set of the analyses examines the impact of mobile context with “the time value”. According to the frame of reference, the time element consists of three characteristics, namely the lack of time, excess of time, and allocation of time. Gummerus & Pihlström (2011, 528) observe the time element as an advantage “the use of which is to be optimised”.

During the observation and construction of the time value, three aspects were distinctly perceived, two of which were part of the framework. The third suggested new element is “lack of control”. Therefore, lack of time, lack of control, and allocation of time are the three dimensions observed in the time value. As well, three new sub-dimensions rose from lack of time i.e. being occupied, (Pura & Gummerus 2007, 41) user predisposition, (Rao & Troshani 2007, 64) and overwhelming. These dimensions could be interpreted as inhibitors; reasons for customer refusal or their demotivation to access and participate in the mobile service. Similarly, these factors were related to the actual conditions, mood or circumstances that the respondents perceived at the moment of using the service.

#### “Lack of time.”

In the study of Pura and Gummerus, (2007, 38) “**occupied**” is related to the potentiality that a device might offer while multitasking. In this study, however, occupied emerged as an inhibitor value instead of a potential value to facilitate a condition or circumstance. Occupied was observed in situations when a person performs various duties whether at home, school or work; consequently, there was no “time” to explore the mobile service. As one respondent described:

“Vuorokaudessa ei tunnit riitä surffailuun. Työkin on tien päällä oloa eikä toimisto hommaa, niin ei kerree työaikanaan käydä tutkimassa”.

“Not enough hours in the day to surfing the web. In addition, the work is on the road and not in an office; therefore, during working hours there is no time to explore the service”. -P-

This comment illustrates and reflects the actual mood that many working people tackle during a regular day. Besides, it reflects the various activities and responsibilities that a person might carry out in an everyday practice. Therefore, the chances to engage in a service or to surf the Internet for information were limited due to lack of time experienced. Another respondent just wrote:

“Ajanpuute”. -T-

“Lack of time”. -E-

Respondents in general perceived Päikky as a positive m-service tool, but they also experienced that they did not always have “time” to access or engage in the service because of

their duties and other activities. Similarly, respondents associated the lack of time to feelings of being exhausted or too occupied to access the service after a hard day at work or school.

“Varmaan hyviä juttuja mutta ei vain ole aika istua ruudun ääressä”.

“Surely good things, but I just don’t have time to sit around the screen”.

-P-

In the above sample, the mother denotes that the mobile service might be a good service, but external factors such as feelings and life circumstances did not invoke the respondents to engage in the service. Alternatively, these conditions restrained the users accessing the whole experience of Päikky mobile service.

“**User predisposition**” was the second dimension perceived by the respondents. User predisposition refers to “the internal factors of an individual user of m-services”, including the skill and attitude towards technology that enable a person to perform a duty or an activity online (Rao & Troshani 2007, 64).

“Inhoan tietokoneita koska en osaa kunnolla käyttää niitä. Lisäksi neljän lapsen työssä käyvänä äitinä koen että minulla on iltaisin tärkeimpiä tehtäviä kuin istua koneella ja lukea helmiä ja Päikkyä”.

“I hate computers because I do not know how to use them appropriately. In addition, as a working mother of four children, I feel that in the afternoon, I have more important tasks to perform than to sit at the computer and read Helmi and Päikky”. -P-

Regarding the quote above, it can be concluded that the respondent did not only have to handle Päikky mobile service but also Helmi service. (Helmi is another type of IT mobile service used in schools) However, she also bestows a critical predisposition which perhaps it is the principal reason for refusing to access the service. She said, “I hate computers because I do not know how to use them appropriately”.

According to Rao and Troshani (2007, 64) user predisposition is a powerful internal inherent that influences the way in which a person sees and relates to technology adoption. They define user predisposition “as the collection of factors including the individual’s prior knowledge and experience”. In addition, this factor is associated with the lack of skills that a person might have with using technology. Nowadays, technology enables humans to perform different activities on the Internet. However, it should be considered that there are times

when technology only becomes a nuisance rather than a pleasure. Johnson, Bardhi & Dunn (2008, 416) affirm that often consumers are pleased with the benefits of technology, but they are also confused and annoyed by technology. Overall, this result could indicate that people do not necessarily have the knowledge, neither the skill nor the resources to perform an activity on the Internet as normally expected or presumed.

“**Overwhelming**” emerged as a negative feeling, both from the staff’s and from the parents’ perspective. However, overwhelming was seen as an adverse condition in the working environment. Day-care staff perceived Päikky mobile service as an excellent “idea”, but they felt that an extra work added along with their responsibilities overwhelmed instead of assisting them.

“Vanhemmat voisivat itse klikata lapsensa saapuneeksi hoitoon, kun työntekijöiltä se saattaa kiireessä unohtua ja sen saattaa muistaa vasta muutaman tunnin päästä lapsen saapumisesta hoitoon”.

“Parents could sign in/out the attendance of their child because in a hurry situation, nursemaid easily forgets to do it and possibly remembers to sign the child’s attendance several hours after the child’s arrival”. -E-

In this example, the respondent attempts to communicate the reality that occurs at kindergartens, and thus those circumstances can diminish the accuracy and trustworthiness of the service as well. In this study, these difficulties seemed not to be secluded from parents. Therefore, it was interesting to notice that several participants (parents) admitted that an extra-added responsibility to the day-care staff could restrain their pivotal role at work. One father emphasizes his concern by writing:

“Hoitajille helppoutta! Helpotusta ei lisää töitä! Sähköinen juttu on loistava mutta ei korvaa suullista kanssa käymistä, vaan täydentää sitä”.

“Easiness to the staff! Easy, no additional work! Electric service is a great thing; however it does not replace the oral interaction, only supplements it”. -P-

### “Lack of control”

This dimension was related to a situation where the user “wishes” to get control over external factors in order to acquire the benefits promised in full. Nevertheless, the lack of control over external circumstances limited the chances to access those “wished services”. This ef-

fect was observed in various situations. The most noteworthy argument was parents contradicting their reasoning towards the extra work added to the day-care staff. Parents hoped to acquire more utilities, material and interaction through the mobile service. Parents seemed to understand the lack of time in day-care centres; nevertheless, they still expected to obtain more pictures, daily reports and messages in their folders. For instance, two of the participants commented as follows:

“Olisi myös ihanaa jos joskus tulisi kuva tai vähän kertomusta mitä päivän aikana on tapahtunut, kuten Päikyn infossa ”lupailtiin””.

“It would also be nice if sometimes (in the Web page) would come to a picture or a small daily note of what has happened during the day, as at the Päikky ”was promised””. -P-

“Ymmärrän hyvin että päiväkodin henkilökunta ei ehdi lähettellä kuvia päivän touhuista ja tiedottaa asioista. Lasten hoitaminen ja ohjaaminen on kaikkein tärkeintä”.

“I understand very well that the day-care staff do not have time to send photos or information of what has happened during the day. Caring for the children and guidance are the most important thing ”. -P-

In these two examples, the factor of lack of time is repeatedly observed. In addition, these results provide valuable perceptions to understand other indicators that might influence and affect the arguments whether to participate and access the mobile service.

### **Allocation of time**

“**Allocation of time**” was associated with situations when a person used Päikky service to optimise the use of time (Gummerus & Pihlström 2011, 528)

“Päikyssä käyn siis laittamassa vaan hoitoajat ja mielellään vielä kerralla pidemmäksi aikaa”

“I only access Päikky to book the care schedule and preferably at once for a long time”. -P-

“Opiskelijaäitinä ja lukujärjestysten saaminen ja Päikky sovellus on aiheuttanut sen, että oli pitkä katkos etten ole ilmoittanut päikyssä mitään aikoja”.

“As a student mother getting a school’s timetable plus Päikky application has caused that there was a long period that I did not inform any timetables at Päikky”. -P-

These two examples show that customers used the mobile service, but for some reasons or another, they spent minimal times on it. Perhaps, there are several possible explanations for these comments. First, the respondents’ busy life enforced them to optimise and maximise the use of time in order to achieve other activities. Second, the Web page’s content is irrelevant, and thus the respondents were demotivated to access the service. Finally, the service was complex and difficult to overcome and explore.

### Location

**“The location element”** was associated with the customers in certain geographical areas where the connectivity did not cover the area or worked with less intensity in the operating area.

“Mutkapolun yhteydet ovat huonot ja näin ollen päikyn toiminta on ajoittain epävarmaa. Henkilökunnan kirjaukset ei aina paikkansa pitäviä, jos Päikky ei toimi töihin tullessa ja kirjaus onnistuu vasta myöhemmin, kuinka kirjauksen saa muutettua ettei näytä myöhästymiseltä?

“Mutkapolku connections are weak; therefore, Päikky performance is at times uncertain. Staff postings are not always accurate; if Päikky does not function when arriving and entering an attendance record it succeeds hours later, how can posts be changed so that it does not look like being late? -E-

In the example above, the respondent made an explicit geographical reference to the unfortunate connection to Päikky service. Particularly in Mutkapolku kindergarten, which is located in Rajamäki town, about 10 km from Nurmijärvi. In addition, he emphasises that this issue might produce disagreeable and unrealistic results to the attendance records of the children and day-care staff; consequently, this issue might cause serious problems in billing and wage records.

“Yhteys on usein hidas tai jumittaa kokonaan”.

“The connection is often slow or freezes completely”. -P-



“Nopeutta/parempia yhteyksiä. Ei ole aikaa odotella, että yhteys löytyy”

“Speed/ better connection. There is no time to wait the connection to be found” -E-

According to the framework of Gummerus and Pihlström (2011, 528), mobile services enable people to use services without moving from current locations. However, in the next examples people seemed to struggle with the service because of locations. As well, it is possible to denote that the service of Päikky seemed “not to help to overcome location-based barriers”. Therefore, Päikky apparently did not provide a sound service in remote or in particular locations.

Both customers perceived the mobile connection as too slow. Perhaps, one of the reasons is related to the area where the kindergarten was located, and thus the Internet connectivity system did not work well. Alternatively, Päikky Internet service provider did not have a sound backbone to cover, reach, and perform long-distance data communications, particularly in remote geographical areas. Backbones consist of switches and network routers that are connected by Ethernet cables. These elements are essential because they assist the transference of network traffic at high speeds to maximise the reliability and accomplishment of large-scale, long-data communications (Bradley 2015, para2).

### **Lack of Alternatives**

“**Lack of compatibility**” was associated with the lack of alternative devices available to access m-service. Frequently, respondents cited that Päikky app and browser were not compatible with their available gadgets. Cornescu and Adam (2013, 459) point out “It is impossible to adopt a new operating system is (available) devices cannot run expected operations”.

“Nyt vasta tuli tutustuttua palveluun[...] syy tähän on, että palveluun en pääse puhelimella ja oma tietokone on rikki”.

“I just got familiar with the service [...] the reason for this was that I could not access the service with the mobile, and my computer is broken”. -P-

“Olisi hirmu hyvä jos palvelusta olisi kunnollinen mobiilioptimoitu versio, joka toimisi hyvin mobiilisovelluksen kautta. “Yhtä helposti kuin Facebook tai tekstiviesti”.

“It would be excellent if this service would have a decent mobile optimised version that would work well on the mobile application as easy as Facebook or text messages”. -P-

For some reason or another some respondents seemed not to be able to access the service with alternative devices, whether it was a smartphones, tablets or PC.

“Sitä pitäisi voida käyttää myös puhelimella. Toimii nyt vain pöytäkoneella, ei toimi puhelimella eikä tabletilla”.

“It should be able to be used with the phone. So far, it only works with the desktop computer, but not with the phone either with the tablet” -P-

“Palvelu ei toiminut Nokia 920:ssa. Koti Macissa toimii”.

“The service did not work with Nokia 920. At home, it works with Mac”. -P-

It seems that Päikky application (app) was not compatible with the variety of mobile operating systems and designs that existed in the market such as IOS or Android. Either it was compatible with different brands of tablets and desktop computers. This implication seems to contradict what Päikky providers promised the customers that the service worked with all types of available devices. According to MukavaIT, (2014) Päikky is a web-based system, and thus it is available for all devices with web-browser.

“Web-selaimella ei ole toiminut minulla oikein, älypuhelimella OK”.

“The Web browser has not worked correctly, with the smartphone OK”. -P-

“Enemmän selaintukea. Nyt ei pysty kännykästä katsomaan tai äidin työpaikalta”.

“More support for the Web-browser. Now, I am not able to reach it from my phone nor from my mother’s (computer) workplace”. -P-

The respondents seemed be interested to access the mobile service, but these inhibitors made it nearly impossible to use it. As a result, these effects created a poor performance of Päikky achievements; consequently, the service became less attractive to the users.

### Epistemic value

“**The lack of knowledge**” was perceived when a user showed interest and sought to gain more knowledge and information about the new product or service. In this study, many customers claimed more guidance and education on how to access the service and learn from its benefits. They also expected more technical support from the mobile providers and more guidance and knowledge from the day-care staff.

“Alku erittäin epämääräinen, info huonoa. Pk:lla järjestettyyn infoon en työn vuoksi päässyt ja siten info niukkaa. Kysely hoitohenkilökunnalta tuloksetonta sillä he eivät osanneet sitäkään vähää neuvoa/kertoa. Palveluna hyvä, mutta enemmän tiedotusta olisin kaivannut”.

“The beginning was very vague, poor information. I was not able to attend the info organised at the day-care because my work and then the info is sparse. The inquiry from the staff was unproductive since the staff did not even know to give advice. The service itself is good, but I would have needed more informing ”. -P-

In the quote above, the user communicated that she would have used the mobile service if she had gained more knowledge, guidance and information on how to use and access the service. She wrote, “to get a bit of advice”. In her commentary, she also indicated that Päikky is an important mobile service, but more effort should be put on providing the users with the necessary information, training, and education about the service.

“En oikein osaa sanoa, koska en tiedä mitä kaikkea se pystyy tällä hetkellä tarjoamaan. En ole saanut sen käyttöön riittävästi opastusta”.

“I cannot say anything because I do not know what all it can currently provide. I have not received enough guidance on its use”. -E-

In the above example, the respondent expressed her dissatisfaction with the poor or non-existent training offered to the day-care staff. Moreover, she stressed “I cannot say anything about the service since the lack of guidance. The factor of lack of knowledge was found four times in the texts. This element, however, was more emphasised by the day-care staff than by parents. Staff expected to receive more training and knowledge about the service that they were managing. For example, one comment was limited to the limited knowledge that the employee handled in the mobile service.

“Kirjaan lähinnä vain sisään ja ulos toiminnot”.

“I only log the in and out functions”. -E-

In the words of Grönroos, (2005, 12) mobile phone’s customers consider that they get value in the process of communicating with others, paying billings and operating on the Internet. In addition, he also states if these features do not function, a mobile phone with all technical capabilities is not sufficient then. In general, customers evaluated Päikky service as a sound mobile service, but more should be done. These findings corroborate the ideas of Gummerus and Pihlström (2011, 530) who suggested that contextual elements act as filters between the value offered by the business and the current service experience. Moreover, it influences the customer’s use and adoption of a mobile service. Although the results of these findings did not portray positive dimensions but rather inhibitors, still the current study confirms that these results were connected with the context, the customers and the service that they assessed. Consequently, they originate conditional value, which leads to improving or reducing in-use value perceptions.

Next, in-use value results are presented.

#### 6.2.2 In-Use-Value

“The In-use value” includes five contextual elements, namely the emotional, esteem, monetary, convenience, and performance value (Gummerus & Pihlström 2011, 526). In this study, however, four distinctive contextual elements were observed. These emerged elements illustrated how customers experienced the mobile service. Respondents evaluated Päikky service according to their gained experience while using the service and according to the filter elements between the application context and the mobile service. Next, the emotional value and its subcategories are presented.

##### **Emotional Value (The Real-time Value)**

According to Sheth et al. (1991, 161) an emotional value refers to the perceptual benefit obtained from a service or goods' potentiality to increase feelings or affective emotions. In this study, ten sub-dimensions emerged from the qualitative content analysis. These new situational factors or sub-categorised terms are the emotional interaction, lack of motivation, content, facility functions, perceived enjoyment, aesthetic appearance, user-friendliness, safety and privacy, and resistance.

**“The emotional interaction”**. In general, customers (mostly parents) were satisfied with the present mobile service. However, they expressed feelings of disappointment about the lack of

interaction and participation through the service. Parents were critical about the lack of interaction between parent-staff; therefore, they expected more involvement from the day-care staff. For instance, one respondent said, “the communication should flow through Päikky more actively”. It was also suggested that if everyone uses the service, this activity would “affect” positively the customers to use and enjoy the potentiality of Päikky service.

However, this thought was not fully supported by many respondents, as one participant argued, “Päikky does not replace the face-to-face contact, it will only enforce it”. In the pilot project, however, the communication of parent-staff was seen as normal as usual since the face-to-face or oral communication and notification papers flowed as usual.

“Sitä ettei koskaan korvaa jutustelua päiväkodin väen kanssa, vaan toimii apukeinona.”

“It will never replace the chit-chat with the staff, it only works as an assistance tool”. -P-

The adjectives “active” and “interactive” were employed 14 times by the parents, especially. The following examples provide responses (mostly from parents) that described parents’ desire to use service more actively, as well as their “call” to the nursemaids to use this system as a mediator frequently.

“Toivon että hoitajatkin käyttäisivät ahkerasti tätä niin se tarttuu vanhempiin”.

