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HEALTH APPS AND HOW TO MARKET THEM

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Game innovations projekti - digitaalinen terveys

Puhelinsovellukset, Terveys-sovellusten markkinointi

Tulevaisuudessa terveyteen liittyvät puhelinsovellukset voivat olla yhtä suosittuja kuin mobiilipelit tai verkkokauppasovellukset. Tutkimusten mukaan jotkut kuluttajat pitävät terveyteen liittyviä puhelinsovelluksia hyödyllisempänä kuin soittamista puhelimella. Puhelinsovellusala on suhteellisen uusi ala multimiljardi liikevaihtoineen. Tämän tutkimuksen aihe on kuinka terveys-sovelluksia markkinoidaan kansainvälisesti. Terveys-sovellukset kuten ; fitness, paino- ja hyvinvointi sovellukset (Appsit) ovat uusi trendi sovellusliiketoiminnassa. Terveystieteelliset sovellukset on jaettu terveys- ja lääketieteellisiin sovelluksiin. Terveystieteellisten sovellusten latauksista 80 prosenttia on terveys-sovelluksia, joista suosituimpia ovat fitness- painonhallinta- unen tarkkailu- ja ruokavaliosovellukset. Suosituimmat maksulliset sovellukset ovat painonhallinta- unen seuranta ja meditaatiosovellukset. 20 prosenttia terveydenhuoltosovelluksista on lääketieteellisiä sovelluksia.

Ala kasvaa nopealla vauhdilla ,joten tuore tutkimustieto sovellusten markkinoinnista on tarpeen. Tämän tutkimuksen tavoitteena on löytää kaikki markkinointitoimenpiteet, joita käytetään terveys-sovellusten markkinoinnissa. Tässä tutkimuksessa esitetään tietoa myös puhelinsovelluksista, sekä terveys- ja lääketieteellisistä sovelluksista ja niiden markkinoista. Maailman johtavien terveys-sovellusten kehittäjiä haastatellaan teemahaastatteluin, sekä lisäksi esitetään tietoa tieteellisistä julkaisuista.

ABSTRACT

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Health Apps and How to Market Them

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In future health apps may become as popular as mobile games and retail shopping apps. Some consumers even think that health app usage is more valuable than making or receiving calls. This multibillion industry of mobile software applications and especially health apps is relatively new. The main research topic was how to market health apps globally. Health apps like fitness, weight loss and wellness apps are new trend in apps business. Healthcare apps are divided into health- and medical apps. From healthcare app downloads 80 percent are health apps, fitness-, weight loss- and diet apps being most popular. Most popular paid apps are weight loss, sleep and meditation apps. 20 percent of the healthcare app downloads are medical apps.

Marketing apps differ from traditional product advertising and there are only a few institutions that teach app marketing. There is also a lack of information on how to market health apps. The industry is growing at a fast pace, so up-to-date research is needed to be able to help marketing management. This research aims to find the underlying marketing practices that drive health apps marketing. Also mobile apps, including health- and medical apps and their markets are presented. In-depth interviews with the world's leading health app developers have been conducted to provide a further practical insight to the research subject, complementing the review of recent scientific publications.

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1 INTRODUCTION

Background

The leading smartphone manufacturers Apple and Samsung are shipping health apps platforms with their operating systems. This demonstrates that health apps are now the ones that are getting increasing attention. Even the Senators of United States Congress are interested of the regulations of health apps. In March 2014, U.S. Senators wrote a joint letter to the U.S. Food and Drug Administration (FDA). As summary they asked the agency to further clarify rules for medical software application developers to promote innovation and keep consumers safe in light of changing technologies (Congressional Documents and Publications 2014). The research is mainly about market size or consumer preferences, there is not much literature about mobile apps marketing.

The following has inspired this thesis: Finnish companies have succeeded in the games industry by developing the top gaming apps in the world. The success of the games Clash of Clans and Angry Birds has raised the awareness of game business, as a new Finnish industry. Their games are one of the top selling games in the world in 2013 in their field (Juhani Saarinen 2014). They both were developed to work as apps from the beginning. When considering health application software that is interactive with users, Finnish company Polar LTD has developed a health tracker armband that comes with an app to track health conditions around the clock as seen in the figure 1 (POLAR 2014).

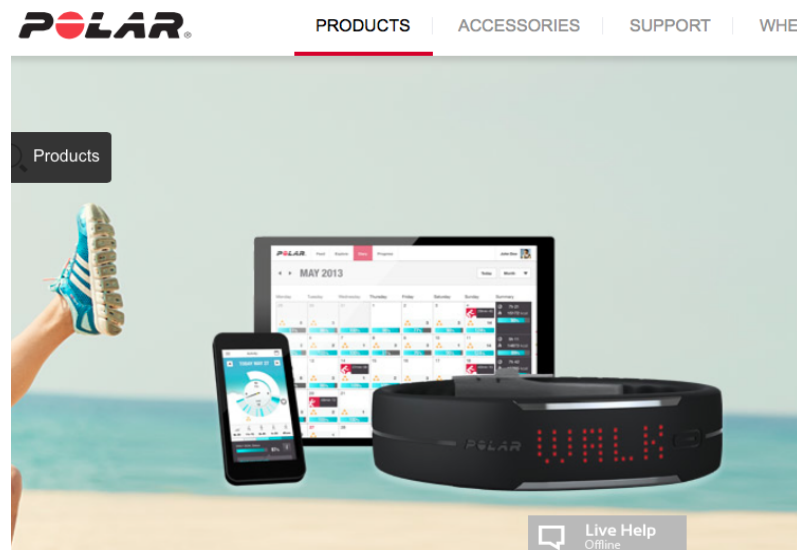


Figure 1. Polar Loop bracelet and app (Polar 2014)

These are examples of how the Finnish game industry and new technology companies are becoming global. The game and application software scene in Scandinavia has gained interest worldwide. A conference called Slush is a big fundraising and investor meeting place for games and new technology companies held in Helsinki. It attracted investors from 68 countries in 2013. In 2013, Slush gathered more than 7000 attendees, 1200 companies and 118 venture capital funds from 68 countries for the two-day event in Helsinki. Attending companies, investors and media were set up in nearly 2000 beforehand set meetings facilitated by the Slush organization. Around a third of the companies were health related. (Slush Organisation 2013). Many of the companies are start-ups, showing that many believe in the eHealth industry.

Game companies in Europe need more talent in apps marketing to enter the global scale. Many schools concentrate on game developing and technology. Yet, game marketing or PR is not emphasized (Design Schools Hub 2014). Due to the success of the above-mentioned apps, marketing apps has become a globally interesting topic. As healthcare apps are the fastest growing category of apps, it was selected as the research subject of this study.

1.2 Research and development problem, objective and aim

Research and development problem

This research studies connections between mobile apps, healthcare apps and health apps and defines them. The main research problem is to identify the marketing processes of health apps in a global marketing environment. The focus of the research is to find new in- depth knowledge of how to market health apps.

Research objective and limitations

The research objective is to explore the ways health applications are marketed and what factors are relevant to this industry. The research will analyse primary knowledge acquired

from leading professionals to identify the current most effective marketing trends. The objective is also to investigate what mobile apps and healthcare apps are, in general.

The App industry is a multibillion industry worldwide, but information about app marketing is limited. Healthcare applications are the new growing trend among apps that will be as popular as game apps in the future. Due to this rapid growth and the lack of information, especially in health apps marketing makes this study important. As there is a lack of advertising professionals and research in the field in Europe, it is important to pursue further knowledge around the topic that benefits small and middle-sized companies. This research provides them tools to reach people when marketing their products and beliefs.

A limitation of the study was a distinct lack of information on apps marketing from the literature. The data was also extremely fragmented, probably because companies do not publish their marketing procedures. Companies and marketing professionals in general are not willing to share their strategies due to competition. This was a major limitation, because the main subject: Health apps marketing was poorly covered in the literature. This made interviews the primary source of information. Yet, due to trade secrets, the interviewees were reluctant to disclose any information of strategic importance. They actually provided even less information than expected.

Research question

The research question is: What are health apps and how are they marketed?

The objective of this study is to find out the most effective marketing ways and tools for marketing health apps internationally. This is done by carrying out a series of in-depth-interviews with health apps marketing professionals to learn about their marketing practices.

From a social perspective, those who market health apps can influence attitudes towards healthy living and educate people by way of mobile apps. Companies can advertise well-being and get people more involved. Another significant point is that by marketing health

apps to public, and marketing them to healthcare professionals can have a great impact on future healthcare services. Children can also be involved with fun and engaging games.

1.3 Methodology

Qualitative approach was chosen to conduct the research. In order to gain primary information from marketing management in-depth interviews was chosen as a method of the study. This way unique and deep understanding of the marketing procedures could be collected. The issues that arose from these interviews were further researched by reviewing journals.

The industry is relatively new, so articles are the best ways to gain up-to-date information from the literature. Data was also collected through scientific journals to gain the latest information of mobile apps and healthcare apps industry and marketing. Newsletters, surveys, governmental documents, research papers and books were also used. Carson and Gilmore (2014) write that what is known about marketing management decision making is both limited and fragmented. Researching managers is often difficult as they, due to competition, do not want to disclose their activities and they do not see the benefits of participation in research that deals with their activities. This thesis tries to find the underlying information on marketing health apps.

1.4 Concepts and structure of the thesis

The theoretical framework will include the overview of the trends and markets of mobile apps and healthcare apps and their marketing. Also mHealth apps market is presented. An introduction to categories of healthcare apps, such as medical- and health apps is also provided. The markets and regulations are introduced and the research questions answered by introducing findings on health apps marketing and the industry. The structure of the thesis and also the concepts used are shown in the following figure 2.

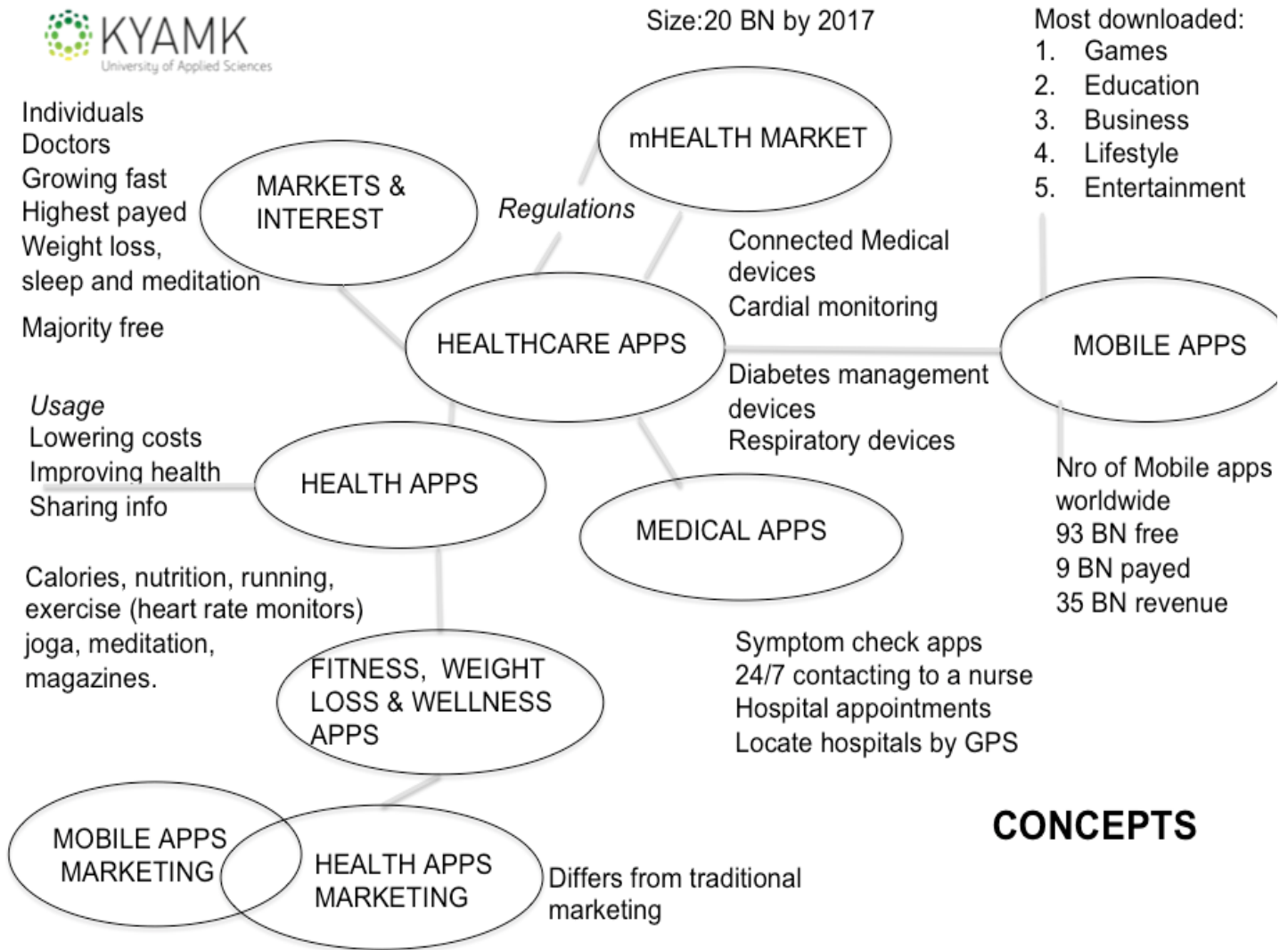


Figure 2. Concepts

2 HEALTHCARE APPS

2.1 Introduction to mobile apps

Apps are software applications, designed to perform specific tasks, which run on smartphones and tablets (Randolph 2013). Rosenthal (2012) describes mobile apps as ones often used to communicate, organize and entertain. Rosenthal (2012) adds that apps can, for example, play games, locate gasoline at the lowest price, provide directions and assess health conditions. Apps are always available, install fast and are inexpensive or free.

