



Pauli Saarinen

Implementation of power bank sharing in Finland

Case: Lectogo

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Abstract

Author(s): Pauli Saarinen
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This thesis aims to gain insight into the power bank sharing market in Finland and the profitability of the business model. It aims to explore new opportunities for revenue generation and optimizing the current operations.

The thesis will examine an established business operating with this business model in Scandinavia focusing on the Finnish market.

The primary focus of this research is to explore opportunities to grow revenues from the core business, renting power banks, and possible revenue streams to incorporate into the business model. Furthermore, analyze the management of the company to provide insights into possible areas of improvement to optimize their operations to make the company achieve scalability.

The main objective for this research is to improve the profitability and managerial activities of the company in question. This will be done using tools such as business model canvas and SWOT analysis. Furthermore, this research aids the business with exploration of new opportunities leveraging their gained resources such as partner network, the platform, and the users to add additional revenue streams for the business.

Keywords: Power bank sharing, Finnish market, profitability, revenue stream

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Glossary

| | |
|-----|--|
| mAh | Milliampere-hour is commonly used to indicate the energy charge that a battery will hold and for how long a device will run before the battery needs to be recharged. |
| B2B | Business-to-business, refers to transactions that occur between two businesses. In this type of transaction, the buyer is typically a business or organization, rather than an individual consumer. |
| B2C | Business-to-consumer, refers to transactions that occur between a business and an individual consumer. In this type of transaction, the buyer is typically an individual who is purchasing a product or service for their own personal use. |
| CAC | Customer Acquisition Cost. This is the cost associated with convincing a potential customer to become an actual customer. It includes all the marketing and sales expenses that are incurred in order to acquire a new customer. |
| LTV | Customer Lifetime Value. This is the amount of revenue that a customer is expected to generate over the course of their lifetime as a customer. It considers the customer's average purchase amount, the frequency of their purchases, and the length of time that they are likely to remain a customer. |
| POS | Point of Sale, which refers to the physical location where a transaction is completed between a buyer and a seller. It can also refer to the hardware and software used to facilitate the transaction, including cash registers and apps. |
| MRR | Monthly Recurring Revenue, which is the amount of revenue a company generates from its customers monthly through recurring subscriptions or contracts. |

1 Introduction

In recent years, power bank sharing has emerged as a new trend in the business world. This business model provides a short-term rental of portable power banks for consumers to use on-the-go. With power bank sharing, customers no longer need to worry about their phone's battery life while out and about. Instead, they can simply rent a power bank from a nearby location through an application and return it to any charging station of the same brand once they are done using it. As a key person in the operation of Lectogo in Finland, the author has witnessed the growth of power bank sharing first-hand.

The use of power bank sharing has several advantages for both consumers and businesses. For consumers, it provides a convenient and affordable way to charge their mobile devices without having to carry around their own charger or search for a wall socket. For businesses, it offers an opportunity to attract customers by providing a value-added service. Power bank sharing can be implemented in a wide range of venues, including restaurants, bars, cafes, gyms, shopping centres, public transport hubs, hotels, university campuses, and other stores and public places. By providing a convenient charging service, businesses can improve the customer experience and generate additional revenue.

Despite the benefits, the future of power bank sharing in Finland is not without its challenges. One of the main challenges is the need for sufficient charging infrastructure. Businesses that offer power bank sharing need to ensure that they have a reliable and efficient charging system in place to meet the demand of their customers. Another challenge is the need for effective marketing to raise awareness of the service and attract customers. With the growing popularity of power bank sharing, it is important for businesses to differentiate themselves from their competitors by offering a unique and compelling service. By addressing these challenges, power bank sharing has the potential to become an increasingly popular and successful business model in Finland.

1.1 Research question

Power bank sharing projects have been launched in the Nordic market in the recent years to offer a solution to “low battery anxiety” following the trends of new start-ups in China, US, and other parts of Europe. The businesses solve the problem of running out of battery in the modern person’s fast paced digital world. Since it can be argued that these projects are already successfully implemented, this research will focus on the future of the field. Due to these reasons, the research question for this thesis is:

How will the power bank sharing industry develop Finnish market to make the businesses profitable?