“I hope that the staff would use the service more actively so that parents would get more motivated to use the service”. -P-

“Oikeasti interaktiivista keskustelua kodin ja hoidon välillä”. -

“Truly interactive communication between home and the day-care staff”. -P-

“Kaiken informaation pitäisi tulla Päikyn kautta (tapahtuma yms.) Koska itse vien ja haen lapseni sellaiseen aikaan ettei oman ryhmän ovi ole auki, joten tiedotteet jäävät hyvin usein lukematta”.

“All the information should come via Päikky (e.g. Events). Since I drop and pick up my kids at times when the doors of my group are still closed, very often the information remains unread”. -P-

“**Real-time**”. Päikky was presented as an instrument to improve, assist and reinforce the daily communication with the parents. In addition, it was introduced as an online mobile service to connect parents, staff and management board into one unit department (MukavaIT 2013a).

“Päikky mainostettiin meille niin, että voit reaaliaikaisesti seurata lapsen päivää päiväkodissa yms. Viimeksi Päikkyyn on tullut joku kuva lähes vuosi sitten ja muutkin viestit ovat enemmän olleet asiapitoisia (mukavampi olisi kuulla vaikka että tänään oltiin pulkkamäessä). Se on kyllä hyvä että asiapitoisia viestejäkin tulee tätä kautta, voisi tulla enemmän infoa ajankohtaisista asioista”.

“Päikky was advertised so that you can monitor in real-time the child's day activities at the kindergarten. However the last received picture in Päikky was a year ago and the old posts have been there for long time (It would be nice to hear e.g. "today, we were sledging"). It would be nice that more messages would come through this way; perhaps there could be more info about current issues”. -P-

“Että se vähentää täytettävien paperien määrää tulevaisuudessa ja antaa reaaliaikaista tietoa lapsen hoitopäivästä”.

“It reduces the amount of filled paper in the future and it gives real-time information of the child's day at care”. -P-

Although the core service of Päikky was the real-time communication, it seemed that this function did not work. Thus, the real-time and lack of interaction between parent-staff were elements that undoubtedly affected the customer's value perception. Both customers pointed out that the real-time advertised did not work as expected.

“**Lack of motivation**”. Parents saw Päikky mobile service as a valuable opportunity to acquire an emotional value to their child. At the beginning of the pilot project, parents seemed to be highly motivated to access and use the service. However, for some reasons, the adverse outcomes of the real-time value influenced their judgement on Päikky service. Twenty parents expressed feelings of disappointment and indifference towards the service. Despite these feelings, however, a few respondents blamed these factors for being the causes of not accessing and using the service.

“Ei vaan tule käytyä. Varmaan tulisi käytyä useammin jos siellä olisi enemmän sisältöä (Viimeisen puolen vuoden aikana kolme viestiä)”.

“I just do not visit it. I would probably visit oftener if there were more content. (In the last six months only three messages)”. -P-

“Alussa käytin palvelua useasti ja motivaatio sen käyttämiseen oli suuri. Kuitenkin jatkuva kirjautuminen ja huono mobiilitoimivuus on karsinut käyttöä”. -

“At the beginning, I used the service often and the motivation was high. However, the continuous logging in and the bad mobile functioning have diminished the use of the service”. -P-

“Koemme kummassakin vielä erittäin paljon puutteita, osittain teknisiä, mutta osittain enemmänkin päiväkodin puolelta kaipaisimme huomattavasti suurempaa aktiivisuutta”

“We still experience very many deficiencies, partly technical ones, but partly we would especially wish more intense activity from the kindergarten side”. -P-

“Kommunikointi on siirtynyt takaisin tekstiviestittelyyn hoitajan kanssa. Haluaisin kovasti käyttää palvelua mutta sen kehittämisessä käteväksi työkaluksi on vielä jonkin matkaa. Toivon kuitenkin että palvelu kehittyy nopeasti”. -

“The communication has moved back to SMS with the nursemaids. I would really like to use the service, but there is still a long way to go to be developed as a handy tool. I hope that the service progress quickly”. -P-

Moreover, respondents (mostly parents) singled out that the apparent lack of motivation by the staff toward adopting the mobile service might be rooted in the lack of training or limited interest given to the service. The next examples illustrated these hypotheses from the customers' perspectives.

“Päikky on varmasti hyvä, kun se otetaan aktiivisesti päiväkodin käyttöön! Käyttäjien (päiväkodin henkilökunta) perehdytystä varmaan pitäisi lisätä, jotta paperisälästä oikeasti päästäisiin”.

“Päikky for sure is a good service when is actively used in the kindergarten! Training for the staff should be increased in order to get rid of junk papers”. -P-

“Motivoida Päiväkotia käyttämään palvelua tehokkaammin ja monipuolisemmin”.

“To motivate the day care (staff) to use the service more efficiently and versatile”. -P-

“**Content**”. Similarly, the web page outlook seemed to influence the respondents' judgements towards the content of the mobile service. The lack of motivation was not always related to the "non-existing real-time interaction between parent-staff but also to the poor or inattentive content found in the Web page of Päikky and application. Respondents hoped to visualise more content and function options that would prompt them to access the web portal of Päikky. For instance, they expected to see more photos, an event calendar, a notice board or the weekly menu.

“Olisi mukava saada kuvia lapsen päivästä”.

“It would be nice to get pictures of the child's day”. -P-

“Siellä voisi olla myös päiväkodin “tapahtumakalenteri” jossa mm. yhteiset tapahtumat kuten valokuvaus yms. Olisi merkittynä”.

“There could also be a kindergarten “event calendar” in which, everyday events such as photography should be marked” -P-

“**Facility functions**”. Also, respondents hoped and suggested new function to catalyse other options in the service of Päikky. In accordance with several parents' comments, these proposed functions could facilitate and improve the work and operation of the service as well as to increase the customers' adoption and use of the service.

“Muistilappuosioita johon kirjata esim. Pihalla tulevia asioita vanhemmilta”.

“A note function where to write down, for example, upcoming yard matters from parents”. -E-

“Lisää toimintoja esim. Ilmoitustaulu jolla voisi ilmoittaa sairaudesta tms menosta nopeasti hoitopaikkaan jossa vielä lukukuittaus Facebook:in kaltaisia toimintoja”.



“More functions, for example, a notice board that I could quickly inform about an illness. A function that shows that the messages have been read, such as the Facebook has”. -P-

**“Perceived enjoyment”**. Although, several parents criticised the lack of real-time interaction, a few parents, however, thanked the achievement of Päikky as a service. The experience of receiving a “concrete value” was described for one family as “a nice thing”. Rao & Troshani (2007, 66) say that a value that affects positively can influence in the attitude of people judgements towards a service or product, and thus to add an emotional positive value.

“Meistä on ollut kiva juttu, että myös valokuvia on laitettu Päikkyyn”.

“For us, it has been a nice thing that also pictures are put in Päikky”. -P-

In this example, it was possible to discover the positive impact that the service generated and provoked in the customer’s judgements towards the service. The parent indicated to feel joy when pictures of their child were downloaded in their profile information.

**“Aesthetic appearance”**. The word aesthetic was observed three times in the respondents’ answers. Aesthetic was associated with the appealing look of Päikky web page and App. Aesthetic is usually connected with beauty and appeal. It is something that produces pleasure because of the harmonisation that works in itself. Three parents, however, perceived that the aesthetic appearance of Päikky was not harmonic rather it was unpleasantness and unfriendly. Next, two examples illustrate these opinions.

“Käyttäminen on ollut yksinkertaista, joten en oikeastaan ole mitään sen kummempia ohjeita kaivannutkaan. Päikyn näkymät ovat selkeät, mutta melko alkeellisen näköiset, mutta haitanneeko tuo?”

“The operating has been simple, so I have not felt that more guidance is needed. Päikky prospects are clear, but the aesthetic appearance is primitive but does that matter?” -P-

“Palvelu tulisi tehdä paremmin puhelimella käytettäväksi (vaikea käyttää kun joutuu selaamaan Päikky sivua puhelimella sivuttaissuunnassa, ei mahdu näytölle)”

“The service should be created more usable for the phone. (It is hard to use when forced to browse the Päikky page on the phone side-scrolling, does not fit on the screen)” -P-

**“User-friendly”**. This characteristic goes almost hand in hand with aesthetic appearance. However, this factor was more related to the perceived quality and appearance of the application and browse of Päikky. In the next examples, both respondents assessed these factors as being of an inferior quality and simplistic appearance.

“Mobiilikäyttöä ajatellen kehitettävää riittää enemmänkin paremman käyttömukavuuden osalta. Koko palvelu tuntuu aika ”kapulaversiolta”, uskoisin tällaisen palvelun olevan mahdollista toteuttaa laadukkaamminkin”.

“Concerning mobile use there is much to be developed regarding better user-friendliness. The whole service feels like a very “simple version”, I believe it would be possible to implement this kind of service with more quality”. -P-

“Sivusto ei myöskään ole kovin käyttäjäystävällinen, eikä ohjelmaan pääse kännykällä. Positiivinen asia on, että s-postiin tulee ilmoitus kun sivulle on tullut viesti. (Tosin kesti todella kauan, ennen kuin löysin viestit ohjelmasta!)

“Neither, the Web-site is very user-friendly, nor can the programme be accessed with the cell phone. The positive thing is that there is an e-mail notification when a message has arrived on the page of Päikky. (Though it took me a long time before I found the messages in the programme!)” -P-

**“Safety and privacy”**. Another important subcategory that rose in the analysis was linked to security and privacy of the service conditions. Two parents seemed to be aware of the security and privacy of the mobile system. Even though they admitted interest in using and accessing the service; however, they also describe to be unsure about the safety and privacy of the service. They argued that they did not want other people to know their child’s information, for example, where their children’s kindergarten is located. Even though, Päikky assured parents the security and safety of their child’s information. Still, this issue seemed to be unknown and imperceivable by the respondents.

By way of example, in the web-based survey questionnaire, question number 16, parents were asked to scale how do they feel writing personal information about their children on the Internet. The chart showed (See Appendix 3) that 14% of the parents felt sufficiently secure, 24% secure, 46% reasonably safe and 8% totally insecure. Feeling insecure when writing down

information about their children is high and reveals that more work the service must do in order to provide customers high levels of safety and privacy standards.

“Toivon että tietoturvaan kiinnitettäisiin erityistä huomioita. Minä en esimerkiksi halua että kaikki tietävät missä lapseni käy hoidossa ja mitkä ovat hoitopäivän päivittäiset rutiinit”.

“I hope that particular attention should be given to security. I, for example, do not want that everybody knows where my child goes to kindergarten and what are the daily routines”. -P-

“Palveluna on hyvä, mutta enemmän tiedotusta olisin kaivannut. Esimerkiksi miten toimii, miten tietoturva ja hoitajien välinen salassapito toimii?

“(Päikky) As a service is good; however, I would have wished more information. For example, on how it does work and how the information security and privacy (confidentiality) between the caregivers works?” -P-

“**Resistance**”. This inhibitor was observed in this study, however, in an only small fraction of the responses. Nevertheless, this effect is very critical to understand and to undertake. In section 3.5 the importance of this indicator was discussed. According to Cornescu and Adam (2013, 458) resistance happens when customers perceive the risk of changes being greater than the benefits. Ram and Shet (1989) have defined that the consumer resistance to innovation is the representation of an adverse reaction toward innovation because of the potential changes or the confliction with belief structures. Therefore, it can say that resistance to innovation is how consumers react to new or improved products coming onto the market” (Cited in Cornescu & Adam 2013, 457).

“Lopettakaa koko pelleily”.

“Please stop fooling around”. -P-

“Jos tietoa lapsen päivästä tulee Päikyn kautta, se on vähän hidasta. Siinä ei voi esittää kysymyksiä, kuten keskustelussa päiväkodilla lasta hakiessa. Keskustelu siis parasta”.

“If the information about the child ‘day comes through Päikky, it is a bit slow. It is not possible to ask questions there, like when having a conversation while picking your child from day-care. Discussing (face-to-face) works best”. -P-

## Monetary value

The monetary value was evaluated from a different perspective as was suggested and seen from the frame of reference used in this study. For example, the framework shows that mobile service prices are perceived positively. This perception is partly because mobile services are often cheaper than other optional channels. Thus, customers tend to think or perceive that by using mobile payments the monetary sacrifices are less (Gummerus and Pihlström 2011, 530). In this study, the service is not priced lower in comparison to other alternatives; however, this service seems to provide an economical fee payment solution for parents. In other words, the introduction of this mobile service would benefit parents to pay fewer child costs than the traditional way used in day-cares since payments would be based on hourly rate and not for a fixed price.

In this study, parents experienced a non-traditional arrangement to calculate their future payments. This experience implied that parents could see the fee payment according to the hours that a child is present at a day care centre. Moreover, the initiative of the Finnish government is to encourage parents to be at short-term part-time work.

Then, the evaluation of this study was focused on how parents perceived the value of hour based billing model. Both, parents and employees, acknowledged being very concerned about the hourly billing system since it was not yet clear who would be responsible for fulfilling this action. This concern arises because the integration of the billing model in day-cares would mean the reduction of fee payments (for parents) and for the day-care staff and administration the better use of human resources at kindergartens. In this study and particularly in this contextual value emerged various comments and thoughts. Moreover, two new elements appeared - duty and hourly billing; the perceived price was part of the framework. Next the duty dimension is presented.

**“Duty”.** There were repeatedly comments about who would be in charge of recording the attendance (signing in and out) of the children in the system. The participants were referring to this as follows.

“Jos laskutus tuntitaksan mukaan, niin kirjaaminen voisi olla vanhempien vastuulla”.

“If billing is according to the hourly used, so attendance record should be in the parents’ responsibility”. -E-

“Jos Päikky otetaan käyttöön, vastuu hoitoaikojen kirjaamisesta tulee olla vanhemmilla eikä päiväkodin henkilökunnalla”.

“If Päikky takes place, the responsibility of the signing in and out should be of the parents and not the kindergarten staff”. -E-

These comments arose because, during the third parents' info meeting, Päikky service suppliers shared that the third phase of the pilot project would be incorporating into the system the hourly billing programme. This introduction means that parents can visualise the hourly billing fee, according to the hours used a day-care centre; however, this billing fee will not affect the current cost payments.

**“Hourly billing”**. The aim of this phase was to introduce the parents with the purpose, benefits and advantages of this particular function in the system. However, it seemed that the function did not work as expected or promised. Now, the question that arises is what exactly did not work in the system, the designed service or the user's predisposition towards the service? In the next example, a customer provides an excellent illustration to demonstrate this situation that the hourly billing function did not perform as expected.

“Tiedotus kulkee päiväkodin ja kodin välillä sekä suullisesti että paperiversioina. Ei ole ollut tarvetta sähköiseen viestintään. Päivähoitoaikojen syöttö järjestelmään on hankala. Eikä se varsinaisesti palvele tarkoitustaan sillä, että se vaikuttaisi päivähoitomaksuihin esim. alentavasti. Ilmoitettu hoitosuunnitelma 08:00-16:00, toteutuma 07:00-15:00 laskutus kuitenkin 07:00-16:00!!!. Lisäksi käsittämätöntä, että edes ilmoita muutos-toiminnallisuudella etukäteen ilmoittamalla, että hakee lapsen aiemmin, se ei kuitenkaan vaikuta maksuun. Ohjelmaa on vanhemmille markkinoitu sillä, että päivähoitomaksu määräytyy päiväkodissa olleiden tuntien mukaan. Näinhän se ei tällä systeemillä toimi. Laskutus tulisi toteuttaa todellisten tuntien mukaan”.

“The information flows between home and day care as well as face-to-face and notification sheet. There has not been a need for electronic communication. Delivering the day care times in the system is complicated. It does not serve the purpose that it would affect the day-care fee. It was informed the day care plan 8:00-16:00, but in reality was 7:00-15:00, however, the billing was 7:00-16:00!!! In addition, it is unbelievable, that even informing in advance that I will pick up the child earlier the notify change function does not work, and it does not affect the fee either. This service has been marketed that the child-

care fee is determined according to the hours used in the kindergarten. However, with this system it does not work. Billing should be according to the real times used". -P-

Here, in the above example the respondent made a notable observation about the hourly billing function. The respondent alleged that the attendance records (sign in/out) did not work as expected. Moreover, it did not affect the payments, although changes in the schedule calendar were done. In the next example, another respondent perceived a same situation.

"Pitäisi päivittää lapsen tuonti ja hakuajat reaaliaikaisesti".

"It should update the arrival and pick up times of the child (sign in, sign out) in real-time". -P-

Regarding the payment fees, manifold respondents expressed the view that the billing mode should have functioned for real during the pilot period and not just as a testing process. Many respondents stated that if this action had functioned "in it is full capacity", this element would have added and provided more value and hard evidence to the customers about the accuracy and efficiency of the service. In addition, it would have provided better understanding of this function in the system.

"Päikky pitäisi ehdottomasti ottaa käyttöön täydessä laajuudessaan eli niin, että sen kautta todella seurattaisiin hoitoaikoja ja hoitoaika vaikuttaisi hoitomaksuun".

"Päikky should definitely be taken into use in it is full capacity so that you could actually follow the care times and so, this would affect the payment". -P-

Similarly, another respondent argued that was "unnecessary to visualise" invoice amount on the screen. Since, the service was not yet in use.

"Lisäksi Pääkyssä näkyy tällä hetkellä "laskun summa" joka on kuitenkin eri kuin kotiin tupsahtavan laskun summa. Vaikka kyseessä on pilotti niin olisi voinut piilottaa koko tiedot, koska laskupalvelu ei ole vielä käytössä".

"Also, in Päikky can visualise at the moment the invoice amount (fee) that differ from the invoice amount that come to our home. Although, this is a pilot"

service, that sort of information should have been hidden because the invoice service is not in use yet”. -P-

“**Perceived price**”. The monetary value was highly discussed in the texts by both customers. Nevertheless, parents seemed to be more concerned about this feature than the employees since this perceived price of use would affect positively or negatively the future fee payments. Some parents expressed happiness that the service was not yet fully undertaken.