The mobile devices are dominating people's lives. People are constantly checking their smartphones and tablets, whether they are playing sports, at the mall, or navigating a city street. They use these mobile devices both in their personal and professional lives (Stackpole 2014). Randolph (2013) describes that smartphones and tablets are changing the way information is accessed.

The number of mobile apps, and those who use them on a regular basis has increased enormously (Ajay 2014). Especially health apps are a growing field of phone applications (Slush Organisation 2013b). Reports suggest app downloads will continue to break records and the download numbers will be somewhere between 200 billion and 270 billion in 2017. In 2013 the download numbers were between 70 billion and 100 billion. Ajay (2014) points out that according to the latest comScore report, mobile apps account for more than 50 percent of all digital media consumption. Ajay (2014) notes that many content companies want to launch a new app. The most downloaded app categories are: 1. Games, 2. Education, 3. Business, 4. Lifestyle, 5. Entertainment, 6. Utilities, 7. Travel, 8. Books, 9. Music, 10. Productivity, 11. Health & Fitness and 12. Sports (statista.com 2014).

Gartners survey predicts that in two years, mobile apps will be downloaded more than 268 billion times, generating revenue of more than \$77 billion. Mobile users may provide personalized data streams to at least 100 apps and services every day by 2017. The report claims this is because the evolution of cognizant computing (Ajay 2014).

The time that apps are used by female and male audiences is quite the same. According to Smith (2014) female audience spends 30 hours and 56 minutes a month using apps, compared to 29 hours and 32 minutes by men. Smartphones have surpassed the desktop web for total time spent daily: 1 hour and 7 minutes compared with 1 hour and 1 minute (Smith 2014).

Definition of a mobile app

According to Oxford Dictionaries an app is defined as follows: "*A self-contained program or piece of software designed to fulfill a particular purpose; an application, especially as downloaded by a user to a mobile device*" (Oxford University Press 2014).

A mobile devices expert Priya Viswanathan states that mobile applications or mobile apps are software applications developed for small handheld devices, such as mobile phones, smartphones and personal digital assistants. Mobile apps can come preloaded on the handheld device as well as can be downloaded by users from app stores or the Internet Viswanathan explains (about.com). Stackpole (2014) indicates that an app is not a website. Stackpole continues saying that apps are a different environment that can be characterized as conversational. There is high level of engagement in apps and publishers will be rewarded in both loyalty and data if they change direction towards personalized services (Stackpole 2014).

Mobile apps trends and customer engagement

One of the emerging trends in app evolution discussed earlier is making use of individualized content. Media Industry Newsletter (2013) gives an example of such an app: People's CelebWatch app lets the user subscribe to specific celebrities and get alerts whenever new related items hit the app. This kind of easy opt-in personalization makes an app conversational, top of mind, and relevant (Media Industry Newsletter 2013).

“If you've got customers, you've got mobile customers” an independent mobile analyst Chris Silva states in Stackpole (2014) article. Mobile usage also delivers data that provides information on customers' buying behavior and physical location. This data can be used to companies better tailor the conversation to targeted customers (Stackpole 2014).

The mobile app environment is engaging and part of consumers' lives nowadays. The professors at Utrecht University in The Netherlands released a massive study about app usage and their effect on buying decision-making. In a survey of over 15,000 American and Dutch smartphone and tablet users, the researchers found that 93 percent of them consulted apps in the decision making process to make a purchase reports Media Industry Newsletter (2013). The research revealed an interesting point for the app publishers. The consideration phase is where publishers may have their greatest opportunity to serve and converse with readers Media Industry Newsletter reports. In the survey 80 percent of respondents say they would prefer a useful app that would help them make a selection between products. Also 51 percent of the public want an app to recognize their location and send relevant discounts to them. Device-based content needs to be more personalized than previous media to be able

to create engagement. If a publisher can convince the customer that his personal information is used properly, users are willing to share great deal of their personal information (Media Industry Newsletter 2013).

Stackpole (2014) contradicts the success of apps measured by download numbers. He states that the download numbers are just part of the success. Many apps are still deleted or ignored right after they are downloaded. It is important to deliver a good app experience from the beginning and find ways to encourage ongoing engagement. Businesses can engage customers with a product or service anytime and anywhere via the introduction of strategic mobile apps. They can do it in a manner that is specifically tuned to their customer's individual needs (Stackpole 2014).

Branded apps

Branded apps display brand identity, often via the name of the app and the appearance of a brand logo or icon. Procter & Gamble Co. offers, for instance, a Pampers app with helpful information for parents and entertainment for babies. BMW and other car manufacturers provide mobile car configurators to visualize certain car models in 3-D. Therefore, they can be considered as “pull” rather than “push” advertising. Product tips and tricks and instructions help consumers learn to more effectively use a product. Advertisers need no opt-in permission, because consumers download the apps on their own initiative. The companies assume that the high level of engagement is likely to make the advertising messages conveyed by those apps highly persuasive. App users tend to process brand-related information more deeply and for a longer time than, for example, watchers of a television ad. As a result, advertisers expect consumer engagement for a brand to gradually expand.

Bellman, Potter, Treleavan-Hassard, Shiree, Robinson and Varan (2013) report on an experiment conducted by Australian and American researchers. The researchers confirmed that app interaction consistently improved brand attitude, involvement and purchase intention in the respective product category. More than 200 participants were exposed to eight different branded apps offered on the iTunes App Store –Weber, Best Buy, Target, Gillette, Lancôme, Gap, Kraft and BMW. Informational apps had a higher impact on purchase intention than experiential apps. It was interesting that shifts in brand attitude and

purchase intention were identical for both high- and low-relevance apps, such as when female participants interacted with apps targeted towards men.

The study results suggest that branded apps are a highly effective form of advertising. In the laboratory setting, their use changed attitudes and intentions, and even increased interest in an entire product category. Smartphone apps seem to provide a pull marketing opportunity delivered via a platform to which consumers have strong emotional attachments. Moreover, mobile marketing communications allows the companies to update the app information with the latest localized information and deals. The app remains on a consumer's short list and keep being used if the app is informational. (Bellman, et al. 2013).

2.1.1 Mobile apps for businesses

An enterprise mobile application is the term used to describe software programs that a business would use to solve enterprise problems. These applications are typically designed to integrate with other enterprise applications used within the organisation describes Ajay (2014).

Businesses want to increase productivity by more effectively mobilising their workforces Javed (2014) argues. Workforces require real-time access to collaborate on projects and share files in cloud services through their tablets and smartphones. There are apps built specifically for this. Analysts estimate that 50 percent of business applications will be accessible on mobile devices in the near future (IFS and Ajay 2014).

Javed (2014) declares that there is an upcoming mobile apps revolution that has the power to change the way companies do business. This revolution will transform the way business units work internally and with partners. Also the external customer experience of the organisation is affected. The catalyst for this revolution according to Javed (2014) is simplicity. Simplicity is about content, context and convenience. If an app is difficult to use or if it does not provide the right content at the right time, it will not be useful and it will be deleted.

Businesses must understand the mobile context if they want to gain productivity from their existing workforce and attract the younger generation of workers and customers. The younger generation understands mobility states Javed (2014). The enterprise apps are

therefore often as intuitive and attractive as the apps people enjoy in their personal lives - from Angry Birds to Instagram (Javed 2014).

Frost & Sullivan's new analysis, the 2013 North American Mobile Enterprise Applications research, finds the app viewed as most necessary by businesses is wireless email and mobile sales force automation states the MENA Report (2014). The analysis measured future decision-making behaviours toward mobile enterprise apps and the current use of them. The categories of apps were mobile sales force automation, mobile workforce management, wireless email solutions and asset tracking. The findings were based on a survey of 308 North American enterprise decision makers who were responsible for purchasing mobile software apps introduced in the MENA Report (2014).

The research found that the largest proportion of decision makers (48 percent) report their companies already deploy one to ten apps for employees on mobile devices. The analysis found out also that 71 percent of businesses add more mobile apps to employee devices in 2014. Businesses lists increased efficiency and productivity as their top reasons for providing mobile apps to their employees, states Frost & Sullivans' customer research analyst Karolina Olszewska. Also enhanced customer engagement and improved collaboration rated highly among companies. The issues restraining implementation were concerns regarding the security of company and customer data as well as the potential high cost of implementation (MENA Report 2014).

2.1.2 Mobile application development

There are many opportunities in mobile-centric strategies that are just becoming to gain awareness. Enterprises are capable of simplify enterprise mobility as well as enhance user convenience, when they realize the importance of them. Javed (2014) predicts that mobile-centric strategies are the future of enterprises. He assumes that this process will create innovation that transforms how businesses work as well creates new global leaders.

The upper management decides how to proceed with the strategy of mobile app development. Companies IT departments are being asked to build an app portfolio that supports a wide range of mobile platforms, including smartphones and tablets. They have to

manage continuously changing landscape of operating environments, from Apple iOS to Android and Windows 8. There are unique development challenges for enterprise technologists that develop apps. This might be challenging. However even if the task is difficult the opportunity to improve customer relationships is important for companies (Stackpole 2014).

Javed (2014) explains that if enterprises would adopt a long-term mobile-centric vision they could add this to the initial product development stage to ensure mobile experiences are integral to all their applications. Once the right mind-set has been created in the business, developers must be able to rely on a platform that makes back-end integration simple. Javed (2014) predicts that there will be a new age of apps more powerful than ever. Simplified back-end integration is the spark behind this revolution.

2.1.3 Smartphone operating systems and app distribution channels

A short overview of the operating systems for apps and the platforms that they are distributed from is given below. Every mobile device needs an operating system for it to work. Every app needs a platform where it is distributed from and downloaded. Information on operating systems is relevant to the company's marketing department, that market apps globally (Hopkins and Turner 2012).

There are multiple operating systems used, including Apple's iOS, Google's Android, RIM's Blackberry, Nokia's Symbian and Microsoft's Windows (Hopkins and Turner 2012). Also Nokia's Windows from September 2012. (Hardawar 2012). The apps are downloaded from different sources like the Android Market, Apple Store and Microsoft Store to mention a few.

The top four smartphone operating systems market share of 2012 is shown in the following chart. In US Android (Samsung) is leading (39 percent) and iOS (Apple) is second (28 percent). In China, Brazil, Egypt and Russia Symbian from Nokia is leading. iOS used in Apples iPhone is leading in France, Germany, Japan and second in US, UK and Egypt. Nokia stopped distributing Symbian phones in summer 2013 (Digitoday 2014).