1.2 Research objective

Power bank sharing aims to solve the problem of finding a wall socket, having to wait for your phone to charge or leaving it behind in a charging cabinet for the person on-the-go. The research objective for this thesis is to study and analyse a power bank sharing company in Finland to determine viability of the business in the Finnish market. The study would aim to identify the demand for power bank sharing services in Finland and analyse the competition landscape. Furthermore, analysing the activities and scalability of the business is done to provide the business with understanding of their challenges moving forward in the rapidly changing market.

2 Power bank sharing

2.1 What is a power bank?

Power banks are an external battery to charge your devices such as earphones, mobile phones, tablets and even laptops. Power bank’s capacity can range typically between 2560mAh to 20 000mAh (mAh = milliampere-hour), with mobiles having about 5 000mAh of battery capacity. When considering charging efficiency, with a 20 000mAh power bank, you can charge your phone 2-3

times. The key idea is that a power bank is portable, so you can charge your devices without the need of a wall socket.



Figure 1 - power banks - <https://pixabay.com/fi/photos/voimapankit-tekniikka-kaupunki-1787271/>

2.2 What is power bank sharing?

Power bank sharing is a business model where a business offers a short-term rental of a portable power bank. The concept can be applied to, but not limited to, restaurants, bars, cafés, gyms, shopping centres, public transport hubs, hotels, university campuses, and other stores and public places. This also changes on the company and their view on where their resources would be best allocated and where would be the greatest need for such a service. By using the application, consumer can find a nearest location with a charging station and scan the QR-code of it to purchase the rental service. After the initiation of the rental, a power bank will pop out of the charging station to be taken by the user. With this type of service, the power bank can be returned to any charging station of the same brand when the user is done using the power bank.

Therefore, the user does not have to rely on finding a wall socket to charge their phone, nor do they need to have their own charger.



Figure 2 - Example of powerbank station from Energy Monster - <https://pandaily.com/chinese-power-bank-rental-company-energy-monster-sets-sights-on-us-listing/>

Power bank sharing companies operate with the same model as sharing cars, electric scooters, or bicycles. Similar concept has been applied to also other things such as umbrellas with little success. The concept of power bank sharing has seen a success in China, where it originated, and it is becoming increasingly trendier in the western markets as well.

The key resources that power bank companies need to operate are the charging stations, power banks, app for users and an admin panel to facilitate the service operations. The charging stations have multiple power banks, typically ranging from six to 12 slots, but bigger machines can be offered as well with the capacity of tens of power banks more ideal for large venues such as stadiums or malls. The power banks used in this service have an average capacity of 4 000 to 8 000mAh. (Cherednichenko, 2020)

2.3 Why is the service needed?

Everybody with a phone also has a charger to go with it or they carry their own power banks, so why is there still a need for a power bank sharing service? Because you cannot always plan your schedule around charging your phone at

home or wait for your phone to charge plugged into a wall when you have more important matters to attend to. For example, you might forget to charge your phone overnight or might forget to take a charger or a charged power bank with you.

With increasing demand for phone battery due to using mobile payment solutions, public transport companies moving tickets to mobile platforms, increasing usage of social media et cetera, the need for charging mobiles also increases.

LG, the South Korean electronics company made a survey of smartphone users in 2016 titled: "LOW BATTERY ANXIETY" GRIPS 9 OUT OF TEN PEOPLE". According to the survey 32% of people would "drop everything" and head home to recharge their phones. LG estimates that this concerns about 90% of the people. (LG, 2016)

"The LG Electronics Smartphone "Low Battery Anxiety" Survey was completed online among a random sample of 2,000 smartphone users among U.S. adult population. Interviewing was conducted by Ebiquity between February 26 and March 2, 2016. The results have an overall margin of error of +/- 2.2%; at the 95 percent level of confidence." (LG, 2016)

Running out of battery or forgetting to charge your phone has probably happened to every heavy phone user at one point or another and they are more frequent than we may be willing to admit. Thus, power bank sharing becomes a solution when you need to charge your phone without a charger at hand and get back to the digital world. According to Brick Technology: "...powerbank sharing serves a universal purpose, helping people when life does not go as planned." (Brick Technology, 2021)