“Välillä järjestelmä kirjaa lapset paikalla olleeksi vapaapäivänäkin. Epäilemme ohjelman tekevän sen itse, sillä kellonajat kummallisia. Toki henkilökunnankin kirjaamisessa on kehittämisen varaa. Onneksi maksut eivät vielä mene kirjauksien perusteella, sillä todelliset hoitoajat on usein aivan jotain muuta kuin mitä kirjauksien mukaan”.

“Sometimes the system is logging in the children though they are having a day off. We suspect that the system is doing logging itself because the times input there are very odd. Of course, the personnel needs to improve the use of the functions. I am happy that the payments did not go according to the time attendance recorded because the real care time was something else than in the system”. -P-

### **Performance value**

This value describes how a service is performing its work (Gummerus & Pihlström 2011, 530). In the study, many respondents referred to this contextual element regarding the accuracy and trustworthiness of the service. One could argue that these elements could be somehow embedded into other value contextual dimensions than in the performance value. In this study, however, these dimensions played a critical role in how customers evaluated the performance of Päikky mobile service. In other words, these elements illustrated why this service, according to some respondents “did not do its job”.

Performance value consists of two subcategory elements the lack of trust and lack of accuracy. In the next example one customer commented:

“Mobiilitoiminta ei toimi alkuunkaan. Älypuhelimella Päikyn käyttö on mahdotonta”.

“The mobile service does not work at all. It is nearly impossible to use the Päikky with the smartphone”. -P-

Many respondents often commented that the mobile service at times was hard to use, but in other times it simply did not work at all. Therefore, this uncertainty created doubts towards the truthfulness of the service.

**“Lack of trust”**. Respondents reported situations when the information was confusing or inconsistent with the one that they handled it. For example one respondent commented an incident occurred when booking care times. This individual was fairly certain that the information provided by the system was clear enough to trust that was not need for extras messages or notifications. Nevertheless, it seemed that she was incorrect about the knowledge that she handled about the schedule calendar; consequently this situation caused her an uncomfortable time.

“Viime vuoden puolella tein Päikyn kautta pitkälle ajalle ilmoitukset ja sain henkilökunnalta ristiriitaista tietoa siitä, että ajat eivät näy niin kauas ja sitten sain kuulla siitä, etten ole ilmoittanut aikoja päiväkotiin. Se harmitti.”

“During last year, I booked my child in Päikky for an extended period, and I heard contradictory information from the staff, that the care times are not seen that far to the future from the service. Then, I heard that I had not informed the care times to the kindergarten. I was annoyed”. -P-

In the next example below, it is possible to construe at least two issues that could influence in the value reliability of Päikky among the customers. The first issue could be related to inflexible schedule calendar and the second to the change resistance to innovation. Whatever the issue was, the respondent seemed neither to trust the efficiency of the service, nor its reliability.

“Koska Päikky ei toimi, muuttelee tallennettuja hoitoja yms en koe vuorotyöntekijänä Päikkyä luotettavaksi välineeksi hoito-aikojen suhteen paperi on hitaampi mutta koen sen luotettavaksi verraten Päikkyyyn”.

“Because Päikky does not allow to make changes in the stored time cares, I do not experience Päikky, as a shift worker, as a reliable instrument. The paper is relatively slower (communication) but I feel that is more reliable in comparison with Päikky”. -E-

**“Lack of accuracy”**. One of the words most referred to in the texts was the accuracy of Päikky mobile system. Many participants felt that Päikky system did not guarantee accuracy in the information provided by this service. Customers claimed that the information was not always



very accurate with the facts and knowledge that they handled it. Respondents perceived the lack of accuracy as a negative hinder that rested interest and importance from the users' perspective in the value performance of the service. Moreover, it caused feelings of doubt and frustration among the participants.

“Viesti systeemiä olen itse käyttänyt vain kerran (siis kirjoittanut viestin), ja olen epä tietoinen, minne viestini menee kaikkien näkyville vai vain päiväkodin näkymää? Olisi hyvä, jos voisi lähettää viestejä esim. Päiväkodille, tietylle päiväkotihoitoryhmälle tai yleisesti kaikille (tai en tiedä onko tarvetta mitään yleisviestejä kaikille...) -

“The message system I have only used once (a written message), and I am confused with whether the message goes to all the visible or only kindergarten view? It would be good, if you could only send messages e.g. to the day care centre, a particular day care group or in general for all (or I do not know whether there is a need for any public message folder for anyone...) -P-

Here, in the above example, the respondent shared a concrete example in where she expressed her uncertainty towards the reliability of this service innovation, specifically about the message option. Many respondents seemed to experience to a greater extent similar types of situations as described above. Moreover, these incidents have influenced the attitude of users towards adopting the mobile service.

“Viesti tuntuu kulkevan paremmin tekstiviesteinä tai sähköpostina kuin Päikky viestinä”

“The message seems to flow better as text messages or e-mail than as a message through Päikky”. -P-

“Päikkyä ei päivitetä kunnolla ja kun joskus olen päiväkotiin yrittänyt laittaa viestiä tätä kautta niin ei ole onnistunut/saanut mitään vastausta. Olen myös yrittänyt laittaa seuraavanviikon hoitoaikoja mutta sekään ei ole onnistunut niin siksi olen kyllästynyt kyseiseen palveluun.”

“Päikky is not updated well, and when I have attempted to send a message to the day care through this system it has not worked/or I have not got any reply. Also, I have tried to book the care times for the next coming weeks, but it does not work either. That is why I have given up on the service”. -P-

In the second example, the respondent described a situation in which she has tried to send messages through Päikky system, but it seemed do not work. In addition she said: I have tried to book the care times, but it does not work. As a result, the respondent´s reply toward the service was "I have given up on the service". In other words, she just loses confidence in the usefulness and significance of the mobile service.

### Convenience value

According to scholars, convenience value is associated with fulfilment and efficiency; they also see value as "aim for efficiency". (Gummerus & Pihlström 2011, 530; Pura & Gummerus 2007, 40) In this study, respondents perceived and evaluated the fulfilment of this service as being in a great need of improvement. Inflexible calendar, double work and slow connection were some of the inhibitors or technical problems, which led to reducing the convenience value of Päikky service among the respondents. On the contrary, the easy element was perceived as a positive attitude towards adopting the service.

**"Inflexible calendar"**. This inhibitor was related to the rigid and limited options given whether it was to book, reserve, edit and inform changes in the scheduled care times by the system. The inflexible calendar was the most discussed and the one issue, which generated most data. In general, respondents evaluated Päikky as a useful resource with capabilities to influence the early childhood education and care system. However, they also perceived that, in order to create this type of level of excellence and influence in a system, the mobile service supplier must improve the service according to the needs of the users.

Parents perceived the calendar as an essential function since this feature enables them to plan for their day-care needs. However, it seemed that this feature was too rigid, rather than a flexible timetable.

"Viikot eivät saisi mennä lukkoon niin aikaisiin". -Ä-

"Weeks should not lock so early". -M-

"Kalenteri lukitsee seuraavan viikon aina maanantaina. Mielestämme olisi hyvä, että hoitoaikoja voisi muokata tarpeen mukaan vielä muutamaa päivää ennen, jos esimerkiksi työvuorot muuttuvat. Toki tästä pitäisi aina mennä ilmoitus päiväkodin henkilökunnalle". -Ä-

"The calendar always locks the next week on Monday. We believe that it would be good, that the day care times could be still edited a few days before, for

example if work shifts are changing. Of course, this should always be notified to the kindergarten staff". -P-

"Lyhempiä poissaoloja ei pystynyt ainakaan aiemmin ilmoittamaan Päikyn kautta. Tämän mahdollistaminen olisi hyvä juttu".

"Shorter absences could not be informed through Päikky at least in the past. Making this possible would be a good thing". -P-

**"Double work"** was associated with parents who have two or more children in the same kindergarten. There was not a function that would relieve the stress of booking children's day care times twice. Three parents expressed the need for this service since they have been performed double or triple work when booking or writing information in the service.

"Lasten kalenteri voisi laittaa yhteiseksi, niin ei tarvitse jokaisen lapsen kohdalla merkitä hoitopäivä erikseen".

"The children' schedule could be put in a common based, so there is no need to mark the day of care for an each child individually". -P-

"Ettei molempien lasten päivähoitoaikoja tarvitsisi erikseen ilmoittaa". -

"That would not have the need to notified both children´s day care times separately". -P-

"Mielestämme kalenterista puuttuu myös lomapäivät lähinnä kesälomia ajatellen, jolloin voisi vain ilmoittaa lapsen loma-ajankohdan sen sijaan että klikkailee joka päivän erikseen. Kaipaisimme myös sitä, että voisimme ilmoittaa kummankin lapsen hoitoajat yhdellä kertaa sen sijaan, että tulee klikkailla kummatkin lapset erikseen, vaikka kyseessä on täysin samat hoitoajat. Olisiko mahdollista, että kalenterissa voisi merkitä keitä hoitoajat koskevat?"

"We think that in the calendar is also missing the function of holidays, where you could just announce a child's holiday period, instead of booking those days separately. We also wish that it would have an option to announce the times for both children at once, instead of clicking them separately. Would it be possible to mark who the day care times reserved in the calendar are marked for?"  
-P-

“**Slow connection**”. This feature was linked to the lacking promptness in the service system and the slow connection occurring during an extended interval of times. For example, when a day-care staff realises that the connection at the moment to sign in/out the attendance of a child in the system was slow or does not work at all. Therefore, an action that was supposed to do promptly it turned into a frustrating and slow activity.

“Nopea ja oikea-aikasta tietoa, ohjelmien edelleen kehittäminen.”

“Fast and real-time information, further development of the programme is still needed”. -E-

“Toimivia yhteyksiä”. -

“Operational connections”. -E-

“Nopeutta/ parempia yhteyksiä. Ei ole aikaa odotella, että yhteys löytyy.”

“Speed/ better connections. There is no time to wait around for the connection to be found”. -E-

“Yhteys on usein hidas tai jumittaa kokonaan”.

“Connection is often slow or freeze completely”. -E-

“**Easy**” was associated with elements of simplicity and uncomplicated mobile settings. According to Rao & Troshani (2007, 67) perceived ease of use is a salience feature in mobile service content. They describe perceived ease of use as the experience of feeling “freedom of difficulty with the use of mobile technology and services in everyday usage”. It is also observed that mobile services that are easy to operate are less threatening to individuals than the complicated or tedious mobile services. In this study, two participants perceived that Päikky mobile settings were easy to use and browsed.

“Hyvältä näyttää ja erittäin selkeältä. En heti ole löytänyt oman päiväkotiryhmän puhelinnumeroa, se olisi hyvä olla, sillä on aina hukassa tai vaihtunut.”

“It looks very good and clear. I did not immediately find the telephone number of my group, and it would be good to have it, as it is always lost or changed”. -P-

In the example above, although the respondent perceived that the mobile settings of Päikky were easy to use, she also expressed that finding specific information was not easy. Thus, she also included a small "improvement commentary".

**"Difficult"**. However, other participants observed the mobile settings being very difficult to access and use. Therefore, these difficulties influenced on the users' aptitude towards the adoption and use of the mobile service.

"Vähän hankala käyttää, joten ei ole noussut mielenkiinto `palvelua` kohtaan".

"Slightly complicated to use, which has not raised any interest towards the service". -P-

"Hoitoaikojen muutos, ei aivan helppoa/ selkeää".

"The changing of the day care times is not easy/ clear". -P-

Rao and Troshani (2007, 67) conclude that uncomplicated mobile services application and settings are more likely to be accepted by users than the complex ones.

In summary, the results of the respondents' answers show that Päikky arises many divided opinions among the parents and day-care staff. From parent's point-of-view, a daily, genuine interactive conversation with the day-care staff is the most important encounter element at kindergarten. Many of them perceive and feel that this type of electric alternative is necessary for day-care centres. Nevertheless, at the same time, many others observed that the face-to-face communication is more adequate and therefore they do not perceive Päikky mobile service as an integral resource in childcares.

In the web-based survey questionnaire, question number eight asked to scale according to the customers' experience, whether this mobile service will be a necessary service in day-cares. The chart (See Appendix 3) showed that 32% of the customers perceived Päikky a very outstanding service in kindergarten and 50% perceived it an essential service. 26%, however, scaled it to be of little importance and only 4% of the customers seemed to disagree with this service adoption. In other words, they feel that there is no need for such service at day-care centres.

Customers, in general, seemed to be content with the service and, for the most part, an excellent idea, but difficulty of using the application diminished parent and day-care staff's using activity. In particular, the convenience value was felt to be unsatisfactory, and arose

many comments from the customers for being slow, dysfunctional, rigid and uncertain service. These results also indicate that customers felt a need of further development of Päikky mobile service so that the service could be used in the future.

### 6.3 Customer satisfaction and perception of paikky

In order to analyse and interpret the information obtained from the multiple-choice questions, the analysis technique used was the Microsoft Excel software. The introduction of statistical software packages like SPSS, SAS and Microsoft Excel have helped quantitative researchers to reduce time, manually carry out calculations as well as facilitate the data analysis (Wilson 2010, 213; Collins 2010, 173). Regarding the last point Wilson (2010, 213) states that quantitative researchers are not obligated to using complex and difficult methods to analyse data. But rather, the quality of the data, the clarity of the analysis and the understanding rules of application analysis, and thus to interpret the obtained results are more valid and important than using complicated tools.

In order to discover the overall customers satisfaction and produce “Paikky report 2014” (See appendix 3), the data analysis involved the use of Microsoft Excel programme. The frame of the questionnaire was built as simple as possible, in order to provide customers with a clear and precise survey, and thus a quickly survey to complete online. Prior to the survey, the questionnaire was tested three days before the official launch, with the help of four volunteers, including two working life partners. Significance risks, possible problems, and ambiguities were identified before the survey was launched in the web-based page of Päikky. After the test, four questions were re-formed. Next, the overall charts of customer satisfaction and perception of Päikky are illustrated.

The Figure 12 illustrates the overall satisfaction of 112 valid responds. Most of them seem to be satisfied with Päikky service, out of 112 participants 74 scaled to be pleased with Päikky service. However, one-fourth of the respondents were still on an adverse scale of the graph that was either dissatisfied or very dissatisfied. This Figure could reflect that Päikky has still a lot to do to improve the service situation.

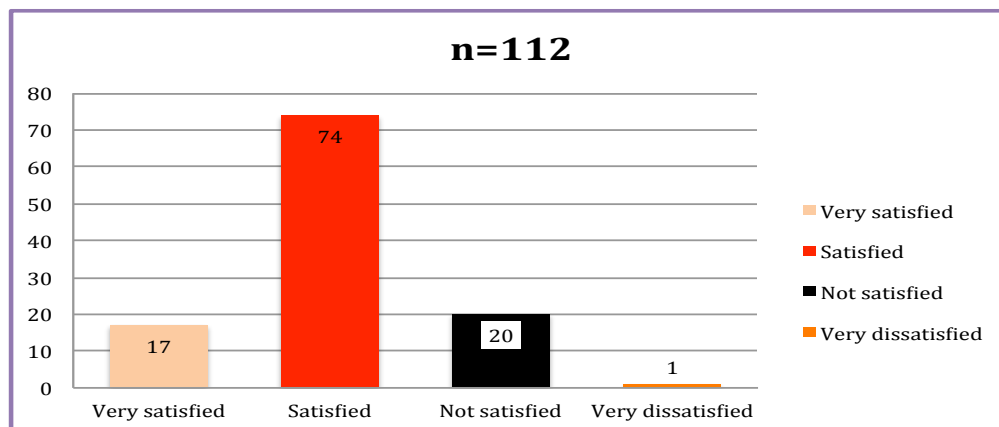


Figure 12: Satisfaction rate

In Figure 13, both, parents and day-care staff perceived Päikky as a sound service. However, Päikky still seems to be able to offer a much better service to their clients. The overall service customer perception is perceived as good, but not yet excellent. (Further information see Appendix 3)

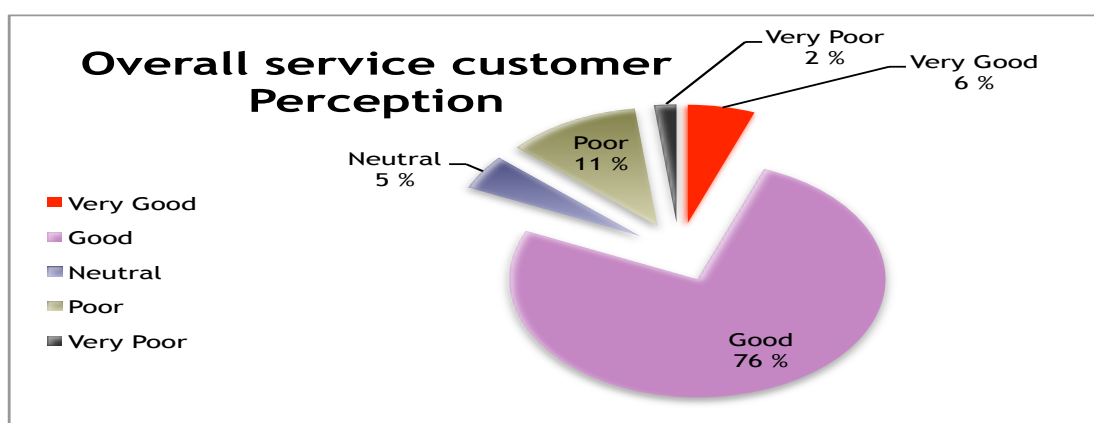


Figure 13: Overall of customer perception of päikky

#### 6.4 Improving services

Several respondents expressed their viewpoints regarding the quality of the service, the quality type of knowledge, and the lack of training offered to its customers, as well as the need of a customer service. As many of the respondents expressed, Päikky might be a necessary service in day-care centres, however there is room for improvement. The service was perceived as good, but not yet excellent. Table 9 illustrates some of the suggestions and ideas that customers identified for improving Päikky Service.