Table 1. Smartphone operating systems (Hopkins and Turner 2012)

Country	Most popular	Second most popular	Third most popular	Fourth most popular
United States	Android 39%	iOS 28%	Blackberry 20%	Windows 9%
United Kingdom	Blackberry 41%	iOS 37%	Android 16%	Symbian 4%
Australia	iOS 72%	Android 18%	Symbian 7%	Windows 1%
Brazil	Symbian 42%	Unknown 21%	Samsung 20%	Android 8%
Canada	Apple 46%	Symbian 22%	Blackberry 19%	Android 8%
China	Symbian 42%	Unknown 37%	iOS 12%	Android 5%
Egypt	Symbian 76%	iOS 6%	Unknown 9%	Android 4%
France	iOS 58%	Android 28%	Symbian 5%	Bada 2%
Germany	iOS 54%	Android 29%	Symbian 7 %	Sony Ericsson 3%
India	Symbian 69%	Samsung 15%	Unknown 9%	Sony Ericsson 3%
Japan	iOS 48%	Android 42%	Wap 6%	Unknown 3%
Russia	Symbian 45%	Android 16%	iOS 14%	Unknown 10%

The information from 2012 is introduced and compared to the information collected in 2014 to be able to see the difference. The leading app Platform in 2012 was Apples iOS with 500 000 apps to be downloaded as seen in the Table 1. The amount of apps in Apple Store has risen to 1 300 000 by September 2014 (Statista 2014). The three most popular operating systems in United States are Google's Android, Apple's iOS and Windows Phone.

Google's Android

Google has created this app-centric operating system, like Apple's iOS, that both feature apps front and center. There are also several hard buttons across the bottom of each Android device, to bring up the home screen and others. The apps can be downloaded through Android Market or also through third-party app market in the Internet.

Apple's iOS

There is only one place to install apps for the iOS and that is at an Apple Store. The operating system uses a clean, uncluttered approach for its user experience and the ability to change features based on a user's desires is sometimes limited. There is although an iOS setting app that gives control over the fundamental features.

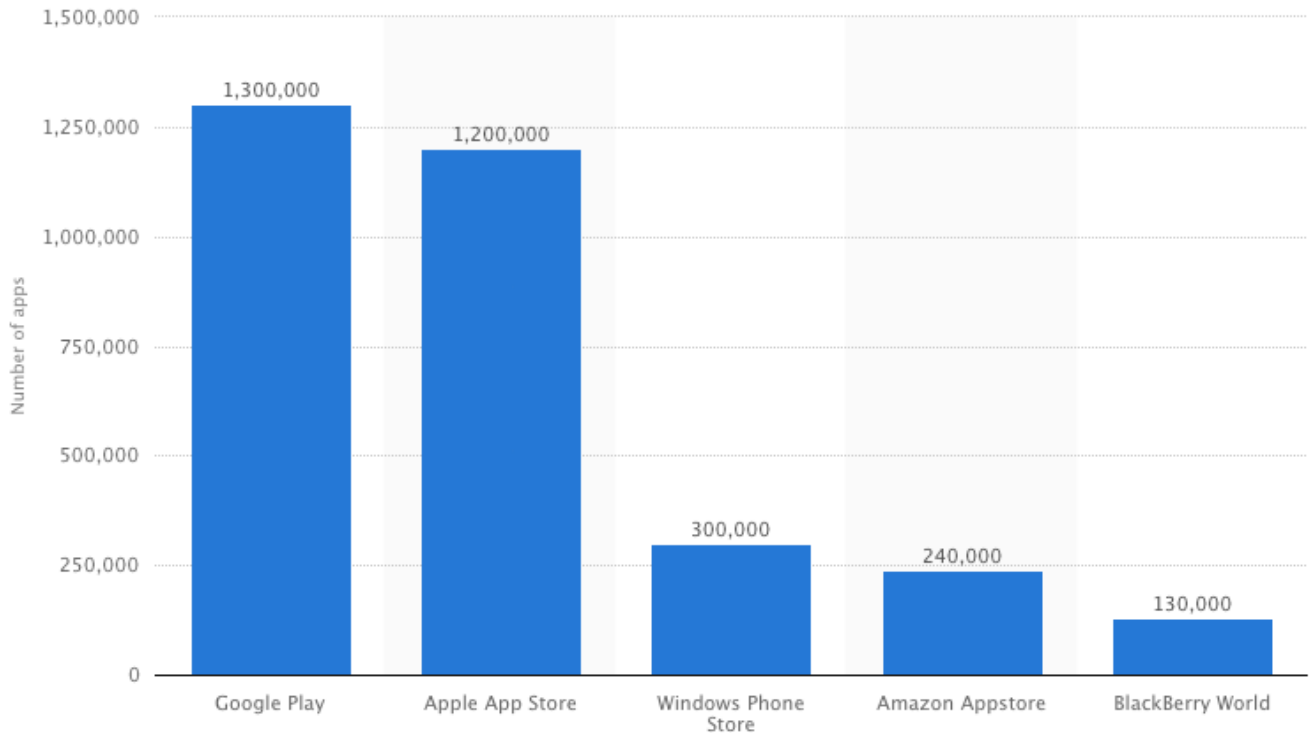
Windows Phone

Instead of the app-centric approach in the Android and iOS operating systems, Windows has organised its operating system around information rather than apps. Users will find large buttons, or tiles designed to give the users access to information, rather than access to an application. One of the strengths of windows phone is that it integrates seamlessly with its applications and cloud-based services (Hopkins and Turner 2012). The apps are downloaded from Windows Phone Store and Microsoft Store (Microsoft 2014).

The numbers of apps available in leading app stores worldwide are shown in the Figure 3 below. Including Google Play (Android), Apple App Store (iOS) , Windows Phone Store (Windows), Amazon Store (for Android, Blackberry and Amazon's own Kindle Fire tablets and Fire phones) and Blackberry World (Blackberry).

Figure 3. Number of apps available in leading app stores worldwide (Statista 2014)

Number of apps available in leading app stores as of July 2014



2.2 Healthcare apps categories

2.2.1 Healthcare apps

The healthcare applications market is being classified into health apps and medical apps. Health apps are segmented into exercise, weight loss, women's health, sleep and meditation and other apps. The medical apps market is segmented into medical reference, and other applications like apps for mental health, dermatological treatment, and emergency response (M2 Presswire 2013). The mobile medical app market also comprises of connected medical devices (marketsandmarkets.com 2013). mHealth apps & solutions market is an integration of mobile technology and healthcare services. mHealth app market is mainly formed from the connected devices market and it is segmented into cardiac monitoring, diabetes management devices, multi-parameter tracker, and other devices like sleep apnea devices,

and respiratory monitors (M2 Presswire 2013). But also healthcare apps are represented. (research2guidance).

As mentioned earlier, Rosenthal (2012) describes that mobile apps are often used to organize, communicate and entertain, so it only makes sense to turn to those same tools to take care of your health. Recent research shows nearly 80 percent of U.S. consumers are interested in mobile health solutions, and 40 percent of physicians believe that mobile health technologies can reduce office visits (Rosenthal 2012). It is predicted that health apps will hit the mainstream this year and become as omnipresent as mobile games, personal time management software and retail shopping apps, according to a new report from Mobiquity (Mottl 2014). The most downloaded health apps are ones focused on exercise, diet, and weight; other apps can track menstrual cycles, blood pressure, pregnancy, blood glucose or diabetes, and medications (Pew Research Center, 2012). Dan Rosenthal is the CEO of United Healthcare of Northern California and he states that other popular health apps can help people count calories, monitor migraine symptoms, track exercise activity or send a medication reminder. Ultimately, these apps put consumers in charge of managing their health (Rosenthal 2012). Some medical apps are used by healthcare professionals, such as smartphone-based ultrasound and an application for iPhones and iPads that allows doctors to view medical images and X-rays (FDA 2011 and Randolph 2013).

2.2.2 Medical apps

According to a recent U.S. survey commissioned by Royal Philips Electronics, a quarter of Americans trust symptom checker websites, symptom check mobile apps or home-based vital sign monitors as much as they do their doctors. In addition, 26 percent often use these resources instead of going to the doctor (Slabodkin 2013). This information explains the popularity of the growing healthcare app industry well. Apps that work with a regulated medical device or transform a mobile platform into a regulated medical device are called mobile medical apps. (U.S Food and Drug Administration 2014).

Here are some examples how Medical apps can be used:

- Contact a registered nurse 24/7 for information regarding any kind of medical topic.

- Download an insurance ID card to a smartphone and email the card directly from the mobile device to a physician office or hospital.
- Save information about care providers.
- Locate nearby physicians, hospitals and emergency rooms using the smartphone's GPS function (Rosenthal, D 2012).
- Book doctors appointments through hospitals own app (Terveystalo 2014).

A survey asked US consumers which mobile capabilities they most wanted to see their physicians use. Forty-two percent said they wanted their doctor to have an app to see their test results, 33 percent cited remote monitoring devices, and 30 percent wanted doctors to have access to patient health records via a mobile device (Slabodkin 2013).

2.2.3 Health apps

The most popular mobile health applications for consumers are fitness and wellness apps, according to a new survey of mobile engagement by New York-based communications agency Ruder Finn. More than 1,000 U.S. adults participated in the survey. 48 percent of respondents who used health apps said they used fitness training apps and calorie counter apps. 49 percent used healthy eating apps, while 46 percent used nutrition apps. The survey found that 16 percent of smartphone and tablet users access health apps regularly. Nearly half (48 percent) of the respondents said that they are likely to use mHealth technology in the next six months, which the report says is three times more than current health app users (Slabodkin, G 2013). Wellness apps summarize all kinds of relaxation solutions, yoga instructions and beauty tips. Nutrition apps help their users keep track of their diet, inform them about e.g. vitamins, calories and fat content as well as socio-economic aspects of food products (e.g. fair trade) (research2guidance 2014).

The leading smartphone manufacturers are acknowledging the growth of health apps. Apple integrated their own app, called Health into all of their new iPhone 6 phones in 2014 (to the iOS 8 operating system). This shows the importance of the health app industry. The app comes automatically to all iOS 8 operating systems users (possible to use in iPhone 4s, 5, 5s and 6). Which means the app has been introduced to hundreds of million users. The new Health app gives the consumer an easy-to-read dashboard of their health and fitness data.

Different health apps from different companies can be downloaded and Apple's Health will analyse the data and show the results. Apple also created a new tool for developers called HealthKit, which allows all the health and fitness apps to work together. (Apple 2014). Samsungs new S Health App has also a big role in their new Galaxay S5 phone. The app can measure heart rate (sensor on the phone), Food, Exercise, and Sleep. (Samsung Electronics 2014).

For developers looking to build health apps, data from the Ruder Finn study suggests that there is very little difference in current mHealth usage preferences between smartphone and tablet users. Among U.S. smartphone users, Android is the leading operating system followed by Apple's iOS. Nevertheless, usage of mHealth apps is slightly higher among iPhone users when compared to Android users (22 percent vs. 16 percent). This information can be applied to health apps marketing too. Of those surveyed who did not use health apps, 27 percent said they had no need to access health-related apps (men 30 percent and women 25 percent), 26 percent said they preferred to talk to a doctor in person about health issues, 11 percent were concerned about sharing information with an app, 9 percent did not find apps helpful, and seven percent did not know they were available (Greg 2013).

Having a closer look at weight loss apps that are popular reveals that they might not be as successful that they promise to be. University of Massachusetts Medical Schools study on weight loss apps was reported in the American Journal of Preventive Medicine. They researched apps like Daily Burn , Livestrong and FitBit that promise to help dieters lose weight. The apps provide calorie counts for foods, calculating how many calories a short walk will melt away. These apps also inspire people exercise with friendly reminders and motivational messages. On the other hand researchers found that these digitally based approaches to weight loss may not be as successful as old-school diet and exercise.

The study authors from the University of Massachusetts Medical School state that the problem is that the apps do not include features that help people stick with weight loss programs over the long term and help them to make permanent changes in the way they eat and exercise. The apps do have some proven strategies for weight loss, but the apps do not seem as successful in generating the lasting behavior changes needed to keep the weight stable.