2.4 Power bank sharing: Proven business model in China

The concept of power bank sharing originated in China, with the first projects emerging in around 2015. After a few years of fierce competition, the sector of

power bank sharing can be considered as matured. After smaller companies have gone out of business, four dominant players that control 96% of the market are left. They include Jiedian (25% share), Xiaodian (27% share), Energy Monster (25% share) and Laidian (16% share). (Che, 2021)

According to a report by Shanghai-based iResearch, the phone charging market will grow from \$1.4 billion in 2020 to \$16 billion in 2028. This optimism about the growth of the industry brings new competition: Chinese consumer retail giant, Meituan, recently announced its new power bank rental business. Wèi Chángsōng, head of Meituan's power bank sharing business, said: "In 200 prefecture level cities starting May 2020, we will be placing our power banks in 70,000 to 80,000 businesses per month." (Che, 2021)

In the beginning the objective for the companies was trying to reach as many consumers as possible. In 2017, there were 80 million people who rented portable phone chargers from power bank sharing companies. By 2020, there were 290 million users in China. After the forementioned concentration to the four big firms, they began raising their prices focusing more on revenue than reach. The average price for 1 hour rental increased from 0.5 yuan (\$0.08) to around 4 yuan (\$0.62). (Xu, 2021) However, the price hike does not seem to have lowered the demand: Energy Monster made \$430 million in revenues, according to its prospectus, up 40% from the previous year. In the beginning of 2019, right around the price increase, Energy Monster reached profitability. (Smart Share Global Limited, 2019)

2.5 Criticism of power bank sharing

Power bank sharing has gained popularity over the years as an effective way of providing portable energy for electronic devices. This service involves renting a power bank from a provider and returning it once fully charged. However, this model has received criticism due to several issues.

One of the main criticisms of power bank sharing is hygiene. Sharing power banks between multiple users increases the risk of transmitting germs and

bacteria, especially during the COVID-19 pandemic. According to a study by the National Center for Biotechnology Information, germs can survive on surfaces such as power banks for up to 72 hours (Kampf et al., 2020). Therefore, sharing power banks can lead to the spread of infections.

Another issue with power bank sharing is the environmental impact. The production of power banks involves the use of rare metals and chemicals that are harmful to the environment. The disposal of these power banks also poses a challenge as they are not easily recyclable. According to the Environmental Protection Agency, electronic waste is one of the fastest-growing waste streams, with only 17% being recycled (EPA, 2021). Therefore, power bank sharing contributes to the accumulation of electronic waste.

In addition, the reliability of power bank sharing services has also been criticized. Some users have reported receiving faulty power banks or not being able to find available power banks, leading to inconvenience and frustration. This can be a significant issue, especially for those who rely on power banks for essential tasks.

In conclusion, power bank sharing has its advantages in providing portable energy for electronic devices. However, it also has its criticisms, including hygiene, environmental impact, and reliability. As such, providers should consider implementing measures to address these issues and ensure a safe and sustainable power bank sharing service.

2.6 Phone charging solutions before power bank sharing in public areas.

Charging solutions available this far have been limited and not ideal from the customer experience point of view. This section will explore different options to charge your phone or other devices in public spaces.

2.6.1 Charging cabinets

Charging cabinets are essentially lockers with charging cables where you can leave your phone to charge. Some of them require a small payment to charge your phone while others are free for the consumer. These charging cabinets are usually wall mounted which requires more planning from the buyer's perspective and they cost around 1500€ for the business to have installed.



Figure 3 - Charging cabinet - <https://vivotech.fi/tuote/vivotech-b6/>

For the consumer, this might be inconvenient as the phone does not stay with you and if you use one on for example a night out, you might forget your phone behind if you are not careful. Furthermore, consumers would prefer to keep their phone with them in for example event setting, where you might take photos or videos, or in for example museums if you want to take pictures of the artworks and artifacts.