Employees	Parents
Faster and better quality connection to the system	Faster and better quality connection to the system
Better training and more information material, Especially for new staff members	More real-time information
Some kind of notepad function where the staff members can write comments and other important information of the child.	Better mobile application to different type of smartphones. Could be more simple and accessible to the Internet platform
Children´s attendance records should be on the parents responsibility	Keep customer informed better Better training
It would be really good if in the message system at the mobile phone could be able to send message, for example, to a specific day care group.	Päikky should be developed as Helmi-Service, in which all information of the school is informed through it.
	More flexible service for changes up grading
	In the from page of Päikky page (software) Some kind of reminder or introduction events or some kind of event calendar

Table 7: Improving services

## 7 Discussion

### 7.1 Discussion results

We constantly try to understand our environment and how our world appears to our senses. We tend to do this in three ways: experience, reasoning and research. This means that sometimes we know what is happening because we´ve had experience of it before, sometimes we can reason why it is happening and at other times we need to find out by searching for information (Collins 2010, 10).

This research sought to answer the following questions: How do customers perceive (evaluate) Päikky-mobile service in relation to a new technology-based service? Are customers satisfied with this type of service? Alternatively, What are the challenges and needs to improve this innovative service? In order to answer these questions, an overall customer satisfaction survey was conducted among Päikky´s users. The selected questionnaire survey was served in three-day-care centres and five children´s day-care in private families. Out of 288 questionnaires served 112 people responded the survey, 79 of which were parents and 33 day-care staff. The response rate was 39.0%.

The nature of this research was based on a quantitative method for designing the Web-based survey questionnaire and collecting the data. The data was analysed by employing multi-methods approach. This methodology assists to facilitate the interpretation of the data. Therefore, a qualitative method is used to back up the points underlying, and thus to enhance



the validity of the findings (Punch 2004, 247). This study was focused on a single mobile service, Päikky m-service.

The author of this study decided only to use the respondents' answers to the open-ended questions in order to analyse and produce this present study. Nevertheless, a small proportion of the Microsoft Excel analysis was employed in this study. For the discussion of the open-ended data, a conventional content analysis was used. Most of the data obtained by the Microsoft Excel analysis was utilised in the production of the "Päikky Report 2014". (See Appendix 3.)

It is important to note that the decision to adopting and using only the respondents' answers to the open-ended questions was based on the high amount of responses garnered from the Web-based survey. Analysis of the 169 valid written responses produced a total of 319 discrete observations across the data set.

The nature of this study was to seek answers to the research question how customers perceive or evaluate a mobile service. This study produced results that corroborate the findings of a great deal of the previous work of Gummerus and Pihlström (2011), Rao and Troshani (2007) and Pura and Gummerus (2007). The findings, however, produced and built manifold inhibitors that instead of adding value; they challenged the customers' use and adoption of the mobile service. Mobile services can offer an enormous and a wide range of benefits that through other channels are not possible to feature. (Gummerus & Pihlström 2011) Loudon and Traver (2013, 115) observe that technology has changed the way in which people are communicating or interacting with other. Therefore, the use and adoption of mobile services should be more studied and emphasised.

In this study respondents repeatedly expressed the importance of having a genuine interactive communication between parent-staff. Nevertheless, this study also showed that in order to acquire an authentic interactive communication between parent-staff with the utilisation of an innovative instrument; the role of the context in mobile service is pivotal. In this study, context is comprehended as the technological interfaces (background) between the customer and the mobile service, whether it is a smartphone, tablet or Pc. In addition, context is everything since mobile service used is inserted into customers 'everyday lives. (Gummerus & Pihlström 2011, 521)

Context value includes time, location, lack of alternatives and uncertain conditions. Each one of them has sub-category elements. In this study rose four contextual elements of which three were depicted in the frame of reference. The fourth factor emerged was epistemic val-

ue, which is related to the utility acquired from a desire for knowledge. (Sheth et al. 1991, 162)

In this section, respondents evaluated their experience of accessing the core and supplementary services of Päikky with the assistance of their mobile phone or another device. In order to discover answers to this matter, the researcher employed the sub-question of question number three. Customers were asked to explain, why they do not access/use the mobile service. Respondents denoted relevant issues that were clearly interconnected with their mobile device capacity and their perception towards the mobile service. Customers observed several elements that apparently were the reason they did not engage in the service, and thus they made difficult the access and interest towards the use and adoption of the mobile service.

Some of the principal factors were the unfriendly-use application, slow connexion, incompatibility with other interface devices and programmes and lack of time. Regarding the contextual element of time, it was observed three sub-category features, lack of time, the lack of control, and allocation of time. An interesting observation was possible to denote in the customers answers and was related to the extra work added to the staff. Although, they seemed to show awareness about this matter; however, they still felt that more could be done.

As the conceptual framework depicted, contextual elements originate conditional value, which leads to improving in-use value perception. Grönroos (2005, 12) state that, mobile phone customers consider that they get value in the process of communicating with others whether, reading and sending emails, paying billings and/or operating on the Internet. If these features do not work or perform adequately, a mobile phone with all technical capabilities is not sufficient.

In-use value includes five contextual dimensions (See section 3.4.2). In-use value represents “what” users evaluate in the mobile service through these elements. In this study, the question employed was “how” customers evaluate Päikky mobile service. It is worth notion to remain that this study was about to examine the customers’ satisfaction and perception of the mobile service; therefore to discover their attitudes and opinions the question applied was “how”. Therefore in order to determine the answers as to how customers value the mobile service, open-ended question numbers 18 and 19 were applied in this section. (See Appendix 3.)

All the contextual dimensions that appeared from the responses were significant and important. The findings showed at least three specific inhibitors that were the most denoted by the respondents, namely the lack of interaction (real-time) 41 times, inflexible calendar 35 times and duty 15 times.

However, in the eyes of the researcher, one of the most important finding observed was the lack of interaction. Someone may ask why? The reason is that Päikky service was introduced as a mobile service to provide a genuine interactive “real-time” communication between parent-staff. However, it seemed that the core of Päikky service did not work as expected. Respondents felt that the lack of this element undoubtedly affected the customer’s value perception of the mobile service and the adoption of it. Both customers pointed out that the real-time advertised did not work.

Another interesting finding perceived was the perceived price. In Gummerus and Pihlström (2011, 530) study, the mobile service price is often perceived more positive than alternative channels. In this study, the mobile service apparently was free of charge for all parents. Therefore, the perceived price was focused on how parents sense the practice of “paying” according to the hours that a child uses in the day care centre. This feature rose divided opinions and great curiosity among parents, specifically. (See section 6.2.2 for more details).

In the survey questionnaire, number 10 asked, would you be ready to pay for this service? The response was incisive, 96% of the respondents selected the alternative NO, and only 4% of the respondent chose the alternative YES. However, this statistic cannot be interpreted that users parents disliked the service or did not want to acquire a mobile service. If these results were true, why then when the question number 8 asked the customers to scale, in your opinion, is Päikky a valuable service? Only 4% of the respondents scaled "not at all". Nevertheless, 32% of the customers perceived Päikky a very outstanding service in kindergarten, and 50% perceived it an essential service and 26%, however, scaled it to be of little importance.

On the formulation of questions, there would have been room for improvement. For example, three questions were designed to be answered by parents and staff when the questions issues were more linked to the parents than the employees. Additionally, question number three asked to how often customers use Päikky service. Unfortunately, the bad formulation of the question was not detected during the test period. Therefore, it was not easy to figure out the real meaning of the response, which is blurred the transparency of the subject and consequently the response. (See Figure 14) It would have been good to give to the respondents’ different alternatives for replying.

Albeit, the weak structure of the question number three did not itself provide a concrete chart answer; the responses shared in the sub-question provided useful and rich information. Consequently, it was an eye-opener for the researcher to decide what data should be used for the elaboration of the report and what data for this study only. This remarkable information contributed significantly to the achievement of this study. The overall results of this study showed that Päikky service products’ customer satisfaction was good, but not yet excellent.

The response rate was 39.0%, which is the researcher's view, a moderate percentage. Measures of customer satisfaction, as well as customer perceived value, product improvement, more support and better training for both employees and parents, are highly recommended.

<p>3 How often do you use Päikky service?</p> <p>Very rare Rare Often Very often</p> <p>If you answered very rare and rare, please give a reason why?</p>	<p>3 How often do you use Päikky service?</p> <p>Once a day or more Often 2 to 3 times a week Once in a month Do not use</p> <p>If you answered "do not use" and once in a month? Please give a reason why?</p>
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Figure 14: Question N° 3

The majority of Päikky customers appeared to be confident about most aspects of the m-service. However, it was also true that the dissatisfaction and disappointment levels, of both clients in those aspects, who disagree with the use of service or have a complaint, were present; but they remain small.

Regarding this study a more active participation by the respondents, especially greater involvement by the day-care staff would have ensured the outcomes in this investigation. Unfortunately, their perception and opinion will remain unknown.

The findings obtained, supported the concept: "context affects customer value, because evaluations are based on interaction between the context, the customer, and the objective that the customer evaluate" (Gummerus & Pihlström 2011, 522). This study was grounded in the conceptual framework designed by Gummerus and Pihlström. (2011, 525-526) They propose a new conceptual framework to explain and measure how customers interpret context and in-use value, as well as how consumers perceive value in mobile services. In prior studies, the focus of mobile service research had been on the positive effects of m-services rather than negatives effects. This investigation, however, was not focused on positives nor negatives effects. This study sought to discover how customers evaluate a new technology-based service. These results observed more negatives (inhibitors) elements instead of positive. Nevertheless, these inhibitors should be seen as a positive way to improve a service or product, and thus to confront the resistance change to innovation.

To conclude, if the mobile settings of Päikky were more compatible with other devices and more support would be added to their functions. If better connexion would be available in the same intensity, regardless place or time. If more information, training, and guidance could be provided and offered to the customers in order to deliver better results in practice. If parent-

staff responsibility could be shared so that to avoid overload duties from both sides. Therefore, if all the above possibilities and suggestions could work together harmoniously and efficiency; perhaps, Päikky mobile service could become the m-service that is expected. Moreover, the mobile service that influence and play a salient role in the early childhood education and care system.

## 7.2 Ethical Issues

Researchers should be knowledgeable about the ethical issues when they begin research and evaluation projects. These are the initial formulation of the research question, informed consent, sample selection and institutional review (Thyer 2010, 566).

The first phase in the implementation plan of this study was one of the most important steps in the conduction and preparation of this study. The aim of the first phase was to prepare a covering letter. Questionnaires are frequently sent out with a covering letter in which an explanation of the purpose of the survey questionnaire is a must (Gillham 2000, 37; Collins 2010,85). The purpose of the covering letter had five important issues to communicate. See Appendix 1 (Covering Letter in Finnish and English language)

- The purpose of conducting the study and survey,
- Who is conducting the study and why,
- To motivate the users (parents and employees) to participate more actively in the use of Päikky and moreover, to encourage parents to log in to Päikky service.
- To inform the users where they can find the survey and how to access it.
- Finally, to ensure the privacy and confidentiality of the respondents.

The second step was the distribution of the questionnaire surveys replies. In order to ensure the responses obtained were only from Päikky customers, the questionnaire web-based survey was located on Päikky´s website platform. This performance guarantees that parents had straightforward access to the questionnaire survey link by accessing into their web-based address. For the employees, the questionnaire link was located in the (working) smartphones message folder. Once, the questionnaire survey was completed online the responses were stored in an online database (Google Drive) for statistical processing later. This application resource helps the researcher to visualise in real-time the amount of daily responses and outcomes. The time given to the respondents to answering the survey was not more than one month. The third step was to collect and analyse the results of the investigation and finalise the thesis. (See section 5.5. The process framework)

### 7.3 Trustworthiness

Research for this study began with an experience that the researcher gained in a previous work placement while she was studying in 2009. In order to provide a reliable and valid investigation, the researcher used Laurus, Nelli information portal, to gain access to academic databases. In addition, all the books utilised in this study were borrowed from the university of applied sciences where the researcher subscribes. The primary sources used through Laurus were: EBook, EBSCO and SAGE journals. Peer-reviewed journals add to the credibility, since that they go through a rigorous approach to most scholarship examination (Collins 2010, 94). Moreover, the researcher also collected data on the Web. Most of these collected data on the web were easy to access, no cost and of good quality. The entire gathering data used in this study was good and trustworthy.

The investigation and valuable information done previously by other researchers provided this study relevant knowledge on customer satisfaction and perception as well as the importance of value in service. By the same token, the researcher had the opportunity to meet Mrs Johanna Gummerus from Hanken School of Economics. She in tandem with her research partner developed the conceptual framework used in this work as a frame of reference. (See Figure 7) In addition, She very kindly provided material from her previous studies as well as her personal guidance and valuable opinion in this area and this study. Her presence in this review added validity and reliability to this study as well.

During the process of the study, the researcher was encouraged by her tutor teacher to analyse the responses' answers to the open-ended questions instead of focus on the selective responds. Since the overwhelming evidence responds was high, these answers can validate and provide better understanding of the work and performance of the mobile service as well as accurate and reliable results to this study and futures ones.

In order to undertake the challenge in the best way as possible, the researcher employed a creative research, which means that a qualitative and a quantitative method tools were used to collect and analyse the data. However, it is worthy of mention that, even though, this study used both approaches, this is not a mixed method research. According to Creswell (2015, 3) a mixed method approach is when a researcher collects both, a quantitative (closed-ended) and a qualitative (open-ended) data, incorporating the two to draw an interpretation on the merged strengths.

A mixed method is not simply the addition of qualitative data to a quantitative data design. A mixed method can be employed in this way, but we can also adopt quantitative data to qualitative, and we need a rationale for doing it either way.

Chapter 5 explains the nature of the research methodology being used. This study used a quantitative research method in order to elaborate a Web-based survey questionnaire. However, in order to achieve the purpose of this study in the most factual and trustworthy way, a few methods were employed in the data analysis. First, the researcher used an abductive reasoning approach in tandem with a multiple methods for the analysis. The abductive reasoning approach helps to move back and forth from findings, theory and analysis. (Debois & Gadde 2002; cited in Gummerus & Pihlström 2011, 525) Second, in order to discover the elements and new possible ones, the researcher used a conventional content analysis. According to Tuomi & Sarajärvi (2002, 113) data-driven content analysis gives robust and reliable information. (Further information section 5.5)

#### 7.4 Limitations

The investigator of this study worked very assiduously in the elaboration of this thesis. The principal aim of this study was to conduct a survey on customer perception of a new technology-based service. The research investigated how customers perceive (evaluate) a new type of service and satisfaction on Päikky service.

This study was limited in several ways; however, they did not affect the outcomes, the validity and credibility of the research. Instead, they added an extra quote of motivation to push forward this research and the findings in the best way as possible. Next, the most critical limitations are briefly presented.

First, the limited time restricted the researcher in various ways. However, the most crucial was linked to the work contract conditions with the employer. The contract situation was a temporary employment, which means that the temporary assignment can terminate at any time (Heathfield n.d.). Therefore, the researcher was limited to commence as soon as possible, to conduct this study. Moreover, Päikky pilot was only scheduled for 31 May 2014.

Second, since mobile services are new and little, or nothing is known about their utility, capability and usability, the research was limited to only a general overview of mobile services. Päikky phenomenon was more than just visualising in real time how many children and early childhood staff members were attending a day care centre. This product was more about new ways of doing customer service in tandem with the clients as co-creators. On the one hand, the administration board wants to improve the customer services provided parents, by monitoring day care centres at any time, and in the future to provide more reliable and accurate billings. Furthermore, the management board wants to develop new ways that may increase parents 'participation in the planning and care process of their children.

Third, the elaboration and process of this thesis was a definite challenging. The researcher for the first time used a quantitative method approach to collect the data and a multiple methods approach to analyse the merged data. I was attracted by the idea of conducting a survey questionnaire and later on to do the analysis and get results. The idea of employing a quantitative method came because the author wanted to do something different from previous studies.

About the mobile value framework, the onset looked uncomplicated and easy to use; however, the more that I read the academic paper and the theory the less I understood the meaning of the conceptual framework. Nevertheless, even though the frame of reference appeared difficult I did not want to change this method for the traditional measurement used for customer satisfaction (SERQUAL). Therefore, I commenced looking at material from other scholars on the same topic. This searching was difficult because the researcher's background is not from business or information technology; however, as soon as I started to bring pieces together, the study and the conceptual framework became understandable and accessible. I, highly, recommend using the conceptual framework of the researchers Gummerus and Pihlström. Moreover, I greatly encourage researchers, scholars and decision makers to make contact with them for further information, knowledge and guidance on mobile service.

Fourth, language was another limitation as it was difficult translating some quotations and statements from Finnish into English entirely. This issue is because the researcher mother tongue is neither Finnish nor English. However, in order to assure the reader of the best translations all the quotations were carefully examined by two Finnish native speakers.

Fifth, this study was limited to only three day-care centres and five children's day care in private families, which do not represent all the day care centres that are currently using Päikky mobile service. Although, many limitations rose, whether because of lack of knowledge, time, skills and language; however, they were very relevant to identify and show in this discussion. Since these limitations can assist other scholars to be aware of them in future studies. Next, Suggestions for improvements are presented.