In my practice we use the traditional food journal, and about 95 percent of patients that use the journal will lose weight”, says Dr. J. Shah, a bariatric physician and medical director of Amari Medical in New York. Studies show that keeping a food journal can help people watch their weight by helping them to take track what they consume reports Sifferlin (2013). Dr. Shah admits that some of his patients are more comfortable with digitally based methods, and recommends certain apps to selected patients. The most effective apps for weight loss, according to him, include more detailed information about what people are eating. Like how many calories are coming from protein versus sugar. The app should also encourage physical activity through goal setting. Advising on when to drink water and to get enough sleep are also factors he mentioned.

The researchers suggest that tracking users’ progress might help in making weight loss apps more effective. This way, the devices could provide the motivation just when users need them, at specific times of day. The next generation of apps are already incorporating features such as barcode scanners to give users more detailed information about their food, as well as email and text encouragement. For even further motivation, there is money. Some app developers have built their programs around monetary rewards for those who meet their goals (Sifferlin 2013).

Health apps criticism

There is discussion about the usability and functionality of health apps: Most efforts in app development have been focused on overall wellness, especially diet and exercise apps, and do not address the greatest areas of need in healthcare tells Slabodkin (2013). The IMS Institute for Healthcare Informatics Report analysed more than 43,000 healthcare apps available on the Apple iTunes App Store. The study found out that the majority has limited use and simple functionality. Most apps only provided information. According to the report, more than 90 percent of health apps reviewed by the IMS Institute scored less than 40 out of a possible 100 for functionality, based on 25 screening factors (Slabodkin 2013). Also the effectiveness of weight loss apps are criticised in some studies. The study authors from the University of Massachusetts Medical School, state that the apps do not include features that help people stick with weight loss programs over the long term and help them to make

permanent changes (Sifferlin 2013). Randolph (2013) writes in her article about healthcare apps that in 2011, the FDA proposed guidelines for “*medical apps that could present a risk to patients if the apps don't work as intended*”. However, the regulations have been delayed by debates over whether government oversight would negatively affect innovation (Randolph 2013).

2.3 Healthcare apps market

2.3.1 mHealth apps & solutions market, healthcare apps market and regulations

The market studied is healthcare apps market with health- and medical apps that are introduced later. First an overview of the bigger mHealth app & solutions market is given to get broader understanding of the phenomena. Despite some sources indicating that mHealth is a market apart from health- and medical apps, it seems that these apps can be considered a small part of mHealth apps & solutions market.

mHealth apps & solutions market is a successful integration of mobile technology and healthcare services. The global mHealth market is estimated to be valued at \$6.6 billion in 2013 and is expected to reach \$20.7 billion by 2018. The biggest global mobile healthcare market categories are: connected medical device and healthcare applications; the former dominated the revenue market with around 80 percent in 2013. The connected devices market is segmented into cardiac monitoring, diabetes management devices, multi-parameter tracker, and other devices like sleep apnea devices, and respiratory monitors. Connected cardiac monitoring devices contributed the maximum to this market, followed by diabetes management devices, and multi-parameter trackers. These are all designed to be used with an app (M2 Presswire 2013). Transparency Market Research segments the global mHealth services market in the following way:

- Global mHealth services market, by application: General healthcare and fitness, medication information, remote monitoring, collaboration and consultancy, healthcare management, health data and record access.
- Global mHealth services market, by services type: Solutions for patients, wellness, prevention service, monitoring service, diagnostic service, treatment service,

information and reference, healthcare system strengthening, emergency response, health care practitioner support and healthcare surveillance.

- Global mHealth services market, by end-user: Public/Private healthcare institutions, physicians, healthcare workers and individuals.

Despite that connected medical devices master the revenue stream, they are a niche market compared to the amount of apps in app stores. Their success may also be partly explained by the fact that they have lots of other distribution channels like hospitals webpages etc. Medical apps (medical reference) and health apps (fitness, wellness, nutrition) are the biggest category in app stores, but they generate only 20 percent of the revenues of whole mHealth market. More than 30 percent of all apps that are listed in the health & fitness and medical app section in app stores are fitness trackers or exercise guides. This was studied by taking 808 apps from approximately 100 000 apps (research2guidance 2014).

The diabetes management devices market will witness the highest growth during the forecast period, due to the increasing global burden of diabetic population (M2 Presswire 2013). From all the connected medical devices, the diabetes management devices market is expected to grow at the highest CAGR of 27.7 percent . The connected medical devices market contributes the maximum share to the mhealth solutions market; whereas paid healthcare apps market (health- and medical apps) is expected to grow at the highest CAGR (33.8 percent) during the forecast period (U.S. Newswire 2013). A report funded by the GSM Association and conducted by PricewaterhouseCoopers (PwC) estimates that mobile-enabled monitoring services, for example for chronic disease management will make 65 percent of the worldwide mHealth market. It will account for \$15 billion by 2017 reports Dolan (2012). More specifically: According to mHealth App Developer Economics 2014 Report, the major source of income for mHealth app publishers will come from services (69 percent). These services, used with an app typically involve backend structures of servers and teams of medical staff that monitor and consult the clients that can be doctors, patients and general healthcare- interested individuals. Service revenue plans are usually subscription-based, but could also be structured as pay-per-use. When it comes to apps related to services, paid downloads constitute only 5 percent of the market. Device sales, transaction and marketing cover the rest (Research2guidance 2014). According to PwC The

second largest segment, 15 percent of the global mHealth market, will be diagnostic services. It will generate \$3.4 billion worldwide (Mobile telemedicine and health call centers are included). The third largest market is “treatment services”, which include medication and treatment adherence devices and services. These will make up 10 percent of the market, which will generate \$2.3 billion in revenue. According to PwC Europe will be the biggest mHealth market in 2017. Europe has a \$6.9 billion mHealth market opportunity, while North America has \$6.5 billion. Other areas mentioned: United States \$5.9 billion, China \$2.5 billion, Latin America \$1.6 billion, Japan \$1.4 billion, Africa \$1.2 billion (Dolan 2012). Researchers published this year that USA will be the biggest market followed by Europe. The highest per capita expenditure on mHealth applications will be from developed regions such as the U.S. and Canada, because of increasing percentage of chronic diseases and higher disposable income (Transparency Market Research 2014).

Apps have become the tool that can lower the costs in healthcare and improve people’s health. Slabodkin (2013) explains that the industry shifts from a fee-for-service to outcomes-based reimbursement models. More and more health plans are turning to mobile apps to achieve that goal, by engaging patients in their own care. The goal is to lower costs and improve health outcomes (Slabodkin 2013). The market outlook looks good because vendors launch new products that promise to cut operation costs and boost healthcare services and treatments and healthcare providers will want to try them. Mottl (2014) states that *“The ubiquity of smartphones combined with awareness of public-health issues like obesity, diabetes and smoking has created the perfect use case for health and fitness apps. Consumers are already primed to use them”*. However, many businesses and healthcare organizations are still planning the best strategies, technologies and business models for reaching mobile audiences (Mottl 2014).

The mobile healthcare market exhibits a complex business ecosystem where medical device manufacturers, mobile application developers, and healthcare providers are the prime contributors; while network providers and mobile phone manufacturers enhance the quality of mhealth solutions (U.S Newswire 2013). mHealth app publishers can be categorized into six main groups: traditional healthcare operators, helpers, mobile app specialists, connectors, medical- and fitness specialists. 68 percent of mHealth app publishers make less than USD 10,000 or no revenue. The middle-income group makes between USD

50,000 and USD 1m, and represents 17 percent of the publishers. The top 5 percent makes more than USD 1m. The most relevant revenue stream is linked to services that are offered via the apps. The successful apps focus more on iOS as compared to commercially unsuccessful publishers (Research2guidance 2014). U.S Newswire (2013) reports that significant factors ensuring a healthy growth of the market include growing awareness for chronic disease management and increasing adoption of smart gadgets for healthcare applications. Good connectivity and advanced networks that have developed fast affect the growth of the market. There are some obstacles in the market though. Strict regulations at the product introduction phase and a risk of data theft during mobile transfer are one of them. The factors that affect market expansion in future include expanding business opportunities in emerging countries. There are ways to capitalize on lower patient-doctor ratio and the introduction of an advanced medium such as a smart TV (U.S. Newswire 2013).

Marketsandmarkets.com (2013) have some market data of the devices and applications markets. Since its inception in 21st century, North America has contributed the maximum to both the devices and applications markets. The Asian mobile healthcare market is majorly contributed to by Japan and China, whereas the U.K. represents the most promising country in Europe. Several government initiatives such as mDiabetes, Management Society (IDPMS), Mobile Alliance for Maternal Action (MAMA) and RapidSMS accelerates the rapid adoption of mHealth technology in emerging countries such as South Africa and Brazil. The healthcare apps market is highly fragmented with a large number of software-developing companies. Marketsandmarkets lists the dominating companies. The connected device segment is dominated by Philips (The Netherlands), Medtronic (U.S.), Nike (U.S.), Omron (Japan), and Alere (U.S.). On the other hand, AT&T (U.S.), Qualcomm (U.S.), Cerner (U.S.) and Diversinet (Canada) are the major technology providers that enhance healthcare solutions. A major restraining factor behind the growth of paid apps is the free access to smartphone apps. Free apps constitute almost 90 percent of the download market of healthcare applications.

Although the FDA is formulating a framework to regulate the apps market, consideration of a mobile application as a medical device is also a questionable issue. There are a few certified applications in the application market ecosystem at the moment.

Marketsandmarkets.com (2013) article introduces the major drivers of the mHealth market. It includes the growing adoption of smartphones, tablets, and PDAs, as well as advanced connectivity such as Bluetooth, Wi-Fi, strong penetration of 3G and 4G network, increasing awareness of chronic diseases management and a potential of a better cost efficiency during medical practices (marketsandmarkets.com 2013). Traditional healthcare actors like physicians and hospitals are the best distribution channels for mHealth apps in the next five years (Research2guidance 2014).

Fitness apps, which today constitute the app category that offers the highest business potential for mHealth app publishers, are believed to diminish in their relative importance. In five-years time they are expected to no longer be the top app category and in terms of business potential are expected to be on the fifth position (22.9 percent). The app categories that have the highest expected market potential in the near future are remote monitoring (53 percent) and consultation apps (38 percent) (Research2guidance 2014).

Healthcare markets

The term ‘healthcare market’ is used, when health and medical apps are addressed. In this aspect the medical apps do not have any medical treatment accessories, but are more informational. The year 2014 will be the year when health apps will spread everywhere. The study discussed earlier in the introduction; *“Get Mobile, Get Healthy: The Appification of Health and Fitness”*, reports that 30 percent of the respondents describe health app use as more valuable than making or receiving calls. 70 percent of health app consumers are using fitness and health monitoring apps on a daily basis. 63 percent plan to expand fitness- and health apps use over the next five years. The report also reveals 69 percent believe health and fitness tracking is more essential than using a smartphone for social networking.

The reports author write that *“From breakfast to bedtime, we can count calories in, calories burned, pounds gained or lost, REM cycles and more. So it is no surprise, and perfectly natural, that we are using these apps with greater frequency.”* (Mottl 2014). The health apps market is segmented into exercise, weight loss, women’s health, sleep and meditation, medication reminders and other apps. The minor medical apps market is

segmented into medical reference, and other applications like apps for mental health, dermatological treatment and emergency response (marketsandmarkets.com 2013).

Free apps constitute almost 90 percent of the download market of healthcare applications (U.S Newswire 2013). The Healthcare apps market is dominated by health apps with around 85 percent volume contribution measured in downloads. The information of the healthcare market size is not available since the app distributors do not publish any information.

There are now more than 100,000 apps on the iOS and Android app stores, double the market size of two and a half years ago according to a new report by research firm Research2Guidance (2014). Thirty-six percent of publishers entered the market in the last two years. The publishers have between three and 100 employees. 808 apps from the Apple, Google, Windows, and BlackBerry app stores were selected. 30.9 percent were fitness apps. The next largest categories were medical reference (16.6 percent) and wellness (15.5 percent) (Comstock 2014). Healthcare apps market including health- and medical apps is estimated to be 20 percent of the mHealth markets (M2 Presswire 2013 and Marketsandmarkets.com 2013). This means the revenues will be around 4 billion by 2017. Because health apps cover 85% of the markets the shares will be following: Health apps 3.4 billion and medical apps 0.6 billion by 2017.

As a summary, the mobile application market is in an introductory phase, but is highly fragmented with many software-developing companies. A major restraining factor behind the growth of paid apps is the free access to maximum smartphone apps.