## 7.5 Suggestions

Based on the study, the researcher has formulated four suggestions for Päikky and Nurmijärvi early childhood education and care decision makers. The recommendations are direct offshoots of the results from the survey of customer satisfaction of Päikky.



### **Suggestion 1: Customer Education**

Customer education is the process by which people are taught about various goods and services in detail so that the user would get the maximum satisfaction and utilisation of it (Dakhal 2013, 44). There are lots of advantages of consumer education such as it acts as the feedback for the business, the interaction between consumer and producer helps to standardise the products and services.

I would thus suggest MukavaIT to carry out customer education and awareness programmes through different media. This suggestion is based on the high number of Pääkky's customers, whom claim do not yet know about the benefits and salience of the supplementary services such as the use of mobile attendance record and hourly billings. Therefore, it would be a great start for MukavaIT and its partners to create awareness campaign where they could guide customers about Pääkky and use of different functions.

### **Suggestion 2: Overall Training programmes**

A training programme is essential to the development and standardisation of the products and services. Mobile technology is influencing nearly every aspect of societies and social life. The field of information and technology has revolutionised the way in which human beings interact with each other. Harper (2003, 2) points out that the increased amount of data on human behaviour related to the use of technology, as a mediator of communication, is enormous and significant enough to warrant attention. Thus, it is crucial for MukavaIT and Nurmijärvi Early childhood managers to bestow some training programmes to give actual guidance to its customers to use the service effectively.

### **Suggestion 3: Employee training programmes**

Employees are the pivotal element in any business firm; they play a relevant role in the management of the company. The high quality of the service can be assured if the employees are well trained, only. The employees should first know about the use of the product and why is the importance of the service, and then only they can make customers satisfy (Dhakal 2013, 51). The use of technology in modern types of customers' services needs a right training to make the task done accurately and efficiently. Thus, MukavaIT in tandem with its working life partners should conduct regular training programmes for staff in order to create an excellent quality service.

Moreover, it said to belong to the crowd creates motivation. It is paramount that day-care staff receives timely information and communication to understand the company's policy of

decision-making. It is, therefore, critical that leaders make such programmes where staff would receive sufficient information about the company's practices and communications. In addition, the appropriate control is always necessary. (Dhakal 2013, 50)

#### **Suggestion 4: Further research**

Gummerus and Pihlström (2007) have created and offered a useful framework for thinking and identifying new elements in the value perception of mobility. This structure provides understandings of the context and in-use value and suggests newly perceived dimensions (Gummerus & Pihlström 2007, 530). Future research in this area of mobile service in day cares is highly needed and recommended.

Moreover, these scholars invoke other researchers to investigate the technical problems in mobility. Therefore, this study is also a part of this calling to examine the technical issues related to the mobile services. The purpose of this study was to evaluate an overall customer's perception and satisfaction of Päikky mobile service.

Unfortunately, there was little information (Mäki, Ruuth & Talja 2014; Serkkola & Sukuvaara 2007; Järvinen 2009) or almost no hard evidence that shows how users perceive these types of mobile services in day care centres. Päikky service might appear an excellent and efficient tool, but there is constantly room for improving the service.

If Päikky becomes part of tomorrow's daycares services, then the continuous research is recommended. As the customer needs and expectations are always changing over time, and new technological inventions and products are developing, so also Päikky does. Researchers who are interesting in the field of mobile value, and want to deepen their understanding of mobile services perception, I highly recommend them to use the same method as the author employed in this study. However, researchers are free to make changes to fit their criteria in future research.

Different customers in different places have different perceptions and expectations for service quality. Therefore, implementation of this research might produce different results, which might be useful and fruitful for the IT companies and early childhood services.

Fortunately, Nurmijärvi early childhood education management board and MukavaIT showed willingness and commitment to assisting to conduct this research study. The survey was also used, as hard evidence to be communicated and published in the Nurmijärvi local newspapers. The idea of this initiative was to present to the community the impact that the mobile service brought among its costumers. As well, the survey was used for the forthcoming tendering process, which was carried out on 19 of August 2014.

To conclude, Päikky could be an excellent tool for day-care services; however, there is room for improvement the service. Päikky was perceived as good, but not yet excellent. Therefore, measurements of customer perception and satisfaction, service quality improvements, more support and better training for both parents and staff would be highly recommended. This type of mobile service is needed and relevant for the future hourly billing at day cares and other changes in the coming reform law on the early childhood education and care.

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## Appendix 1: Covering Letter in Finnish and In English

Maaliskuu 2014

Arvoisat Päiväkodin Asiakkaat ja Työntekijät:

"Nyt on Aika Vaikuttaa Palveluihin"

Nimeni on Andrea Vanhanen ja olen Sorvankaaren päiväkodin lastenhoitaja Tupsukorvien ryhmässä

Opiskelen työn ohessa terveydenhuollon maisterin tutkintoa - terveyden edistämisen alaa Laurea-ammattikorkeakoulussa . Olen saanut tutkimusluvan Nurmijärven kunnalta ja MukavaIT:lta asiakas-tyytyväisyysmittaukseen Päikky palvelusta .

Opinnäytetyön tavoitteena on arvioida vanhempien ja työntekijöiden näkökulmasta Päikky palvelun käyttäjien tyytyväisyyttä palveluun .

Tutkimuksen tarkoitus on ensinnäkin kannustaa ja motivoida sinua aktiivisesti osallistumaan ja käyttämään Päikky palvelua. Arvostan käyttäjäystävällistä tukeanne tässä prosessissa , koska sen avulla on mahdollisuus kehittää parempaa palvelua sekä auttamaan meitä ymmärtämään paremmin tarpeitanne.

Päiväkodin johtajat Tiina Ahokas, Kirsi suomela ja Ritva Säilä-Paajanen toivovat että jokainen vanhempi kirjautuu viimeistään nyt Päikky palveluun. Ryhmän aikuiset muistuttavat kirjautumisesta ja tunnukset jos kadonneet niin saatte uudet: [www.mukavait.fi](http://www.mukavait.fi)

Asiakastyytyväisyystutkimus kyselylomake löytyy Päikystä kun kirjaututte omille sivuille 10.03.2014 alkaen. Kyselyyn osallistuminen kestää vain muutaman minuutin. Osallistumisesi tähän tutkimukseen on tärkeätä ja olennaista sekä arvostettua.

**Vastatkaa kyselyyn Päikyssä 11.04.2014 mennessä.**

<https://docs.google.com/forms/d/1wHF1IXRp4S7Avljl169d0Gtr9yEEXiOv7xyI4LF6sBO4/viewform>

Kaikki tiedot pidetään luottamuksellisina .  
Innolla kanssanne tässä projektissa .

Ystävällisin terveisin

Andrea Vanhanen  
Terveydenhuollon ja Terveydenedistämisen Maisteri opiskelija

Tiina Ahokas  
Päiväkodin johtaja  
Nurmijärven Kunta

Petri Järvinen  
MukavaIT Oy.

Date: 2 February 2014.

"Now, it is The Time to Make a Difference"

Dear Kindergarten Customers and Workers:

My name is Andrea Vanhanen, and I am part of the Sorvankaari kindergarten 'staff as a nurse-maid.

I am currently pursuing my Master degree of health care-health promotion in Laurea University Applied Sciences. As part of Laurea curriculum and in order to graduate, every student must conduct a final thesis. To fulfil this requirement, I have chosen to work on a customer satisfaction survey concerning Päikky service.

The main aim of this thesis is to evaluate from parents and workers point of views, the level of satisfaction that Päikky service has among its users. This thesis will be carry out in collaboration with the Nurmijärvi early childhood education and care and MukavaIT. As representatives of these organisations, Tiina Ahokas and Petri Järvinen are highly concerning in finding new ways to help and improve the service offers to customers and workers. Therefore, to help in this process, I have granted with the opportunity of conducting research into the evaluation of Päikky service.

This letter has two important purposes. Firstly, it is to thank you for your valuable participation in this pilot project so far. Secondly, it is to encourage and motivate you to active your participation in the use of Päikky service. Your valuable support as a user-friendly in this process will make a great difference in developing a much better service. Please help us better understand your needs.

The questionnaire would take just few minutes to complete. Your participation in this survey would be relevant. All information will be kept confidential.

Looking forward to working with you on this project.

Yours Sincerely,

Andrea Vanhanen,  
Student of Master Health Care and Promotion  
Laurea University of Applied Sciences  
Otaniemi Unit

Tiina Ahokas  
Päiväkodin johtaja  
Nurmijärven Kunta

Petri Järvinen  
MukavaIT Oy.

Appendix 2: The Web Survey Questionnaire (in Finnish)

## **Asiakastyytyväisyystutkimus Kyselylomake**

Arvoisat päiväkodin asiakkaat ja työntekijät!

Sinut on kutsuttu osallistumaan tähän asiakastyytyväisyystutkimukseen koskien Päikky palvelua. Osallistumisesi ja antamasi tiedot auttavat meitä parantamaan Päikky palvelun laatua.

Tutkimus vie vain muutaman minuutin. Kaikki tiedot pidetään luottamuksellisina eikä luovuteta kolmansille osapuolille.

### **Palaute Kysely 11.04.2014 mennessä**

Jos sinulla on kysyttävää, ota yhteyttä:

Andrea Vanhanen  
Terveystieteiden ja edistämisen Maisteri opiskelija  
Laurea University of Applied Sciences  
E-mail: andrea.vanhanen@student.laurea.fi

Kiitos!

### **1. Lomakkeen täytti**

Äiti  
Isä  
Työntekijä  
Muu huoltaja

### **2. Mistä Päiväkodista**

Sorvankaaren Päiväkoti  
Mutkapolun Päiväkoti  
Tähkärinteen Päiväkoti  
Perhepäivähoito

### **3. Kuinka usein käytät Päikky palvelua?**

Hyvin harvoin  
Harvoin  
Usein  
Hyvin usein

### **4. Jos vastasit hyvin harvoin/harvoin, voisitko kertoa miksi?**

**5. Kuinka koet Päikyn palveluna?**

Erittäin tyytymätön  
Tyytymätön  
Tyytyväinen  
Erittäin tyytyväinen

**6. Käyttökokemuksesi perusteella, Kuinka tehokas Päikky on ollut palveluna?**

Erittäin tehoton  
Tehoton  
Tehokas  
Hyvin tehokas

**7. Onko tämä palvelu täyttänyt odotuksesi olla paremmassa yhteydessä päiväkotisi kanssa? Vanhemmille**

Ei ole täyttänyt  
Vähän  
On täyttänyt  
Erittäin hyvin on täyttänyt

**8. Onko mielestäsi Päikky tarpeellinen palvelu?**

Ei ollenkaan  
Vähän  
Tärkeä  
Erittäin tarpeellinen

**9. Onko Päikky web-sivusto helppo ja selkeä käyttää? Vanhemmille**

Erittäin vaikea  
Vaikea  
Yksinkertainen  
Helppo ja selkeä

**10. Olisitko valmis maksamaan Päikky palvelusta?**

Ei  
Kyllä

**11. Jos olisit valmis maksamaan, niin kuinka paljon?****12. Millä välineellä käytät palvelua?**

Tietokoneella  
Älypuhelimella  
Tabletilla

**13. Miten haluaisit saada tietoa lapsesi päivästä?**

Kotitiedotteen kautta  
Päikyn kautta

**14. Miten Arvioisit Päikky Asiakaspalvelun?**

Erittäin Huono  
Huono  
Hyvä  
Erittäin Hyvä

**15. Oletko Tyytyväinen Saamaasi Koulutukseen ja Tietoon Palvelun Käytöstä?**

Erittäin Tyytymätön  
Tyytymätön  
Tyytyväinen  
Erittäin Tyytyväinen

**16. Tuntuuko turvalliselta kirjoittaa Internetiin luottamuksellisia tietoja lapsesi?**

Turvatonta  
Melko turvallista  
Turvallista  
Täysin turvallista

**17. Suositteletko tätä palvelua toisille?**

En suosittele  
Ehkä suosittelisin  
Suosittelen  
Ehdottomasti suosittelisin

**18. Mitä toivot Päikky palvelulta?**

**19. Käyttökokemuksesi perusteella, mitä pitäisi kehittää Päikky palvelussa?**

**20. Olisiko sinulla hyviä kehitys ideoita tai muita kommentteja Päikky palvelusta?**



## Appendix 3: The Päikky Raportti (In Finnish Language)

### Päikky



## Asiakastyytyväisyyskyselyn Yhteenveto

### Johdanto

Tämän asiakastyytyväisyyskyselyn tavoitteena oli tutkia Päikky järjestelmää ja sen vaikutuksesta päivähoidon asiakas sekä työntekijän tasolla. Kysely toteutettiin verkossa, vuonna 2014. Kyselyn kohderyhmän kokonais- määräksi tuli 288 henkilöä.

Tammikuussa 2013 MukavaIT Oy yhdessä Nurmijärven kunnan varhaiskasvatuksen kanssa alkoi toteuttaa pilotti hanketta, jossa pääajatuksena on kehittää yhteensopiva järjestelmä varhaiskasvatuksen tarpeiden ja vaatimusten mukaan. Lisäksi koko testauksen ajan, on myös tarkoitus kerätä käyttäjien odotukset ja kokemukset, jonka saa vain testaamalla tuotetta. Testaus varmistaa, että testin tavoite toimii odotetusti; Lisäksi se varmistaa paremman laadun tulevaisuuden operaatioihin.

Tutkimus toteutettiin kvantitatiivisella lomakekyselyllä. Kysely lähetettiin viikolla 11 ja vastausaikaa oli 33 päivää. Muistutusviesti lähetettiin kahden viikon kuluttua päikyn kautta vanhemmille ja työntekijöille, jotka eivät olleet vielä vastanneet kyselyyn. Kysely suljettiin viikolla 15. Kyselyyn vastasi 112 henki-

lää. Vastausprosentiksi saatiin 39,0 %. Kyselyssä kysytyjä asioita arvioitiin neljän pisteen Likert-scale asteikolla ja osassa kysymyksiä oli myös vaihtoehtona asteikossa en osaa sanoa.

Toimipaikkojen ja asiakkaiden yleisarvioita kysyttäessä arvioinnin kohteina käytettiin laatua, tehokkuutta, turvallisuutta, palvelua, kommunikaatiota, kehitettävyyttä ja tarpeellisuutta. Kaavioissa n= vastaajien kokonaismäärä.

Kyselyn vastaukset toimipaikoittain

Toimipaikka	saapuneet/lähetetyt	vastausprosentti
Sorvankaaren Päiväkoti	38/ 80	47,5
Tähkärinteen Päiväkoti	36/103	34,3
Matkapolun Päiväkoti	30/80	37,5
Perhepäivähoito	8/ 25	32,0
<b>Yhteensä</b>	<b>112/288</b>	<b>39.0</b>

Tiivistelmä

Työn tarkoituksena oli selvittää asiakastytyväisyyden nykytila toteutettavalla asiakastytyväisyyskyselyllä ja saada kehittämistoimenpide ehdotuksia. Asiakastytyväisyys ja palveluiden kehittäminen ovat nykypäivänä asioita, joihin tulisi panostaa, varsinkin kun monissa kunnissa päivähoitomaksut ovat uhkaavasti siirtyneet tunti-laskutuksena sähköisiksi (Toivanen 23.01.2014)

Asiakastytyväisyyskysely tutkimuksen kolme pääkysymystä olivat.

1. Miten asiakkaat hahmottavat Päikky järjestelmän
2. Määrittää asiakkaiden käsitys Päikky palvelusta seitsemän ominaisuuden kautta, Laatu, Palvelu, Kommunikaatio, Turvallisuus, Tarpeellisuus, Tehokkuus ja Kehitettävyys.
3. Määrittää kehitettävien asioiden tärkeys järjestys.

Alussa vastausaika määritettäessä päädyttiin kolmen viikon vastausaikaan (10.03-31.03.2014), koska siinä ajassa kohderyhmän tulisi ehtiä vastaamaan kyselyyn, mutta siinä ajassa ei kuitenkaan ehdi unohtamaan kyselyn olemassaoloa. Kuitenkin, päädyttiin vastausajan pidentämiseen kahdella viikolla. Koska kyselyyn liitettiin vielä viisi perhepäivähoitajaa ja heidän asiakkaansa jotka, eivät olleet mukana kyselyn alusta lähtien. Tämän seurauksena vastausaika jatkui 11.04.2014 saakka.

Kyselylomakkeessa oli yhteensä 20 kysymystä, joista kymmenen oli monivalintakysymyksiä. Yksi kysymys oli kyllä tai ei, neljässä kysymyksessä piti valita vastaus vaihtoehdoista ja kolme oli avointa kysymystä. Kyselylomakkeen alussa on taustamuuttujakysymykset, joilla selvitetään vastaajista kuka lomak-

keen täytti ja mistä päiväkodista tai perhepäivähoidosta. Se jälkeen haluttiin tietää vastaajan asiainnista Päikyn mobiiliseurantajärjestelmässä.

Tähän kyselyyn osallistuivat kolme päiväkotia Sorvankaaren päiväkotia, Tähkärinteen päiväkotia ja Mutkapolon päiväkotia sekä viisi perhepäivähoitajaa ja heidän asiakkaansa.

Kyselyyn vastanneiden asiakkaiden (vanhemmilta saapuneita kyselyitä 79 ja työntekijöiltä 33) kokonaismäärä oli 112. Tämä on noin 39.0%. Otos on kattava.

Kyselylomake suunniteltiin Microsoft Excel-ohjelmalla. Lomake rakennettiin mahdollisimman yksinkertaiseksi, jotta vastaajan olisi helppo ja nopea vastata. Kysymyksistä yritettiin tehdä mahdollisimman selkeitä ja helposti vastattavia eikä liian pitkiä. Lomaketta testattiin, jotta saataisiin selville mahdolliset ongelmakohdat ja epäselvyydet ennen kyselyn aloittamista. Vastausprosentti oli 39.0, joka on tutkijan mielestä kohtalainen prosentti määrä. Mutta, vastaajien vastaukset olivat hyvin rikkaita sisällöllisesti ja avoimiin kysymyksiin tuli hyviä vastauksia ja kehitettävyyksiä.

Tutkimuksen voidaan sanoa olevan pätevä, sillä tutkimuksessa asetetut tavoitteet eli Päikyn asiakkaiden tyytyväisyys on selvitetty, mutta olisi ollut vielä parempi että enemmän vastaajia olisi osallistunut tähän kyselyyn. Kysymysten laadinnassa olisi ollut vielä parantamisen varaa, esim. kolme kysymystä oli tarkoitettu vanhemmille eikä työntekijöille. Lisäksi, Monivalintakysymyksissä olisi pitänyt antaa vastausvaihtoehtona "en osaa sanoa" ja toisissa kysymyksissä olisi pitänyt välttää "en osaa sanoa" koska neutraalimpiin vastaus- vaihtoehtoihin vastataan yleensä kaikkein eniten. Myöskin, kysymys numero kolme oli, Kuinka usein käytät Päikky palvelua? Tälle kysymykselle olisi ollut hyvä antaa vastausvaihtoehtona käytetty aika, eikä sanoilla.

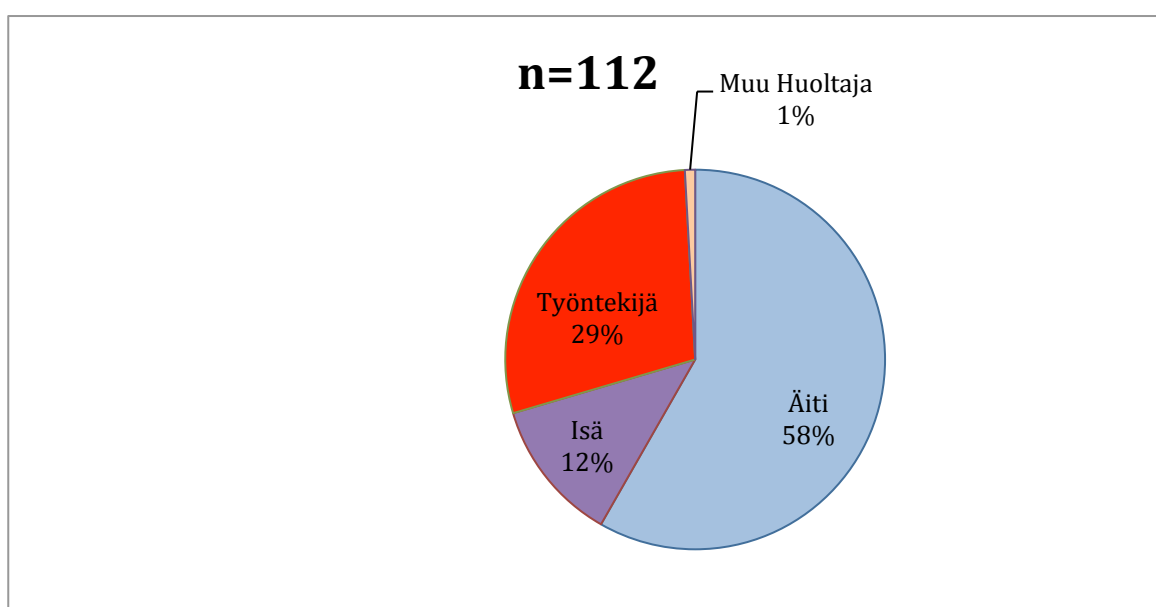
Kyselyn tulokset osoittavat, että yleinen käsitys asiakkaiden tyytyväisyydestä Päikky järjestelmään on melko hyvä, mutta ei vielä erinomainen. Asiakaspalvelun motivaatiotekijöitä olisi korostettava ja otettava toimia asiakkaiden tyytyväisyyden, palvelun laadun ja tuotteen parantamiseksi. Enemmän järjestelmää tukeva ja parempi koulutusohjelma olisi erittäin suositeltavaa.

#### Tulokset

Alla oleva kaavio näyttää yksityiskohtaisesti prosentuaalisen jakauman päiväkotien välillä alkaen Sorvankaaren päiväkodista, jonka jälkeen Tähkärinteen päiväkotia ja Mutkapolon päiväkotia sekä perhepäivähoitoa.

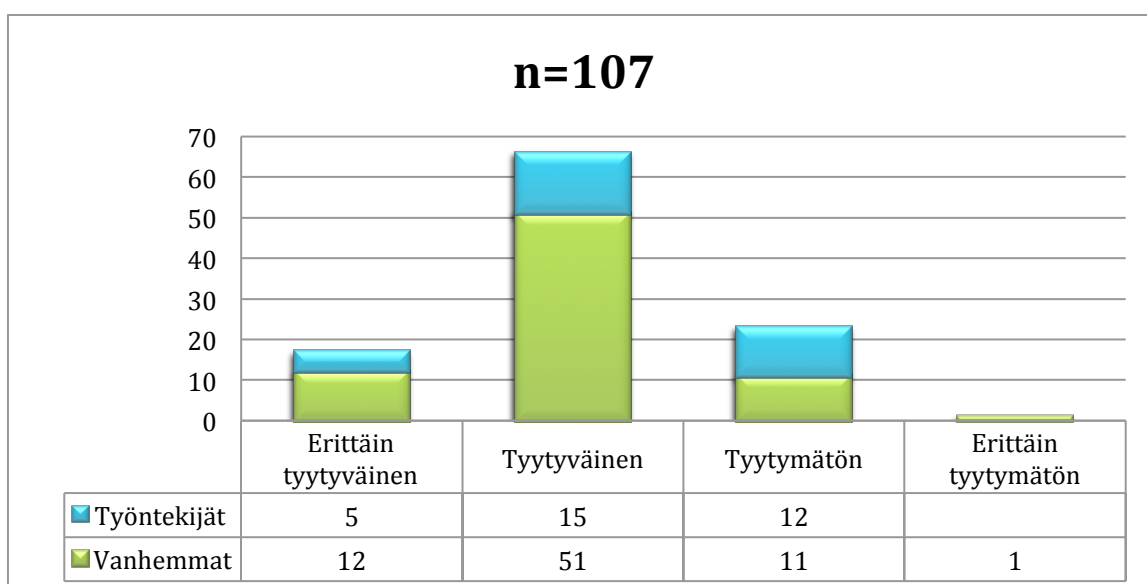
Lisäksi toinen kaavio näyttää kuka lomakkeen täytti.

	Työntekijät n=33 Saapuneet/Lähetetyt = Vastausprosentti	Vanhemmat n=79 Saapuneet/Lähetetyt= vastaus- prosentti
Sorvankaaren päiväkoti	16/20 =80%	19/60 =32%
Tähkärinteen päiväkoti	6/26 =21,4%	30/75 = 40%
Mutkapolun päiväkoti	6/20 =30%	24/60 =40%
Perhepäivähoito	5/5 = 100%	3/20 =15%

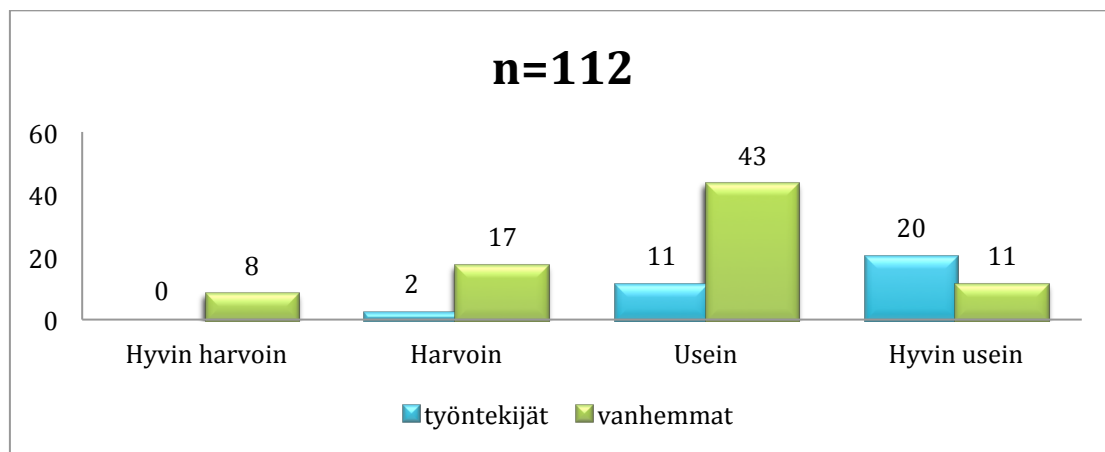


### Laatu

Oletko tyytyväinen saamaasi koulutukseen ja tietoon palvelun käytöstä?



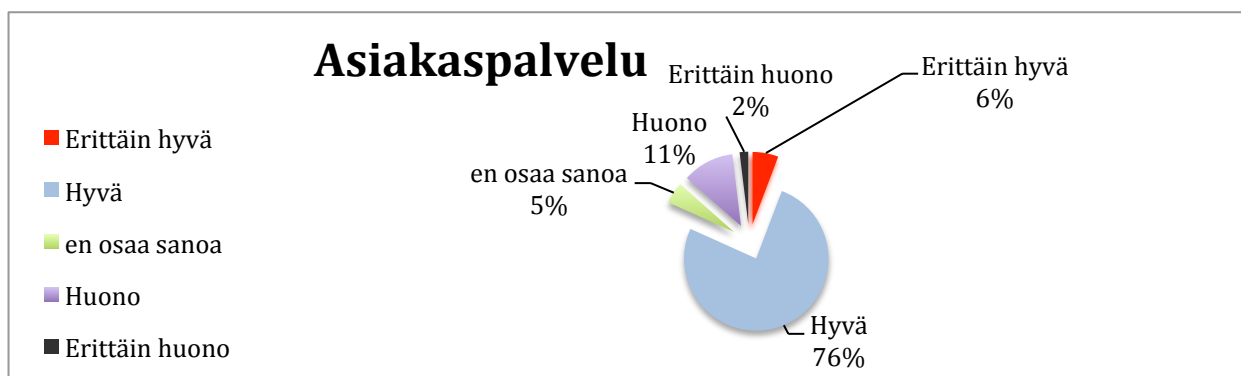
Kuinka usein käytät Päikky palvelua?



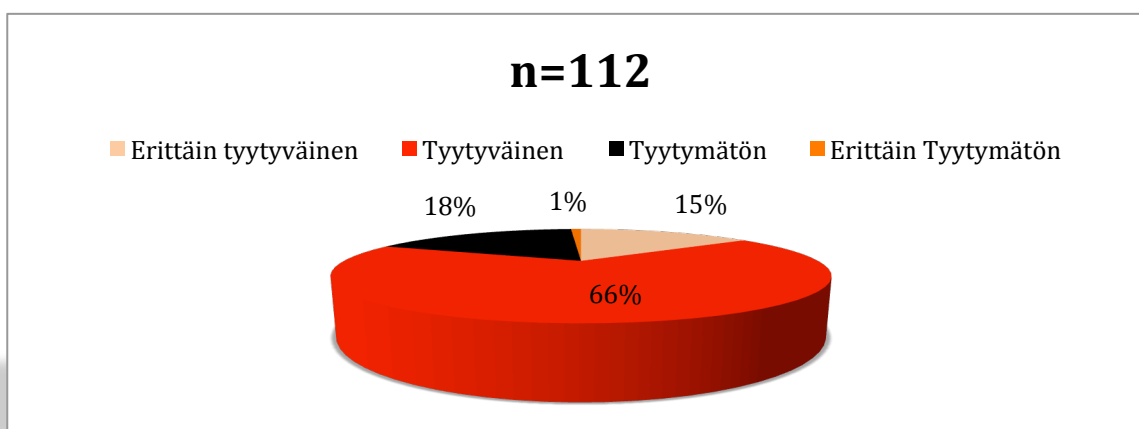
”Haluaisin kovasti käyttää palvelua, mutta sen kehittämiseksi käteväksi työkaluksi on vielä jonkin matkaa. Toivon kuitenkin, että palvelu kehittyy nopeasti” –Äiti-

Palvelu

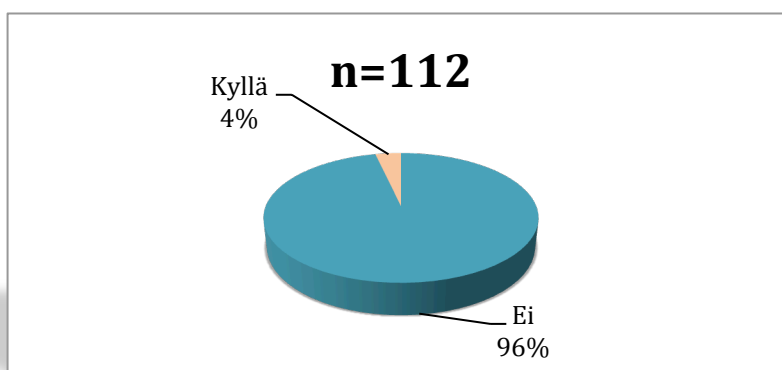
Miten arvioisit Päikky asiakaspalvelun?



kuinka koet Päikyn palveluna?



Olisitko valmis maksamaan Päikky palvelusta?



Yllä olevissa kaavioissa näkyy ystävällisen palvelun taso, jota Päikky on tarjonnut sen asiakkaille. Päikyn asiakkaat ovat yleisesti tyytyväisiä järjestelmään mutta eivät vielä ERITTÄIN tyytyväisiä. 74 vastaajista arvioivat Päikky järjestelmän hyvänä palveluna. Lähes yhtä monta vastaajaa kokee olevansa tyytyväinen Päikky palveluun. Kuitenkin Päikky näyttää edelleen pystyvänsä tarjoamaan ystävällistä palvelua asiakkailleen.

”Sujuvaa, selkeää palvelua, joka on mukana ja osana päivähoidon tiedotus- ja vuorovaikutusasioissa” – Työntekijä-

”Olisi hirmu hyvä jos palvelusta olisi kunnollinen mobiilioptimoitu versio, joka toimisi hyvin mobiilivälityksen kautta” –Äiti-

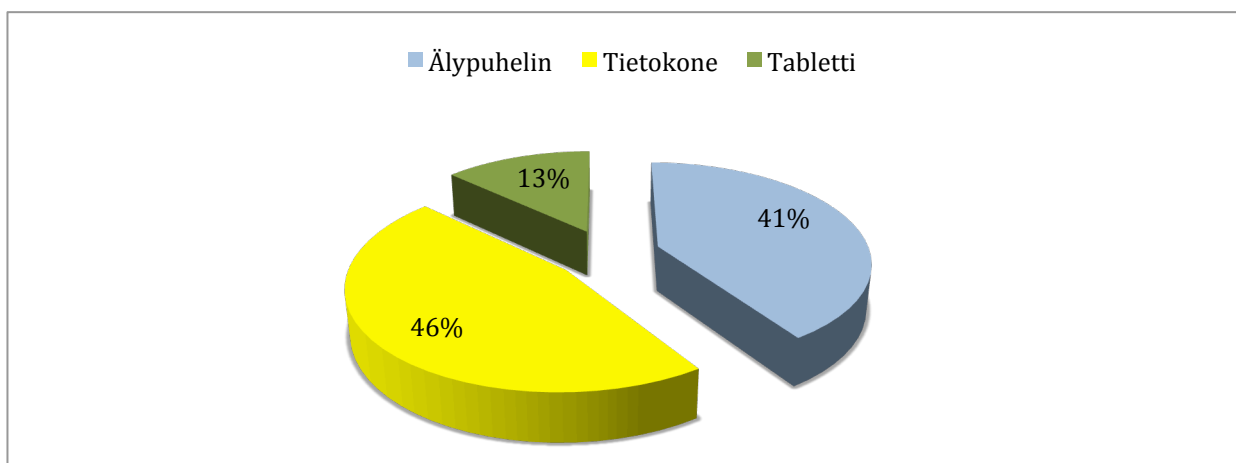
”Vastasin asiakaspalvelu huono, koska en edes tiennyt että on joku asiakaspalvelu” –Äiti-

”En oikein osaa sanoa, koska en tiedä mitä kaikkea se pystyy tällä hetkellä tarjoamaan. En ole saanut sen käyttöön riittävästi opastusta” –Työntekijä-