Regulations

The U.K.'s National Health Service (NHS) has recently turned its attention to apps.

The NHS wants to move toward formally accrediting health apps, but has not set a timeline and does not have any current or planned regulatory oversight of the market. One startup featured on the NHS website makes an app for sufferers of insomnia called Sleepio. The chief executive Peter Hames thinks that the health app market is the Wild West. Mr. Hames thinks the NHS could play a valuable role by creating a formal accreditation system. The lack of official accreditation or regulation is also a problem for some developers. David

Back, Professor of Pharmacology at the University of Liverpool was involved in developing the HIV iChart app. Mr. Back thinks that there should be clarity about what is expected and what are the requirements to get accredited.

Hodgson (2013) states that in United States the FDA and the European Commission currently review apps only if they function as devices, by carrying out calculations based on patient data and making treatment recommendations. Yet, with no legal framework in place for regulation, and little enforcement taken against app makers to date, doctors believe many of these apps are falling through the cracks (Hodgson 2013).

Another way to educate the citizens is to build databases and websites that introduce the apps that are safe according to the officials. Hodgson (2013) writes that UK Department Of Health has launched a website called NHS Choices Health Apps Library in March 2013. It is aimed at both patients and healthcare professionals, which features apps approved by the NHS for safety. About 90 apps are outlined on the site with basic information and user reviews. Developers can submit their apps for approval. Some apps are free and some are paid, with the NHS website linking to online stores such as Apple Inc.'s iTunes for downloads Hodgson (2013) reports. An NHS clinical assurance team; made up of doctors, nurses and safety specialists work with developers to make sure apps adhere to safety standards before they are featured on the website (Hodgson 2013).

Even the Senators of United States Congress are interested of the regulations of health apps. In March 2014, U.S. Senator Orrin Hatch joined a bipartisan group of senators in urging the FDA to provide clarity and transparency in its policy regarding medical mobile apps. Hatch is a senior member of the Help, Education, Labor and Pensions (HELP) Committee, which has jurisdiction over the FDA. In a joint letter to the FDA, the senators stated, "*It is important for the FDA to be well-equipped with the proper tools to be able to advance public health while taking care that innovation is not stifled through uncertainty or over-regulation*". They asked also among other eight questions that would there be additional legislative tools that the FDA needs to better oversee the regulation of medical mobile applications? As a summary Hatch asked the agency to further clarify rules for medical software application developers to promote innovation and keep consumers safe in light of changing technologies (Congressional Documents and Publications 2014).

Future predictions

Hodgson (2013) writes that Maureen Baker, clinical director for patient safety for the NHS's information service has an interesting future scenario. Ms. Baker tells that Inderjit Singh, the lead technical architect for NHS Technology Office at the U.K.'s Department Of Health has stated the following *“I don't see why an app shouldn't be made available on prescription, if it costs money but helps someone manage a complex condition”*, (Hodgson, J. 2013).

The study, *”Get Mobile, Get Healthy: The Appification of Health and Fitness”* reports that there is a gap between consumer use and integrating it into overall healthcare strategy. The report reveals 60 percent of app users have not shared progress or use of an mHealth app with a health professional, with most stating they had not even considered doing so. But one in three said they would be more likely to use apps for health and fitness if a doctor recommended it (Mottl 2014). That fact indicates a big opportunity for app makers and mHealth device developers as well as the healthcare provider segment (FierceMobileHealthcare 2014).

Health authorities have to consider how to proceed with healthcare apps in the future.

Hodgson (2013) speculates whether apps could ultimately be paid for out of the U.K.'s yearly health-care budget of GBP 109 billion (\$169.7 billion). In the U.S., some apps that manage chronic health conditions are already paid for by insurance companies (Hodgson 2013).

2.3.2 Medical apps market

The healthcare app market has exploded in recent years, as patients use their computers, tablets and smartphones to help them do everything from book dental appointments to monitor their blood-sugar level (Hodgson 2013). More than 100 000 healthcare apps are available globally. As stated in the healthcare markets section, revenue of medical apps will be around 0.6 billion by 2017 (M2 Presswire 2013 and Marketsandmarkets.com 2013).

Medical apps, also known as medical reference apps provide information about drugs, diseases, symptoms and give advice on how to take drugs or what to do in case of

experiencing pain. They also show locations of pharmacies and medical centers/doctors. 16.6 percent of healthcare apps in app stores are medical reference apps, but the revenue contribution is minimal (Research2guidance 2014).

2.3.3 Health apps market

As stated before, healthcare apps market including Health- and Medical apps is estimated to be 20 percent of the mHealth Markets (M2 Presswire 2013 and Marketsandmarkets.com 2013). This means the revenues will be around 4 billion by 2017. As health apps cover 85 percent of the markets the share will be following: 3.4 billion.

The revenue contribution of apps is not significant since the majority of applications are free and paid apps cost between \$1 and \$2 each. The healthcare apps market is dominated by exercise apps with just less than one-fifth of the share. Sleep and meditation, and weight loss apps are expected to grow at the highest CAGR during the forecast period. Analysis of market dynamics reveals that the major drivers of this market include increasing awareness of chronic diseases, growing adoption of smartphones, high penetration of 3G and 4G network, advanced mobile connectivity, and a promise of better healthcare cost-efficiency. (M2 PRESSWIRE 2013). Also fitness tracking is the most prominent uses of mobile-enabled connected devices. With increasing awareness of the need for healthy lifestyles, patients prefer vital signs monitoring on a continuous basis (marketsandmarkets.com 2013).

Trusted health organisations and even governments have noticed the phenomenon of health apps. They are building new services to customers to be able to find the most trusted one. One interesting one can be found on www.wellocracy.com. Slabodgin (2013) writes an article about the Partners Healthcares service Wellocracy, which is described as “*your trusted source for personal health tracking*”. The online source describes the e-service that is focused on inspiring and empowering individuals to self-manage their health and wellness by providing up-to-date information, expert guidance and innovative ideas to help people get the most out of personal health technologies (Slabodkin 2013). This trusted online service Wellocracy introduced by Partners Healthcare (2014) recommends various health apps and related technologies, like wearable tracking devices, activity apps, sleep apps and devices, mood apps, food and calorie apps, hearth apps and devices and healthy

habit apps. The online service Wellocracy is build based on experience from connected health programs at Harvard Medical School-affiliated teaching hospitals and it is aimed to help citizens to find suitable and reliable health apps (Partners Healthcare 2014). This makes the site impressive. Browsing through itunes App Store, the most recent health apps seem to be related to sleeping, relaxing, yoga, health magazines, relaxation, dietary tips and healthy living (iTunes App Store 2014). Health apps such weight loss and sleep and meditation apps are having the highest growth in the paid healthcare apps market from 2013 to 2018 (U.S. Newswire 2013).

Because of the launch of Apple’s own health app that is permanent on iPhones, it means that hundreds of million people will try health apps in future. As mentioned before, also Samsung has their own health app. Figure 4 below will demonstrate the app.

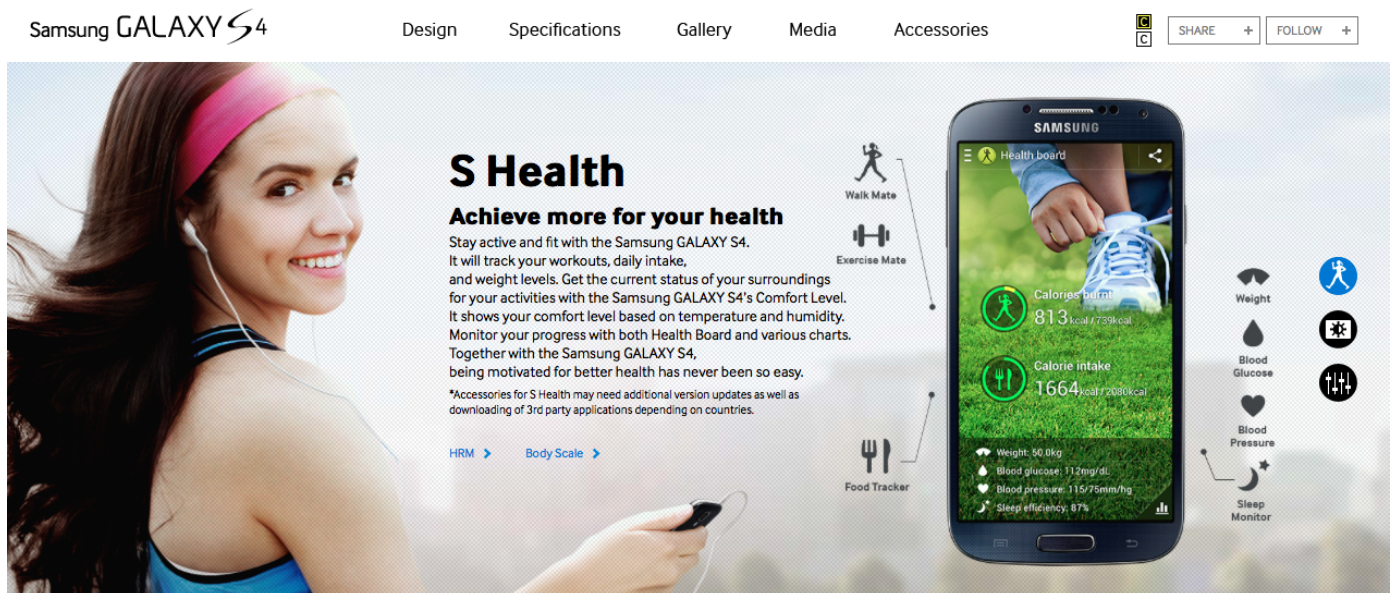


Figure 4. S Health app by Samsung (Samsung 2014)

3 METHODOLOGY

3.1 Methodology

In this section the methodology and methods used to collect and analyse data are introduced.

3.1.1 Methods

Qualitative approach was chosen to conduct the research. In-depth interviews was chosen to gain unique understanding of the marketing procedures of health apps. Data was collected through scientific journals to gain the latest information of mobile apps and healthcare apps industry and marketing. The industry is relatively new, so articles are the best ways to gain up-to-date information from the literature.

In researching phenomena surrounding health apps marketing and the industry, qualitative research methods serve marketing management decision making better than many other research methods. The qualitative research designs permit the researcher to know well all the individuals involved, observe and record what they do and say and get close to the data (Fetterman 1989, Mintzberg 1979 and Maanen 1979 quoted in Carson and Gilmore 2006).

Das (1983, quoted in Carson and Gilmore 2006) argues that in-depth and open-ended research designs have become almost a necessity to capture the multidimensional decision-making patterns within organizations. The characteristics of qualitative research provide flexibility for use in the interpretation of a marketing management situation. The specific merits of qualitative methods are; examination without prior judgment and focusing on why and how in addition to what.

Maanen (1979, quoted in Carson and Gilmore) defines qualitative methods as techniques which seek to describe, decode, translate and otherwise come to terms with the meaning, not the frequency, of certain more or less naturally occurring phenomena in the social world. The aim of qualitative studies is to gain an in-depth understanding of a situation. In-depth understanding is based on researcher immersion in the phenomena to be studied, gathering data that provide a detailed description of events, situations and interaction between people and things, providing depth and detail (Carson and Gilmore 2006 quotes Patton 1980). Furthermore qualitative studies are crucial in the study of managerial performance and marketing activities within and by organizations, as these cannot be studied in arranged compartments in isolated and artificial settings. (Carson and Gilmore 2006).

To gain in-depth information, semi structured questionnaire was made for selected app companies. There are several advantages to personal interviewing. First, the greatest value of this method is the depth and detail of information that can be secured. When used with a well-conceived schedule, an interview can obtain a great deal of information. The interviewer can do more to improve the amount of responses and the quality of information received than other method. He can note the conditions of the interview situation, and adopt appropriate approaches. An interview is flexible and there can be more control over the interview situation. Interviewing is not free from limitations. It is money- and time consuming (Carson and Gilmore 2006). Interview is an interactional process. The interaction between the interviewer and the respondent depends upon how they perceive each other. Interviewing is not a standardized process like that of a chemical technician; it is rather a flexible psychological process. The implication of this feature is that the interviewer cannot apply standardized technique, because he is dealing with respondents with varying motives and perceptions (Krishnaswami and Satyaprasad 2010).