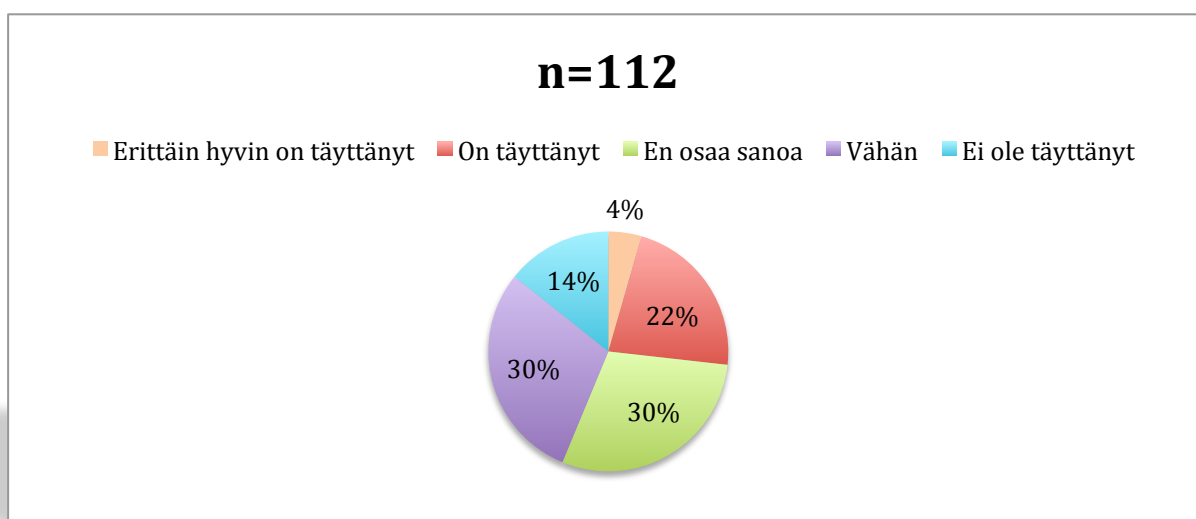
”Hyvä palvelu, mutta vaatisi ehkä enemmän aktiivisuutta päiväkodinkin puolelta” –Äiti

## Kommunikaatio

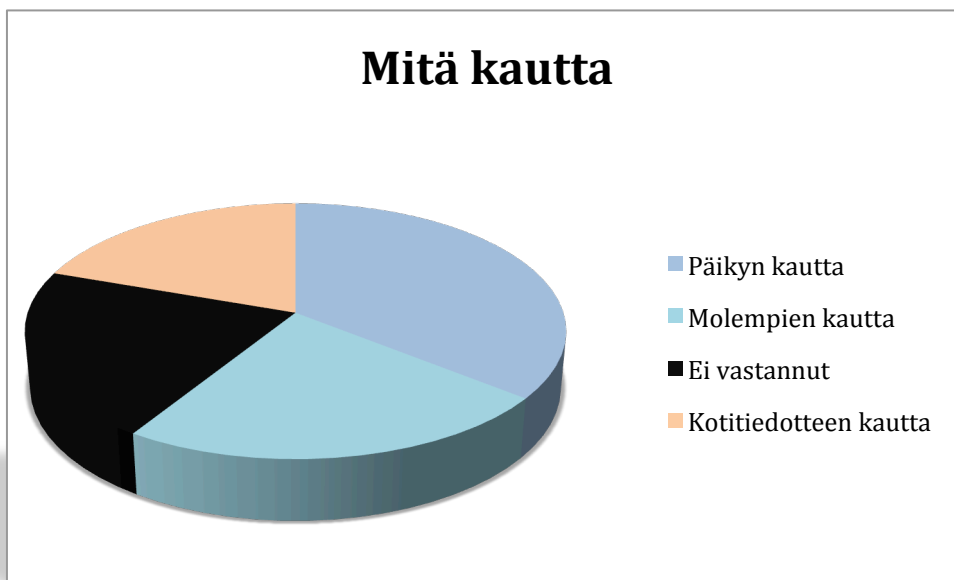
Millä laitteilla käytät palvelua?



Onko tämä palvelu täyttänyt odotuksesi olla paremmassa yhteydessä päiväkotisi kanssa?



Miten haluaisit saada tietoa lapsesi päivästä?



Yllä olevat kaaviot näyttävät kokonaisvaltaisen näkymän kuinka Päikky on ymmärretty suhteessa kommunikaatioon. On hyvin mielenkiintoista huomata, että 22% vastaajista vastasi että on täyttänyt odotukset olla paremmassa yhteydessä päiväkotini kanssa. Kun taas sama prosentti määrä 30% vastauksille en osaa sanoa ja vähän, mikä tarkoittaa sitä, että Päikky ei ole pystynyt täysin parantamaan yhteyttä päiväkodin ja asiakkaan kanssa.

”Toivon että hoitajatkin käyttäisivät ahkerasti tätä niin se tarttuu vanhempiin” –Äiti-

”Päikkyä mainostettiin meille niin, että voit reaaliaikaisesti seurata lapsen päivää päiväkodissa yms. Viimeksi päikkyyn on tullut joku kuva lähes vuosi sitten ja muutkin viestit ovat enemmän olleet asiapitoisia (mukavampi olisi kuulla vaikka että tänään oltiin pulkkamäessä). Se on kyllä hyvä että asiapitoisia viestejäkin tulee tätä kautta, voisi tulla enemmän infoa ajankohtaisista asioista” –Äiti-

”Asiat tulee juteltua eikä ole ollut tarvetta yhteydenpitoon” –Äiti-

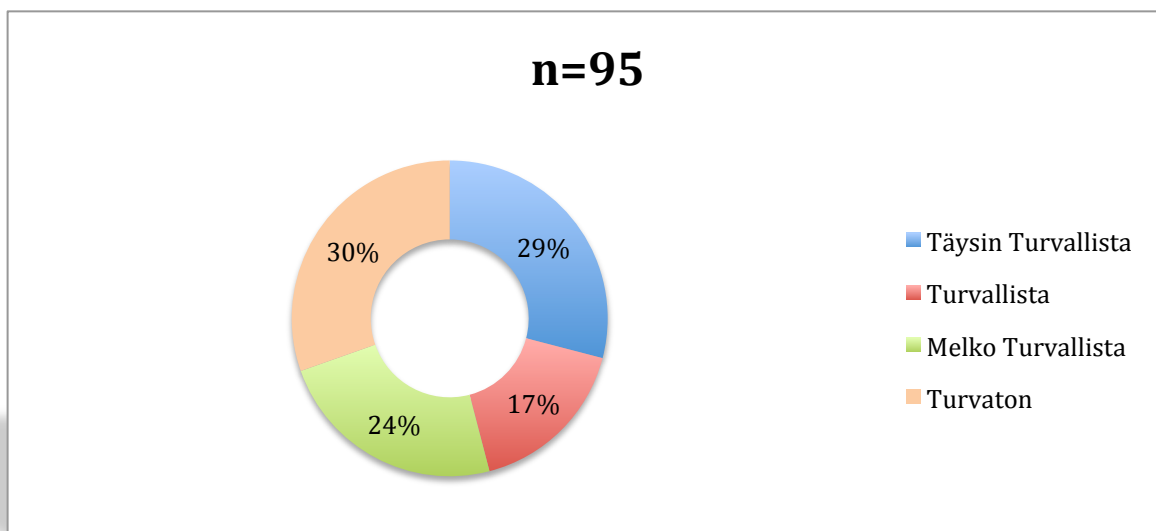
”Sitä ettei se koskaan korvaa jutustelua päiväkodin väen kanssa, vaan toimi apukeinona. Päikyssä parhaita puolia on nopean viestin muutoksista lähettäminen vaikka yöaikaan jos tarve” –Äiti-

”kaikki lapuilla tuleva tiedotus tämän kautta. Tulisi nopeammin perille” – Isä-

Turvallisuus



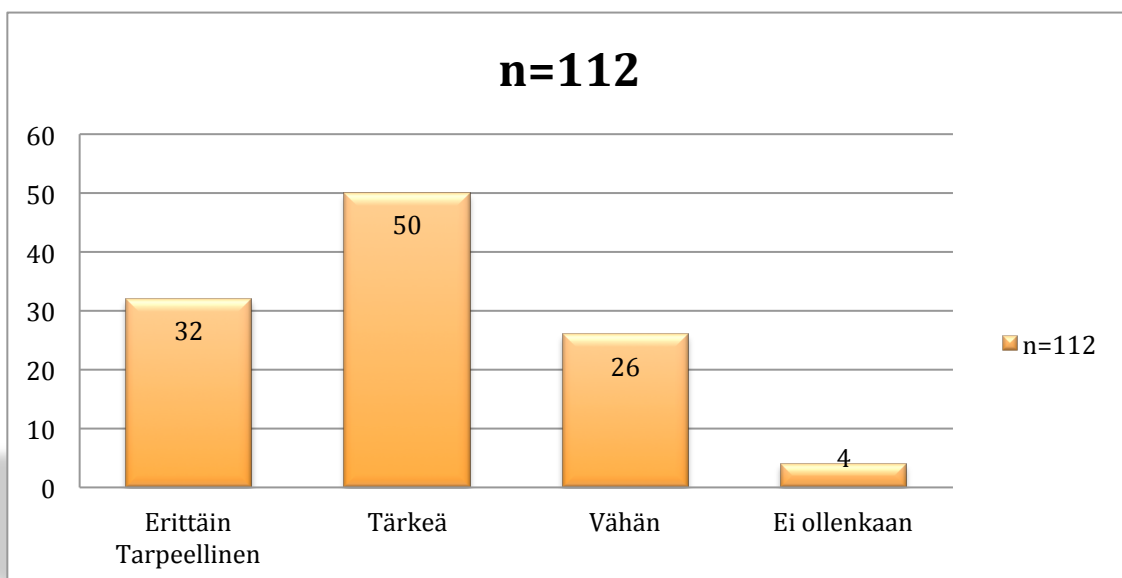
Tuntuuko turvalliselta kirjoittaa Internetiin luottamuksellisia tietoja lapsestasi?



”Toivon myös että tietoturvaan kiinnitettäisiin erityistä huomioita. Minä en esimerkiksi halua että kaikki tietävät missä lapseni ovat” -Äiti-

Tarpeellisuus

Onko mielestäsi Päikky tarpeellinen palvelu?

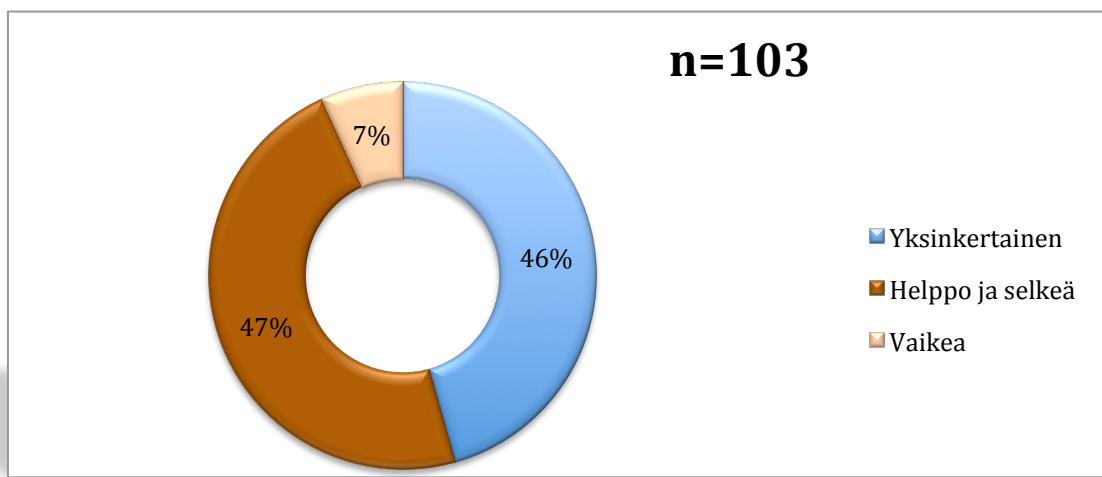


Yllä oleva kaavio näyttää kuinka tarpeellisenä asiakkaat näkevät Päikky palvelun. Viisikymmentä sadastakahdestatoista vastanneesta kokevat Päikky palvelun tärkeänä palveluna. Kuitenkin moni vastanneista kokee palvelun tarpeen vähäisenä.

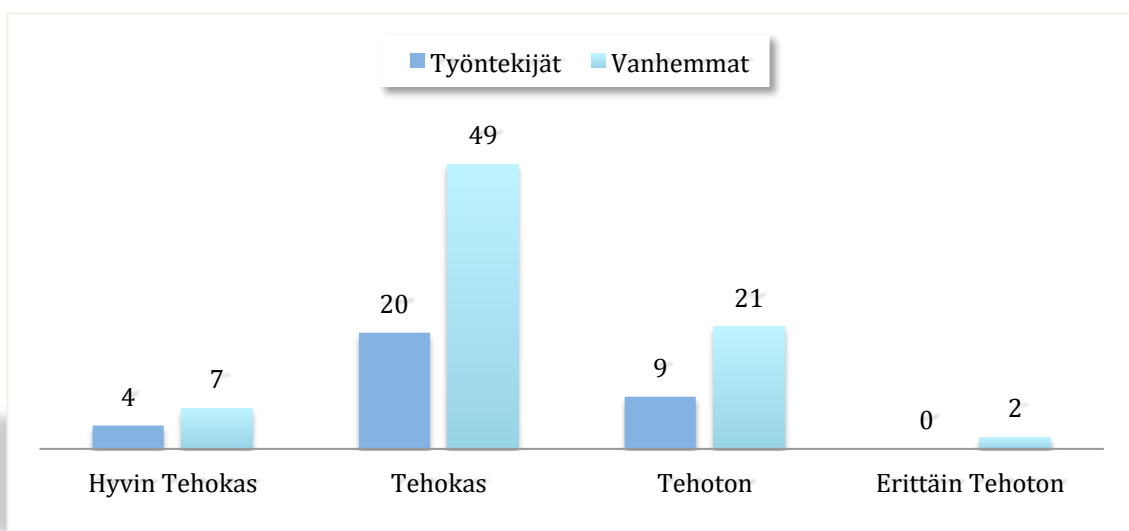
”Päikky pitäisi ehdottomasti ottaa käyttöön täydessä laajuudessaan eli niin, että sen kautta todella seurattaisiin hoitoaikoja ja hoitoaika vaikuttaisi hoitomaksuun. Kaikki informaatio pitäisi tulla Päikyn kautta (tapahtumat yms.), koska itse vien ja haen lapseni sellaiseen aikaan, ettei oman ryhmän ovi ole auki, joten tiedotteet jäävät hyvin usein lukematta” -Äiti-

#### Tehokkuus

Onko Päikky verkkosivusto helppo ja selkeä käyttää?



Käyttökokemuksesi perusteella, kuinka tehokas Päikky on ollut palveluna?



”Monimuotoisempi ja helppokäyttöisempi appsilla”

Lisää toimintoja, esim. Ilmoitustaulu jolla voisi ilmoittaa sairaudesta tms menosta nopeasti hoitopaikkaan jossa vielä lukukuittaus”-Äiti-

”Toivon että jatkuu ja että otetaan vahvemmin käyttöön, harmi kun en itse omista älypuhelinia niin hidastaa kommunikointia mutta se on minun ongelma ei Päikky palvelun” -Äiti-

”Loistava palvelu! Ainoa ja melko suurikin miinuspuoli on se, että hoitajat merkitsevät lapsen tulo- ja lähtöajat joskus tuntienkin viiveellä! Lapsemme on osapäivähoidossa, joka ei saa ylittää minuuttilakaan 5h/pv. Hoitoaikaahan on täysin mahdotonta valvoa jos hoitoaikaa ei päivitetä juuri silloin kun lasta tuodaan/haetaan!!!! Informaation välityksessä aivan loistava” -Äiti-

”Nopeutta/ parempia yhteyksiä. Ei ole aikaa odotella, että yhteys löytyy...” -Työntekijä-

”Laite (?) / ohjelma ei ole luotettava, koska kirjautumiset eivät aina onnistu. Järjestelmä jumittuu välillä pitkäksikin ajaksi (jos laskutus tuntitaksan mukaan, pitäisi pystyä kirjaamaan oikea aika) tai näyttää väärin (ensin näyttää, että on kirjattu sisään/ulos, myöhemmin huomattu, ettei kirjaaminen ollutkaan toteutunut). Tietoja ei pysty päivittämään, esim. jos nimi tai puh.nro vaihtuu. Järjestelmä ei noteeraa sijaisia, esim. ryhmässä on lapsia kirjattuna sisään ja sijainen, mutta järjestelmä ilmoittaa että kasvattajia on 0! Vaikuttaisi siltä, että lapset ovat ryhmässä keskenään, ilman aikuista” -Työntekijä-

## 7 Kehitettävyyys

Kolmen avonaisen kysymyksen osan tehtävänä kyselyn lopussa oli rohkaista vastaajia ilmaisemaan vapaasti mielipiteitään. Kerätyt palautteet ja kommentit voidaan käyttää Päikky palvelun laadun parantamiseen sekä todisteena Nurmijärven kunnalle Päikky palvelun toimivuudesta ja tarpeesta.

Avonaisten kysymysten osa sai eniten kommentteja. Suurin osa kommentteista koskien Päikky palvelua liittyivät sen kehitettävyyteen, tehokkuuteen, kommunikaatioon, vastuuseen ja laatuun.

Mitä pitäisi kehittää Päikky palvelussa?

Työntekijät	Vanhemmat
Toimiva ja nopea yhteys järjestelmään.	Toimiva ja nopea yhteys järjestelmään
Parempaa ja jatkuvaa koulutusta järjestelmän käytöstä, työntekijöille sekä vanhemmille	Enemmän reaali-aikaista kanssa käymistä järjestelmän kautta ”Nopeaa ja oikea-aikasta tietoa, ohjelmien edelleen kehittäminen”

<p>Jonkinlainen muistilappu toiminto mihin työntekijät voivat kirjoittaa vanhempien kommentteja tai muuta tärkeää tietoa lapsesta yms.</p>	<p>Parempi mobiilisovellus Älypuhelimelle. Yksinkertaisempaa nettisivustoa</p>
<p>Lasten kirjaamiset olisivat vanhempien vastuulla.</p> <p>”Vanhemmat voisivat itse klikata lapsensa saapuneeksi hoitoon, kun työntekijä saattaa muistaa sen vasta muutaman tunnin päästä lapsen saapumista hoitoon”- Työntekijä-</p> <p>”Päiväkodista tullut toive, että vanhemmat merkitisivät Paikka ohjelmaan myös lapsen vapaa päivät. Tällä hetkellä valikossa mahdollisuus vain valita joko hoidossa tai poissa. Olisiko mahdollisuutta saada valikkoon vaihtoehtoja lisää esim. Tuo vapaa ja lomalla? Ja onko mahdollista kehittää palvelua siten, jos esim. vanhemman työvuorot muuttuu kesken viikon voisi päivän kautta reaaliajassa ajassa myös päivittää lapsen hoitoon tuonti-/hakuaikaa?” – Työntekijä-</p>	<p>Enemmän selaintukea,</p> <p>Enemmän tietoa palvelun turvallisuudesta netin käytön suhteen.</p>
	<p>Lasten kirjaamiset olisivat vanhempien vastuulla.</p> <p>”Omasta mielestä lapsen kirjaaminen sisään/ulos pitäisi olla vanhempien vastuulla”- Äiti-</p> <p>”Jos laskutus tuntitaksan mukaan, niin kirjaaminen voisi olla vanhempien vastuulla” –Äiti-</p>
<p>Viesti-Systemi, olisi hyvä, jos voisi lähettää viestejä, Esim. tietylle päiväkotihoitoryhmälle</p>	<p>Päikky voisi kehittää kuin Helmi-palvelu. Jossa infotaan kaikki koulua koskevat asiaa</p>
<p>Luotettavuus</p>	<p>Joustavampaa palvelua suunnitelmien muokkaukseen</p>
	<p>Muistutusviesti, Alkuinfo tai ”tapahtumakalenteri”</p>

Pohdinta

Tammikuussa 2013, MukavaIT ja Nurmijärven kunta yhdessä alkoivat testaamaan yhteisellä sopimuksella varhaiskasvatuksen mobiilisoveltuvuutta Nurmijärven varhaiskasvatuksen tarpeisiin. Päikky järjestelmän pilotti päättyi 31.05.2014. Tänä aikana MukavaIT sekä Nurmijärven kunta ovat saaneet vanhemmilta sekä työntekijöiltä hyödyllistä tietoa käyttökokemuksista.

Asiakastyytyväisyys on yksi tärkeimmistä menestyksen mittareista. Se on tärkeä osa onnistuneen asiakassuhteen luomisessa ja sen ylläpitämisessä. Asiakastyytyväisyys tuo lisää asiakkaista, ja asiakkaat tuovat lisää tuottoja ja kehitys ideoita. Kun puhutaan asiakastyytyväisyydestä, tyytyväisyys on asiakkaan kokemus tuotteesta tai palvelusta suhteutettuna odotuksiin. Asiakastyytyväisyys kertoo yritykselle paljon sen menestymismahdollisuuksista nyt ja tulevaisuudesta. (Rope & Pöllänen 1998, 58)

Sen tähden, on tärkeää kaikille yrityksille arvioida asiakastyytyväisyyden taso. Tyytyväisyyden korkea taso voidaan kääntää voitoksi kun taas tyytyväisyyden matala taso tarkoittaa, että asiakkaat saattavat vaihtaa kilpailijaan.

Kyselylomakkeen tulokset osoittivat, että suurin osa asiakkaista oli tyytyväisiä, mutta ei vielä erittäin tyytyväisiä. Kysely osoittaa, että Päikky palvelu on hyvällä tasolla, mutta kuitenkin parannuksia tarvitaan parantamaan asiakas tyytyväisyyttä tyytyväiseltä tasolta erittäin hyvälle tasolle.

Kolme päiväkotia ja viisi perhepäivähoitajaa oli tutkimuksen alueella. Sorvankaaren päiväkodista oli suurin määrä vastanneita työntekijöitä ja Tähkärinteen sekä Mutkapolun päiväkodeista oli suurin määrä vastanneita vanhempia. Perhepäivähoitajat vastasivat 100%, mutta heidän asiakkaansa vastasivat heikosti, vain 15%.

Tulos osoitti, että suuri määrä vastaajista on käyttänyt Päikky palvelua, mutta silti monet heistä eivät vielä ymmärrä Päikyn tarkoitusta. Siten voidaan päätellä, että monet asiakkaat ovat vielä tuntemattomia järjestelmälle sekä Päikyn parhaille ominaisuuksille.

Useimmat vastaajista pitivät Päikkyä hyödyllisenä tuotteena ja palveluna, jota silti voidaan kehittää vielä.

Suurin osa vastaajista koki Päikyn verkkosivun käytön helpoksi ja selkeäksi. Kuitenkin vielä monilla ei ollut aavistustakaan verkkosivun käytöstä sekä älypuhelimien käytöstä. Tästä voi tehdä johtopäätöksen, jos otetaan Päikky käyttöön, olisi erittäin tarpeellista että MukavaIT ja Nurmijärven Varhaiskasvatus käyttäisivät asiakkaiden ja työntekijöiden kouluttamiseen parempia koulutusohjelmia opastamaan asiakkaita ja työntekijöitä niiden käytöstä sekä minkälaisia palveluja he ovat suunnitelleet.

Päikky Asiakastyytyväisyystutkimus on näyttänyt sen pystyvän tyydyttämään suuren määrän asiakkaita. On kuitenkin parantamisen varaa. Asiakkaat näyttävät olevan tyytyväisiä laatuun, palveluun, tehokkuuteen jne. Mutta tuloksen perusteella on kuitenkin syytä kiinnittää huomiota turvallisuuden suhteen. Vain

29% kokee turvalliselta kirjoittaa Internetiin luottamuksellisia tietoja lapsestaan. Kuitenkin, 30% vastaajista tuntee olonsa turvattomaksi.

Työntekijät ovat tyytyväisiä Päikky palvelun käyttöön, mutta monet vastauksista osoittivat, että he eivät ole tyytyväisiä tehokkuuteen sekä palveluun. Työntekijät kuitenkin yhä toivovat, että he saisivat riittävästi koulutusta ja tietoa jos Päikky otetaan käyttöön.

Parannusehdotuksia

#### Asiakkaiden kouluttaminen

Asiakkaiden kouluttaminen on yksinkertaisesti prosessi, jossa ihmiset opetetaan eri tuotteiden ja palvelujen käytöstä yksityiskohtaisesti niin, että asiakas saisi mahdollisimman maksimaalisen tyytyväisyyden ja hyödyn. On olemassa paljon etuja asiakkaan kouluttamisessa kuten, että se toimii palautteen antajana liiketoiminnalle. Vuorovaikutus asiakkaiden ja palvelun tuottajien välillä auttaa standardoida tuotteita ja palveluja.

Haluaisin ehdottaa siis MukavaIT:lle panostamista asiakkaan koulutukseen ja tietoisuuden lisäämiseen mobiili järjestelmistä eri medioiden kautta. Koska suuri määrä asiakkaista ei tiedä MukavaIT tuotteista ja palveluista, kuten mobiili järjestelmien käytöstä, olisi hyvä MukavaIT:lle luoda tiedotuskampanja, jossa he voisivat ohjata asiakkaita tuotteista ja eri palvelujen käytöstä.

#### Koulutusohjelmia

Koulutusohjelma on erittäin olennainen osa kehitystä sekä tuotteiden ja palveluiden standardointia. Järjestelmät ja tuotteet ovat tulossa tieteellisemmiksi päivä päivältä (Prakash 2012). Siksi on erittäin tärkeää, että MukavaIT ja Nurmijärven varhaiskasvatus toteuttavat joitakin koulutusohjelmia mitkä antavat todellista opastusta asiakkaille kuinka käyttää tuotteita tehokkaasti .

#### Koulutusohjelmia työntekijälle

Työntekijät ovat keskeinen osa liiketoimintaa ja yrityksessä on keskeinen rooli johtamisessa. Laadukas palvelu voidaan varmistaa vain, jos työntekijät ovat hyvin koulutettuja. Työntekijöiden pitäisi ensin tietää tuotteiden ja palvelujen käytöstä oikealla tavalla ja vasta sitten hän voi palvella asiakkaita laadukkaasti.

Nykyaikaisten laitteiden ja uusien järjestelmien käyttö sekä tietojen kirjaaminen tarvitsee aina oikean koulutuksen tehdä työtä tarkasti ja oikeaan aikaan. MukavaIT:n ja Nurmijärven varhaiskasvatuksen olisi toteutettava säännöllisiä koulutuksia työntekijöille, jotta laitteiden ja järjestelmien käyttö sekä tarkoitus ei pääsisi unohtumaan.

### Yhtiön käytännön ohjausta

Kuulua joukkoon luo motivaatiota; se on erittäin tärkeää, että työntekijät saavat ajoissa tietoa ja viestintää ymmärtää yhtiön politiikan ja päätöksenteon (Prakash 2013). On siis erittäin tärkeää, että johtajat tekevät tällaisia ohjelmia, joissa henkilökunta saisi riittävät tiedot yrityksen käytännöistä ja viestinnästä. Lisäksi asianmukainen ohjaus on aina tärkeää.

### Ehdotetut Lisätutkimuksia

Tässä tutkimuksessa on joitakin rajoituksia ja on erittäin tärkeää tunnistaa ne ja tarkentaa niitä tulevaisuuden tutkimuksiin. Ensimmäinen tutkimus on rajattu kolmeen päiväkotiin Ja Viiteen perhepäivähoitoon, jotka eivät edusta kaikkia päiväkotia jotka tällä hetkellä käyttävät Päikky palvelua. Toiseksi kyselylomake annettiin työaikana ; vastaajilla ei ehkä ole ollut aikaa vastata ajanpuutteen, stressin ja työ paineiden takia. Tulevaisuuden tutkimus, enemmän ominaisuuksia voidaan lisätä, jotta tutkimus olisi tarkempi ja paremmin sovellettavissa yrityksille.

Jos Päikky otetaan käyttöön, jatkuva tutkimus on suositeltavaa, koska asiakkaiden tarpeet ja odotukset jatkuvasti muuttuvat ajan myötä ja uusia teknologioita keksintöjä ja tuotteita tulee lisää. Niin Päikynkin pitää muuttua. Tutkimuslomakkeen voi toteuttaa samalla menetelmällä kuin tämä tutkimus tai muuttaa sopivaksi omiin kriteereihin. Lisätutkimuksia olisi toteutettava jatkuvasti perustuen sekä työntekijöiden ja asiakkaiden tyytyväisyyteen ja tuloksia olisi säilytettävä omassa järjestelmässä pidemmän aikaa, jotta voidaan seurata muutoksia.

Eri asiakkailla on erilaisia käsityksiä ja odotuksia palvelusta, laadusta, kommunikaatiosta jne. Siksi tämän tutkimuksen täytäntöönpano mobiiliseurantajärjestelmän yritykselle saattaa tuottaa erilaisia tuloksia, jotka ovat hyödyllisiä ja hedelmällisiä sekä asiakas yrityksille että palvelua tuottavalle yritykselle.

### Lähteet

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Rope, T. & Pöllänen, J. 1998. Asiakastytyväisyysjohtaminen. 4. painos. WSOY, Juva.

Toivanen, J. 23.01.2014. Tampere Kaupunki. Lasten kunnallisen päivähoiton maksut muuttuvat elokuussa. <http://www.tampere.fi/perhejasosaalipalvelut/paivahoito/maksut.html>

Toivanen, J. 23.01.2014. Lasten kunnallisen päivähoiton maksut muuttuvat elokuussa.

#### Appendix 4: Covering and Permission Letter (in Finnish Language)

Päivämäärä: 09.12.2013

Leena Laine  
Varhaiskasvatuspäällikkö  
Nurmijärven kunta  
Keskustie 5  
01900 Nurmijärvi

Viitaten käytyyn puhelin keskusteluun sinun ja pomoni Tiinan kanssa

Haen mahdollisuutta tehdä opinnäytetyötäni Sorvankaaren Päiväkodissa.

Kuten on puhuttu, haluaisin suorittaa opinnäytetyöni Sorvankaaren päiväkodissa. Olen hyvin kiinnostunut tekemään tutkimuksen Päikky järjestelmästä ja sen vaikutuksesta päivähoitoon asiakas sekä työntekijä tasolla.

Syy miksi haluaisin tehdä tämän tutkimuksen on, koska Päikky on innovatiivinen palvelumuoto ja tällä hetkellä se on uusinta uutta teknologiaa, joka on tullut modernisoimaan päivähoitoa. Lisäksi olen ymmärtänyt, että Päikky systeemi rohkaisee vanhempia osallistumaan lapsensa varhaiskasvatukseen sekä auttamaan työntekijöitä seuraamaan reaaliajassa lasten määrää ja vanhempien informaatiota lapsista sekä päiväkodin aktiviteeteista jne. Juuri sen takia olen kiinnostunut tietämään vanhempien ja työntekijöiden mielipiteet asiasta. Myöskin minun opiskeluni ovat suuntauneet EHealth palveluihin, joka on osa Health promotion linjaa.

Haluaisin aloittaa tämän tutkimuksen mahdollisimman nopeasti, jotta saisin aikaan hyvän ja luotettavan tuloksen tutkimuksestani. Silloin se myöskin auttaisi parhaiten Nurmijärven Kuntaa ja MukavaIT oy:tä. Tavoitteeni on saada opinnäytetyöni tehtyä ennen joulukuuta 2014, että voisin valmistua joulukuussa 2014 Laurea YAMK Master of health care and health promotion.


Toivon mahdollisuutta toteuttaa opinnäytetyöni sekä hedelmällistä yhteistyötä .

Parhain terveisin

Andrea Vanhanen  
Sosionomi AMK



## Appendix 5: Research Permission Granted

<b>NURMIJÄRVEN KUNTA</b> Sivistystoimi Varhaiskasvatuspäällikkö	<b>PÄÄTÖS</b> 18.12.2013	§ 112
<b>Asia</b>	TUTKIMUSLUPA / Andrea Vanhanen	
<b>Selostus</b>	Andrea Vanhanen opiskelee Laurea YAMK Master of health care and health promotion. Hän anoo tutkimuslupaa tutkiakseen Päikky-järjestelmää ja sen vaikutuksesta päivähoitoon asiakas sekä työntekijän tasolla.	
<b>Päätös</b>	Päätän myöntää Andrea Vanhaselle tutkimusluvan sillä edellytyksellä, että noudattaa tutkielman laatimisessa vaitiolo- ja salassapitosäännöksiä. Lisäksi edellytän, että toimittaa valmiin tutkimuksen allekirjoittaneelle.  Liitteenä oleva vaitioloisuus tulee palauttaa allekirjoitettuna osoitteeseen: Kunnanvirasto Varhaiskasvatus / Leena Laine PL 37 (Keskustie 2 B) 01900 Nurmijärvi.	
<b>Allekirjoitus</b>	 Leena Laine varhaiskasvatuspäällikkö	
<b>Päätöksen nähtäväksi asettaminen</b>	19.12.2013	
<b>OIKAISUVAATIMUS</b>	Päätökseen tyytymätön voi tehdä kirjallisen oikaisuvaatimuksen, joka on toimitettava sivistyslautakunnalle 14 päivän kuluessa päätöksen tiedoksisaannista. Oikaisuvaatimuksen saa tehdä se, johon päätös on kohdistettu tai jonka oikeuteen, velvollisuuteen tai etuun päätös välittömästi vaikuttaa (asianosainen) sekä kunnan jäsen.	
<b>OHJEET</b>	<p><b>Oikaisuvaatimuskirjelmä</b> Oikaisuvaatimus on tehtävä kirjallisesti ja siinä on ilmoitettava:</p> <ol style="list-style-type: none"> <li>1. valittajan nimi, ammatti ja postiosoite (asiamiehen osalta vastaavat tiedot);</li> <li>2. päätös, johon haetaan muutosta;</li> <li>3. milta osin päätökseen haetaan muutosta ja muutos, jota siihen vaaditaan tehtäväksi; sekä</li> <li>4. muutosvaatimuksen perusteet.</li> </ol> <p>Kirjelmä on vaatimuksen tekijän itsensä tai hänen valtuuttamansa asiamiehen allekirjoitettava ja siihen on liitettävä päätös, johon haetaan muutosta sekä selvitys siitä, mistä päivästä oikaisuvaatimuksen/valituksen tekemisen aika seuraavassa todetun mukaisesti lasketaan.</p> <p><b>Oikaisuvaatimusaika</b> Oikaisuvaatimus- ja valitusajaksi lasketaan tiedoksisaannista.</p> <p>Asianosaiselle (se, johon päätös on kohdistettu tai jonka oikeuteen, velvollisuuteen tai etuun päätös välittömästi vaikuttaa) lähetetään päätöstä koskeva pöytäkirjanote erikseen tiedoksi kirjeellä. Asianosaisen katsotaan saaneen päätöksestä tiedon, jollei muuta näytetä, seitsemän päivän kuluessa kirjeen lähettämisestä. Kunnan jäsenen katsotaan saaneen päätöksestä tiedon, kun pöytäkirja on asetettu yleisesti nähtäville.</p> <p><b>Oikaisuvaatimuksen toimittaminen muutoksenhakuviranomaiselle</b> Oikaisuvaatimuskirjelmä on muutoksenhakijan itsensä tai hänen valtuuttamansa asiamiehen toimitettava taikka postitse lähetettävä oikaisuvaatimusviranomaisen kirjaamoon ennen oikaisuvaatimusajan päättymistä.</p> <p>Oikaisuvaatimusviranomaisen osoite ja postiosoite: Nurmijärven sivistyslautakunta Katuosoite: Keskustie 2B, 01900 Nurmijärvi Postiosoite: PL 37, 01901 Nurmijärvi</p>	
<b>JAKELU</b>	hakija(t) aluejohtajat	