In-depth interviews use an open-ended, discovery-oriented method, which allows the interviewer deeply explore the respondent's perspectives on a subject. This results in rich background information that can shape further questions relevant to the topic. The key characteristics of in-depth interviews are the following:

- Open-ended questions
- Semi-structured format. Although it is important to pre-plan the key questions, the interview should also be conversational, with questions flowing from previous responses when possible
- Seek understanding and interpretation. The interviewer should try to interpret what is being said and should seek clarity and understanding throughout the interview. Recording responses. The responses are typically audio-recorded and complemented with written notes (field notes) by the interviewer. Written notes include observations of both verbal and non-verbal behaviors as they occur, and immediate personal reflections about the interview (Guion, Diehl, McDonald 2011).

3.1.2 Data collection

In-depth interviews and document collection from scientific sources were chosen as a methodology to collect data. The interviews were conducted by phone, e-mail and video conferences. As a secondary source of information a wide range of literature was reviewed : Journal articles, books, news, statistical information, governmental publications, information from companies, researches, surveys and information from educational institutes and healthcare institutions.

Interview data is a major source, perhaps the major source, of information for many qualitative researchers, states Garson and Gilmore (2006). This is also the case in this research, as interviews are used as a primary source of data. The aim was to find best apps in the world in their segment and interview their marketing professionals. The focus was in gaining information about health app marketing. There are health apps that also are connected to a fitness tracking system, so two of those were chosen. The both companies approached were willing to participate. The company Polar has the product Loop -that has wearable bracelet that measures activity levels together with an app. Other company Beddit has a sleep-monitoring device linked to an app. Third app was nominated as 17th best fitness app in American PC magazine. Three of the top 25 was contacted and Pear Sports from California was willing to participate. They have a Fitness app that has many workouts, tutorials and top trainers speaking through the exercises and showing the exercises on video. Other five companies were approached and world's number 1 Golf scorecard app was willing to participate. Top Management such as VP and Chief Financial Officer were interviewed and also a Marketing Manager and a Communication Lead.

The interviews were not planned to be conducted face-to-face because of the distance. Two of the interviews were conducted on phone. One was conducted with Google Hangouts video call service. One participant replied by email because of her tight schedule to speak on the phone. There were almost 40 questions about health apps marketing. The interviewees were aware that they did not have to answer all the questions, as some of the information might be confidential, as the marketing budget. The questions are shown in the appendix.

3.1.3 Data analysis

Document analysis including coding was used to analyse the sources and the data. The analysis process has two stages. The first stage of the analysis can be described as detective work stage. In this stage the collected data is browsed through. This detective work stage requires the finding and defining of patterns and consistencies (Carson and Gilmore 2006 quotes Mintzberg 1979). Also the verification of the categories and their meaningfulness is done and a coding process is involved. The second stage is the consideration of how to integrate all aspects of analysis, which is considered the creative work. In this stage the theory is linked to the data. Interrelationships, links, sequentially and general interdependencies of the phenomena within the research context is searched. Mintzberg (1979 quoted in Carson and Gilmore 2006) argues that every theory requires a creative leap, however small and states that *“the data do not generate theory - only researchers do that”*.

In analysing the literature and four in-depth interviews, a coding system was selected to analyse the data further. Carson and Gilmore (2006) states that categories in coding are usually determined from the research topics that were the starting point for the research. The segments of the transcript that is recoded could be phrases, sentences or paragraphs. Examples of codes used: marketing strategy, digital marketing, public relations and marketing analytics. The codes are keys to arranging the mass of data into patterns. *“These codes are retrieval and organizing devices that allow the analyst to spot quickly, pull out, then cluster all the segments relating to a particular question, hypothesis, concept, or theme* (Carson and Gilmore 2006 quotes Miles and Huberman 1994). Two steps are usually involved in content analysis: A first phase simply assigns codes to words or segments of words. A second phase makes comparisons and contrasts between the coded material (Carson and Gilmore 2006).

4 INTERNATIONAL APPS MARKETING

4.1 Mobile apps marketing and its future

In this section the global marketing of apps is introduced. All the findings can also be applied to health apps marketing. Today's mobile world has transformed daily lives into a wonderland of mobile apps, texting, precise geo-location, and storage in the cloud states

Baker (2014). This has attracted the interest of marketers. A study for the Mobile Marketing Association in 2013 estimated that mobile marketing communications expenditures will reach \$9.2 billion by 2015. Advertising provides vital financial support for free or low-priced mobile applications and mobile-optimized Web sites (Baker 2014).

When it comes to advertising apps directly to consumers the most successful campaigns right now are free-to-play (FTP) games because it is easy to get users to install the app. Once the user has been converted, they quickly get addicted on their new app (App Annie 2014). Smith (2014) thinks that if media companies find a place in a mobile app user's routine, the dynamic is great. Engagement is good and the relationship deep. It is costly to try to get into that small circle of app use thinks Smith (2014). The cost per install for games on mobile broke the \$2 barrier in late 2013 according to SuperData research. That exceeds the capacity of gaming, which is driven by in-app purchasing to make up revenue. According to app metrics and marketing company Fiksu, the consumer price index across apps in January 2014 was \$1.01 for iOS and \$1.27 for Android, while the cost per launch for companies was \$16 for both operating systems reports Smith (2014).

Facebook is the major promotional ecosystem in which all apps live and compete for attention. That is why media companies are struggling to find other effective and affordable alternative means of expanding app awareness. Device detecting 'roadblock ads' are popular because they detect when a mobile Web user goes to a site that is tailored for mobile devices. The ad reminds the user that there is an app for using this site or service. Yet publishers say the impact of these ads is fleeting, effective at the start but with diminishing returns (Smith 2014). Media companies are affective in promoting companies apps to other clients they have. Global app marketer can choose a local media company that better know which media to buy in that area. Media companies might do contracts with press and other media that only benefits themselves and not so much the client, says Company Xs, Chief Financial Manager that was interviewed for this thesis (Williams 2014).

Marketing will start changing across several parameters predicts Smith (2014). Google Android introduced the ability to run specific searches within apps from the top level of an OS late last year. 'App Indexing' allows a top-level search on the platform to deep link. A

search for 'chocolate cake' in the Android search box could find the relevant recipes in an app, not just on the Web. Developers need to update their apps with hooks that let this happen. This is such an obvious and necessary next step for mobile operating systems it is hard to believe iOS will not be adding this soon as well. Deep linking, which allows apps to link into and open other apps, will be driving this model and truly will revolutionize the app environment says Smith (2014).

Users will demand this kind of functionality that allows them to search for apps more efficiently. App analytics firm Flurry recently focused on the emerging 'personalization apps' on Android. These so-called 'launcher' apps use a variety of techniques to create home-page experience that launch apps according to what people are looking for. These apps are helpful if people aggregate data from multiple apps (such as Google Now or Facebook Home) to surface the content in specific apps more readily. The worldwide number of sessions in these apps grew from just over 3 billion in Q4 2013 to more than double that in just the first two months of 2014 reports Smith (2014). Traditional media companies need to watch these trends of app indexing, deep-linking, and cross-app searching and enable apps to be more discoverable by these models (Smith 2014).

Push Notifications and Videos

Push notifications is a form of direct-to-consumer communication channel. This capability is designed specifically for the smartphone. Push notifications is an ideal way to reach consumers on their personal mobile devices. Both, the companies and the consumers benefit from this. People receive the notifications they want, and companies have a new channel to message and engage consumers on their device home screens believe Salz (2014). Notifications can also link to a video, allowing users to watch live streams as breaking news unfolds. ABC News notes that the feature is particularly well-received by users, with the app achieving a 500% increase in live video streaming thanks to push notifications knows Saltz (2014). An example such as ABC News show that personalised push messaging adds value to the overall app user experience. Push can enhance all outbound communications, including email and text messaging, to alert and engage people around content Saltz (2014) describes. For this reason, Salz (2014) recommends companies integrate push notifications

into their wider strategies to reach and engage consumers at every touch point throughout the customer journey.

An app marketing case

Starbucks mobile app gives customers the ability to indulge when they need to. They can easily pay for all Starbucks-related products via the app, including gift cards and other items, or simply pay for their coffee at any Starbucks location. Also the local cafeteria can be found through the app. The Starbucks app frequently offers freebies to be downloaded. Marketing takeaway: Marketers should offer freebies. The app can notify the customer that a free app or song is available (MarketingProfs Daily Fix).

Medical app marketing case

The Keep Me Posted! app allows the user to update family members and other parties with multiple updates, changes in status or other information during a medical emergency. All the contacts using the app are given confidential information with a single update. The Golding Group that developed the app normally offers strategic planning, communications and process development for business and nonprofit organizations. The development of a smartphone app is new area of business for them. With Angel Investors and a partner that has a success story with another app called School Connect, the marketing is still a challenge. With millions of apps being released annually, even a great app can get lost in the mix. The core intention is that the general public will download the app, try it for themselves, and share the idea with friends and family. This is the word of mouth that is needed to be able to expand. The Golding Group is working with Keep Me Posted! medical app to provide public relations across a broad spectrum of mediums - newspapers, magazines, press releases, YouTube videos, Facebook, Twitter and other social media outlets. Levant Technologies provided both Apple and Google Play with all the necessary keywords and categories for the app to be discovered. Levant and the Golding Group developed the app for roughly six months. The Keep Me Posted! app is available via iTunes or Google Play for Android (Brandes 2014).

Marketing solutions from the giants

To offer sales boosts and more tools for marketers, Facebook introduced 2014 new features for mobile app developers. Developers can add features that let users of their apps share content via Facebook's Messenger app so those users can share content from an app with only a certain number of their Facebook friends. Facebook also will now let users log in anonymously to apps while still using their Facebook accounts' login credentials. Before, the option was usually sharing all of their Facebook info or nothing. 'This is going to let you try apps without fear,' tells Zuckerberg. Facebook offers the marketers to gain access to all Facebook's` apps users information and start advertising to them states the article (Shalvey 2014).

A recent Forbes Insights report commissioned by Adobe surveyed top-level marketing executives in large organizations. 78 percent of enterprises with customer-facing apps have seen a year-over-year increase in the size of their mobile app audiences, and more than two-thirds said the number of end users for internal apps has also grown. Despite this, publishers and brands have struggled to effectively and efficiently publish content-centric apps. According to MENA Report (2014) Adobe integrated their content creation technologies to digital marketing solutions as following: Adobe announced 2014 the integration of its digital publishing platform, Adobe(R) Digital Publishing Suite (DPS), and Web experience management solution, Adobe Experience Manager, part of Adobe Marketing Cloud. This new integration, in combination with Adobe Analytics, enables publishers and brands to create, deliver and measure experiences across content-rich apps. Adobe's announcement 2014 underlines the new connections the company is forging between its unrivaled content creation technologies and industry defining digital marketing solutions. As a result, organizations can accelerate application authoring, reduce publishing costs across channels, and deliver a consistent brand experience and content marketing strategy on the Web and mobile devices (MENA Report 2014).

Branded apps and marketing

Charmin's brand manager Janette Yauch states that Charmin's app has a continued role in their broader marketing outlay. They are doing constant outreach with bloggers and influencers for events. Charmin also recommends SitOrSquat with paid mobile banners and search ads. Steady promotion is a key to a CPG to make a mark, states SessionMs CEO Lars Albright. Same marketing channels can be used in marketing health apps. Steady

promotion is important too. Charmin surveyed 4000 Walmart shoppers and found that only 20 percent knew the retail giant had a smartphone app at all. The worst-case scenario is to spend up to 300 000 dollars and then get little traction Albright tells.

Joe McCambley, co-founder of digital design firm Wonderfactory thinks that traditional advertisers are struggling because they are not helping customers get things done. Ultimately it is providing utility, whereas the Nike+ Exercise app is a perfect example (Heine 2014). Health apps are designed to help people get things done in their daily lives and to get fitter and healthier, this might explain the fast growing industry.

4.1.1 Mindset of advertisers

There are thousands of mobile advertising platforms, exchanges, mediators, DSPs and other adtech providers to app makers to use to advertise their apps states App Annie (2014). Rick Feldman is the Head of Sales and Chief Advertising Officer at RevMob, that offers advertisement solutions for companies. He was asked a few questions about app advertising by App Annie (2014). One question was about what kinds of data and metrics are the most critical for advertisers to access and optimize towards. Mr.Feldman admits that trends emerge in mobile ad optimization: *“Initially, advertisers were looking mainly for volume of downloads, regardless of the quality. The goal was to appear in the Top 10 downloaded apps, even if it was only for a few days. That wasn’t good for advertisers on RevMob’s mobile ad platform, because we offer good quality, not incentivized ads.”* He continues *“Around two years ago, people started to focus more on average revenue per user (ARPU) and ROI instead of volume. The idea was to convert qualified users that would spend a lot of money inside their apps. Seeing a large amount of volume would only be interesting if the users were of high enough quality. Now we see that there is a mix of ROI and volume. Advertisers still want to get qualified users, but they do not want to stop buying from a certain channel because they might miss what they call a ‘big whale ` that is one user that will spend thousands of dollars inside their app. To get a big whale, you need to buy volume. So that’s the situation we’re seeing right now — a mix of finding qualified users while still buying volume to get that big whale.”* (App Annie, 2014). For future trends Mr.Felman lists rich media and video as new features they are bringing to the market in near future (App Annie, 2014).

4.1.2 Marketing analytics & app distribution

There has been a radical shift in the way content is being distributed. Earlier, print, radio, television, retail and the web have dominated as content distribution channels. Now however, the distribution of digital content is moving from the open web to digital superstores (App Annie 2014). One of the world largest analytics tracker companies, App Annie has clients such as Microsoft, Google, EA and Dropbox. 90 percent of the top 100 publishers use App Annie. They state on their website that market data is less readily available for digital superstores than the web. Their technology infrastructure, analytics platforms, advanced statistical models and team of data engineers get this information for their clients. The App distributors can make better marketing planning by having the information about their apps downloads tracked (App Annie 2014).

Combining marketing analytics to different resources allows the marketing department to: See all ad metrics (ad revenue, expense, installs, etc.) broken down by app. this is app-centric view. The data can be also broken down by ad platform, country and campaign (App Annie, 2014).

Here is a more specific list that a Marketing Director can obtain from tracking down data and integrating it to existing data the company has. (Abbreviations explained below.)

- data by ad platform, country, app, store or site/campaign.
- key expenditure metrics including spend, impressions, clicks, installs, click through rate (CTR), CVR and effective cost per install (eCPI).
- Get an app-centric view of advertising – link campaigns to apps and ad data to app data.
- Get all monetization metrics including revenue, impressions, clicks, effective cost per mille (eCPM) and fill rate (App Annie, 2014).

Abbreviations explained:

CTR = Click through rate. Clicks divided by impressions. Basically all the clicks, which users have made on particular banner or other advertisement, divided with the amount of times this particular advertisement or banner was showed to users.

eCPI = Effective cost per install. Complete cost of marketing in that particular channel divided by amount of installs it generated.

eCPM = Effective cost per mille (effective cost per thousand impressions).

Many companies interviewed stated marketing analytics important in health apps marketing. Some stated that analytics was the most important issue in marketing. Many services were used simultaneously. Some advertising channels like Facebook and Google has their own analytics tool to use and other unnamed systems were used. One company used Mixpanel mobile analytics.

5 HEALTH APPS MARKETING

All the concepts described in international marketing mobile apps can be applied to health apps marketing too. As a summary: Advertisers want ROI, qualified users and volume. They can use mobile advertising platforms, exchanges, mediators, DSPs and adtech providers. They should use metrics and analytics for marketing optimization (getting information of data by platform, country, app, site/campaign, ad revenue, expense and installs). Marketers should have app-centric view of advertising: link campaigns to apps and ad data to app data. They can use the push notifications feature that is suggested to be integrated into wider marketing strategy. Push notification is direct to consumer communication channel to their home screens that can also be linked to a video. They should keep in mind the new ability to consumers to do searches within apps, while this is called app indexing. Advertisers should also watch the trend of deep-linking. Word of mouth is important, this is the channel that can affect the success of an app most. Marketers should use public relations across different mediums - newspapers, magazines, press releases, YouTube videos, Facebook, Twitter and other social media outlets. Digital superstores should have keywords and categories for the app to be discovered. In the next

section the most popular ways of health apps marketing according to the companies interviewed are introduced.

5.1 Global health apps marketing

Four companies that distribute health apps were interviewed. The apps were following: Pear App for fitness (free), Loop fitness app used together with Polar Loop bracelet (100 eur), Beddit App used with sleep tracking device (140 eur) and a popular golf scorecard app (free).

The common advertising model was to market heavily through partners and events, also digital media usage and PR were common advertising forms. Marketing analytics had a big role. Two companies stated that analytics is the most important issue in marketing and the others also explained how analytics were used in optimizing their marketing. Marketing differs from traditional marketing a lot, there are specific marketing tools that can be used only for advertising apps: Like push notifications and news inside apps. These are features that can be found in the application and these marketing messages are delivered straight to customer's mobile phones.

Also b-to-b contacting for marketing knowledge or to make partnerships is important. Especially in monetizing some apps, business contacts are important, because they form a big client base too.

For all the interviewees personal customer service is important to turn the negative feedback into positive while word of mouth is so important in Apps marketing.

When using Digital Marketing, two social media channels were used the most: Facebook and Twitter. The interviewees were asked to name a marketing campaign that had succeeded and all advertising channels were different (Please refer to p. 48 for further details).

Two of the companies have also devices linked to the app; a fitness tracking device and sleep tracking device. The third company has also a heart rate monitor available, but it is

not obligated to use it with the app. The fourth app does not need a device and it is also only app that can be used with all different phone systems. Three companies have one app, and the companies are solely in app business. Whereas the company Polar has many apps linked to their different devices. Polar has been developing fitness technology, tracking devices and heart monitors since 1970's, so developing apps and linking them to new products is more recent. Polar has 35 000 resellers worldwide. Whether to have a linked device or not, it understandably affects the marketing.

The ones that have devices: Beddit sleep monitor app and Polar Loop app emphasized the unique benefits the device gives the consumer. The Beddit Sleep Monitor is based on ballistocardiography (BCG), a scientific method for measuring cardiorespiratory functions. It detects the tiny signals caused by heartbeat, respiration and movements of the person in bed. The app shows the night summarized and suggests how to sleep better. Loop is a device that measures fitness activity levels and is used in a wrist. It is used together with an app.

Polar's Finnish marketing manager states that *“in the consumer business, apps are seldom marketed alone. Often they are marketed together with the main product, e.g. the Loop. The benefit is tied-in to the message, because they build one ecosystem. Polar Loop uniquely shows the personal activity level in minutes and hours per day. The user does not need to know what is the required level for health impact. It builds an ecosystem with the app and web service, where the user can wirelessly (app) analyze the activity, sports and sleep.”* When marketing especially Polar Loop it is important to take the whole marketing mix into account. Online supports the print and vice versa. Also reseller-marketing supports brand marketing. Beddit's Communication Lead Ida Lönrooth tells that Beddit has a big reseller for their sleep-tracking device in United States called Bed&Bath&Beyond. They do joint marketing campaigns and for example outdoor marketing. Pear sports sell their heart rate monitor (that is not obligated to be used) at many retail locations including Best Buy, Sprint and online stores like Amazon.

The marketing manager of Polar, Katja Mälkki describes health app marketing as following: *“App marketing should not be just solely describing the app but rather telling the customer what is the benefit of using it. For instance, often the app is a way to gather information*

that is used to see, how effective training was; how active day it was and what are the benefits of that certain activity level; how was the sleep and is there something to do if it was too short or not that calm. Applications have made analyzing easier because computers no longer are needed (except some cases). In this business, applications are nowadays almost 'a must' for consumers. “

Pear App that was noticed in the article: The 25 best Fitness Apps by PC Magazine (US) named co- operating with events important. Christian Shauf, Pear Sports VP (Marketing and Sales) tells that Pear App is partnering with Warrior Dash, which is world's largest obstacle race series. 2 million racers have been participating from 2009 -2014. They also create workouts for Warrior Dash. Beddits Lönrooth tells that they are attending events linked to health, wearable device, sleep science, IT, e-health, bio-tracking etc. Conferences, exhibitions and events are place to be. Golf Scorecard app is attending company golf tournaments, but it is not solely marketing, the tournaments organisers are also their customers. The app is worlds number 1 Golf Scorecard app, that has been downloaded 800 000 times, extremely popular in UK, Australia, Scandinavia and US. Over one million golf rounds have been played using this app.

Public Relations are vital to app companies to be able to get downloads. All the companies stated that Public relations has a big impact on downloads when successful. Schauf (2014) states: *“PR is a huge opportunity and a must-have to be successful. PR hit can be the big win for us. One article can drive thousands or tens of thousands of downloads and this is what we need to have happen a lot. There have been sudden spikes from great PR hits, like a news story. Pear Sports have also a PR agency (but not an advertising agency)”*. Williams (2014) tell that they are using a big managerial office and having a good PR office in UK. Public relations is hard globally, but they are trying to get publicity through Golf Pros and celebrity players. Williams (2014) states also that they have hired consultants and advisors for marketing advice. Polar uses both global and local ad agencies and views PR as important part of marketing. They also measure the value PR creates. Lönrooth (2014) believes that PR can also be done within company and no PR agency is needed. They have a PR agency in US though and are using advertising agencies when needed. Lönrooth explains that nowadays in public relations it is not enough to distribute press releases. There has to be new, interesting information for the media that has news value. In

this case interviewing a sleep specialist or giving data of sleeping habits of people, or comparing sleeping habits in different parts of the country etc. is a good example. Selecting reporters that have done articles before relating to the same topic can help to get the message out.

Digital marketing is important to everyone. The Golf Score app is using digital marketing channels such as: webpage, social media channels, Internet, different magazines webpages (needs to function on mobile). Most important ones are Facebook and Twitter. Facebook is for more constant marketing and Twitter for weekend campaigns for example. Polar is using: banners, SEO, SEM, Facebook, Youtube and globally also Instagram. Beddit is using: Social media. Facebook, Twitter, Youtube (product videos mainly-short film coming up), Vimeo, Blogs. Pear uses all the typical channels: website, social media, etc. Schauf (2014) states 'We work hard to create opportunities for others, like our coaches, to talk about us. We believe their voices are very authentic and people listen. We are starting to build a new website and this will be created to further optimize Facebook ad buying, etc. as it is getting tougher and tougher to market to social media audiences as a brand. CPC is so high in ad buying on social media channels, we still feel that a strong PR hit can be the big win for us.

The interviewees were asked about a successful marketing campaign. All the campaigns were really different from each other. Beddit had a campaign only one day in the US on Facebook and Twitter. They had reduced the price of their sleeping monitor device to 99 dollars. The Loop campaign utilized online marketing (banners, SEO, SEM, FB, newsletters), print marketing in targeted media and reseller visibility and co-op marketing as well as PR. The Golf App company arranged an own Golf tour. The ones that got birdies got a mobile phone and also were part of a contest with a good prize. Some of the golfers were made as champions via the app, so people shared that information in social media. The B-to-B co-operation is important to them in marketing (Williams 2014). Pear Sports Schauf (2014) mentioned that PR and some of their partners have been great because an intro to their audiences has driven tens of thousands of users.

Analytics are viewed as important. It is important to measure what worked well in order to improve next time. Polar is measuring for example the online campaigns, the QR codes,

page views, visitors in events and the value of PR. The Financial Director Mr. Williams emphasized the importance of analytics. They are using multiple analytics tools at the same time, because there is no one analytics service that could benefit them. Williams argues that it is difficult to know which campaign has the impact to downloads. Analytics tools are spread; Facebook and Twitter has one, but they are not perfect. Williams (2014) tells that they have normally two messages in advertising that they are testing in different channels. They are testing ads in lower cost channels before putting them out to more expensive. Beddit is using media tracking tools for media tracking and competition analysis. The tool gives access to 100 000 media sources. They also use Google analytics and social media analytics tools.

Williams (2014) tells that more specific marketing channel is the app itself; they are using push notifications to home screens and information in news section of the app. Monthly newsletters are also used. Beddit admits they should add a newsfeed to their application. Lönrooth (2014) thinks the use of the application should be linked with marketing.

About media selection. Williams (2014) tell that they are not using an advertising company, but they are using a media office. Media office selects and buys advertisement for them. The benefit is also that the media offices have many big brands as customers, so also this service can be offered to them via the same media office. From more traditional channels, they are using print: Golf magazines. Polar selects media locally in Finland by target group per product. It is important that the media and product complement each other states Mälkki. She tells also that certain social media campaigns can be cost efficient, if they “take off”

One question was about how the marketing professionals would advise a young marketer starting out marketing apps. Two similar answers came up. In terms of advice for young apps marketers Mälkki suggests that *“create a clear and unique concept & story that is easy to tell and understand”*. Scauf (2014) advises: *“I would advise them to create something that is unique, needed, specific and simple to use while also having a strong social component to it.”*

Word of Mouth was also a way that knowledge about an app spreads, stated two interviewees. Williams explains that because word of mouth is so important, customer support is important. They answer quickly and try to turn negative matters into positives fast; this has a big impact on word of mouth and marketing. All the companies had live customer support. Schauf says that their customer service reps are live and do a great job of creating relationships with their customers.

Other marketing efforts that were mentioned are introduced here. Pear Sports App has famous US coaches in the app, showing the moves on video and also speaking through the exercises. The coaches themselves had a big role in marketing, as the company believes that their voices are very authentic and people listen. Beddit app and a sleep monitor that measures sleep was first introduced in Indiegogo, global crowd funding site on 2013. The success of crowd funding and unique product attracted media. They were aiming to collect 80 000 dollars, but they got 500 000 dollars through the site. Also the presale of the product was a way of marketing and big technic related magazines from US wrote about the product and that generated business.

For B2B markets, Polar apps offer a cost efficient way to see e.g. the status of a whole sports team during training (Polar Team app) or e.g. to coach each individual towards the right heart rate (HR) level on a group class (e.g. spinning). However, in both of them, the HR sensor is needed in order to gather the data. In B2B marketing, the app is "the product" that gathers the information from several users, therefore they focus more on the application benefits and the HR-sensor is in the minor role.

Beddits Lönrooth states that there can be difficulties in global health apps marketing: Segmentation, follow up and analyzing marketing impact. Positive problem is for them that there are lots of inbound contacts (contacts that are coming to them without a marketing effort, through publicity) and they have a small team. Schauf tells that there is a ton of competition. Furthermore, people generally feel apps should be free or very cheap - so to create business model is very difficult. Some of the apps with huge audiences still don't know how to monetize these audiences and it will become a huge problem for them as they run out of working capital. Williams (2014) was the only one that speculated a possible

future tool that would be beneficial for marketing: Target marketing tools to get more accurate data.

In figure 5 below is advertisement for Pear App.

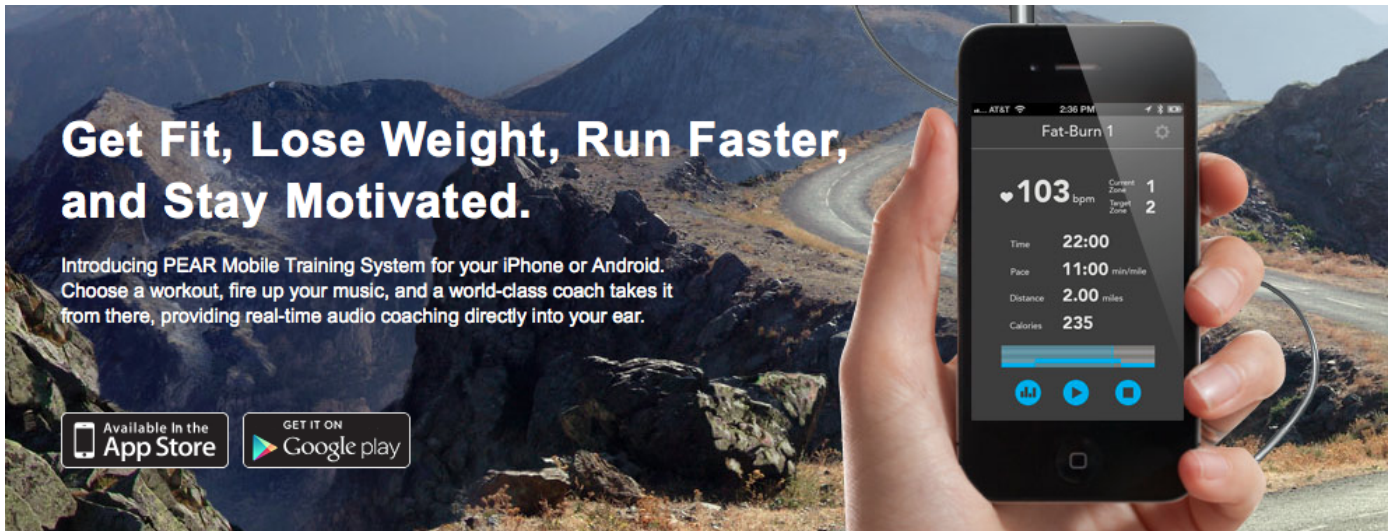


Figure 5. Pear App (Pear Sports 2014)

6 CONCLUSIONS

The mobile apps industry is growing rapidly with 100 billion downloads worldwide this year and predicted to grow to 270 billion by 2017 creating revenue of 77 billion dollars. The digital superstores that distribute apps, can be accessed from anywhere in the world. This makes it possible for any app to succeed. Smartphones have overcome the desktop web for total time spent daily – 1 hour 7 minutes compared with 1 hour and 1 minute (US). Apps usage is 30 hours a month. The marketing of apps is tricky, with many competing apps available reaching customers is hard. Customers download many apps, but use only half of them. Only 20 percent from users uses certain app after one week and 10 percent after one month. The app might also be deleted. The way customers use apps makes it difficult to maintain the app on the customers phone. The development costs are high, marketing costs are high/ versus revenues. A major restraining factor behind the growth of paid apps is the free access to maximum smartphone apps. Most of the apps downloaded are free. 93 BN apps are downloaded free and 9 BN apps are downloaded that are paid for. From healthcare application downloads 90% are free apps. Health apps are dominated by exercise apps (1/5).

Sleep & meditation and weight loss apps are expected to grow at the highest CAGR. Apps cost approximately one to two dollars and the revenue is made when customer pays inside the app to get more out of it. The revenue contribution might not be significant.

Healthcare apps are a new trend and the industry is growing fast. The major drivers are increasing awareness of chronic diseases, growing adoption of smartphones, high penetration of 3G and 4G, advanced mobile connectivity and a promise of a better healthcare cost efficiency. From healthcare apps downloads 80 percent are health apps, most popular being fitness-, weight loss- and dietary apps. The most popular paid apps are weight loss-, sleep- and meditation apps. 20 percent of the healthcare app downloads are medical apps. Other medical apps include medical reference-, mental health- and symptom check apps. 70 percent of health app consumers use apps on a daily basis and 63 percent plan to expand use in the future (US). 69 percent believe health and fitness tracking is more essential than using a smartphone for social networking. 30 percent believe they are more useful than receiving calls (US). The leading smartphone developer Apple introduced a health app on their newest mobile phone iPhone 6 using the operating system iOS 8. This health app enables the user to download many different health apps from different developers and the app will show the combined results to the user. This shows how seriously health app usage is taken and it indicates rapid growth. iPhone sales in 2014 was approximately 169 million units. If the new phone sells the same, there will be 170 million users aware of health apps. If they all want to try out health apps, there will be hundreds of millions new health app downloads.

Health app marketing should not be compared to traditional marketing. Health app marketers should use B-to-B networking and public relations as priority in marketing. Acknowledging the importance of word of mouth is as important as having great customer service. The marketers should also find more ways of doing gorilla marketing. They should build a strong network with event influencers, bloggers and journalists. Testing advertisements and using analytics is vital for success.

Marketing departments and media companies should follow the latest trends constantly, because new marketing tools are coming to the market. Google, for example, has launched a new service: searches within apps called app indexing and deep linking. Demand-side

platforms develop further at a fast space too. The future trend in marketing is using rich media that is interactive with consumers.

Advertisers want return on marketing investments (ROI) as well as qualified users and volume. One way to mass market is through exchange platforms that are high impact demand-side platforms that enables advertisers, agencies and agency trading desks to use real-time bidding to buy and optimize online media. App advertisers can use also the following marketing tools such as mobile advertising platforms, mediators and adtech providers, such as online advertising technology companies.

Marketing through a companies' own app is also possible. Marketers can link campaigns to apps and add data to app data. They can also use push notifications as a direct to consumer communication channel to their home screens. This ability is designed specially for smartphones and it can also be linked to a video. Marketing through apps is suggested to integrate into wider marketing strategy.

Companies interviewed marketed heavily through partners and events, also digital media usage and public relations were common advertising forms. Marketing analytics had a big role in marketing, for two companies they stated it is the most important issue in marketing and the others also explained how analytics were used in optimizing their marketing. One company used advanced media tracking and analysing database to be able to track their own visibility in media and to keep up-to-date on the markets. They had access to over 100 000 sources through the service.

Also b-to-b advances for marketing knowledge or to make partnerships is important according to the interviewees. Partnerships played a big role in getting wide audiences and good word-of-mouth. Especially in monetizing some apps, business contacts are important, because they form a big client base too for some apps. When considering media selection, some traditional marketing channels were used, like magazines. When using digital marketing, two social media channels were used the most: Facebook and Twitter. Youtube, Vimeo, magazines web sites and specific webpages were also mentioned.

For all the interviewees personal customer service is important to turn the negative feedback into positive while word of mouth is so important in apps marketing. Marketing inside the app and apps news section was considered good way to reach people using the app. Also newsletters were sent to the customers. One company attended events, exhibitions and conferences linked to health, wearable devices, sleep science, IT, E-health and Bio-tracking.

Further research and development suggestions

A further research suggestion would be to concentrate on the technological part of app marketing. To research new technological marketing tools that are still on their way: apps indexing, deep linking and demand side platforms. To research app marketing analytics and optimization. This research would gain in depth understanding to the technological tools that can be used in apps marketing.

Managerial implications

Marketing managers of health apps should add b-to-b networking and public relations as a priority in marketing. Through partners, such as health event organisers, they can reach millions of potential customers. Public relations is beneficial when it succeeds, a news article can generate thousands of downloads. Working constantly with b-to-b networking and PR the benefits can be highest compared to other forms of marketing. Marketers should select a good PR agency that operates globally or have local PR agencies. Possessing a strong personal relationship with event influencers, bloggers and journalists is recommended. Word-of-mouth can be the key success element, so everything that can promote good word-of-mouth will be beneficial. Because of that, having a good customer service is important and the managers should inform the customer service workers about the importance. Internal marketing should be considered too. Marketers should get all the analytics tools available and use them to be able to customize their marketing and get valuable information. It is also beneficial to test the advertisement before launching in more expensive channels. If a marketing manager has not used demand-side platforms (DSP), she should look into them. Marketers should know more about technical issues of apps too, like app indexing, and how an app could be optimized to be easily found when searched for. The marketing department should regularly meet people from IT-department and customers

service. Meetings with ad/digital agency, media companies and PR agencies are good because of the fast changing marketing environment. Marketers can also hire advisors and consultants to be able to optimise marketing better and get new insights.

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APPENDICE

Questions:

- Can you describe in general what is your strategy in marketing your app? What are the best ways?
- How big role in the marketing the gear has? (Heart rate monitor etc.)
- What are the benefits it gives the customer when using the heart rate monitor together with your app?
- Who are your target group in which areas? What are the most effective medias for marketing the app? Where you distribute the Gear?
- What is your most innovative and successful marketing campaign so far according to you? (Which medias /co-operating companies were used and which channels were involved?)
- What are your media choices globally? (or locally)
- What kind of digital marketing you are using?
- What is your marketing budgeted?
- What is hard in global apps marketing?
- Do you have a global ad agency or local ad agencies? (or inhouse department)
- Do you have other subcontractors involved in marketing, what kind of companies?
- What role does public relations play in your app marketing?
- Is there some cost efficient ways to market apps?
- How would you advice a young marketer who is starting out to market health apps?
- Do you offer personal post customer service?

MEASURING

- Can you describe the role of marketing analytics and how it is used effectively?
- How do you measure the impact of marketing?
- What kind of services you use to analyze the market / marketing data?