According to many businesses charging cabinets have not seen much usage and for example in Helsinki Arena charging cabinets have decreased from 8 to 2 due to the lack of demand for this type of service. The cabinets were located near the entrances, info, and restaurants. This option did not work as customers do not want to leave their phones behind. In contrast Helsinki Ice Hall has had power bank sharing option for over a year now and they have been happy with the service and their customers have given positive feedback on the service.

2.6.2 Loan power banks

Loan power banks are like rentable power banks. For example, Onniravintolat in the Helsinki region had bought their own power banks to loan to customers in need of chargers according to their CEO Gianjot "Dollar" Singh. However, as they were loaned, people kept taking the power banks with them by accident or purposefully which meant that the company needed to buy new ones to cover the demand. They quickly switched to have the customers ID as collateral, but this raised some privacy concerns and people still ended up forgetting that they had borrowed the power bank and left their IDs at the bar. Another, more recent example of this is Teerenpeli restaurants.

2.6.3 Outlets and USB-ports

Traditional outlets have been available long before the first phones even came to the market. Of course, you are still stuck to the location to charge your phone, and you would need your own charger or borrow one. Some restaurants even take customers phones to charge behind the counter, but the location of the chargers is usually near the drinks and if an accident happens who would be liable.

USB ports have also become more available in for example public transportation. The newer busses of HSL have USB ports to plug in your own cable to charge during your journey. But again, you would need at least your own cable to do so.

3 Sharing economy

3.1 Overview and definition of sharing economy

Sharing economy is defined by Benita Matofska, Chief Sharer, The People Who Share as follows:

“The Sharing Economy is a socio-economic ecosystem built around the sharing of human, physical and intellectual resources. It includes the shared creation, production, distribution, trade and consumption of goods and services by different people and organisations.” (Matofska, 2016)

However, the term “sharing” in sharing economy has the connotation of free. Renting cars, getting a hotel room etc. are not new, and have been a part of the economy long before sharing economy term emerged. Term “economy of sharing” is believed first being used by Marcus Felson and Joe L Spaeth in an academic article titled “Community Structure and Collaborative Consumption” published in 1978, while the term “sharing economy” is believed to have emerged in 2008 during the Great Recession and possibly first used by Lawrence Lessing, although others say the origin of the term to be unknown. (Dariusz Jemielniak, 2020), (Homestayin, 2014)

In essence sharing economy refers to the action of exchanging, renting or sharing resources that the consumer does not own. This resource can be a service or a product. This is often conducted through a community centric online-based platforms to facilitate the transactions. Examples of these would include Wolt, Airbnb and Uber. It is also important to note that “sharing economy” as a term has been taken traction when these activities became more decentralised and independent. For example, car rentals have been around a long time, but renting your neighbours car through an app even if you do not have an ongoing relationship with them is new. To some extent sharing economy can be argued to be more decentralised and community owned.

The key is that it does not focus on the transfer of ownership during transactions. (Puschmann, 2016, pp. 93-99) Furthermore, it is also important to note that if money was not exchanged, there would be little to no incentive for people to engage in these activities. For example, you would let your friend or family member sleep on your couch for free if they needed a place to stay but offering the same service to a stranger on the internet loses its appeal.

Because of this utility concept is also important when looking at the power bank sharing industry, because it distinguishes between monetizable convenience (e.g., accommodation, food deliveries and taxi services) and the generation of wider economic benefit that are often difficult to monetise fully (e.g., transport networks, clean water). Given the increasing reliance and even dependence on phones for portable telecommunication and mobile apps, the availability of power banks becomes more like a utility service. It is of course individually convenient, but it offers also a wider economic benefit, for which many beneficiaries do not pay because they cannot.

3.2 Advantages of sharing economies

3.2.1 Low barrier to entry

Sharing economy offers low barrier to entry for people to start their own businesses. For example, Uber and Lyft make it easier for individuals to drive than a traditional taxi company (also dependent on country specific regulations). (Washington State University, 2020) Another example would be courier services such as Deliveroo and Wolt, where you can work as a courier with a minimum local language skill and even without a vehicle as in bigger cities it is faster to deliver by bike or e-scooters.

3.2.2 Flexibility and freedom

According to Washington State University 72% of independent workers (providing services or performing work for an entity as nonemployee i.e. freelancers) prefer to be employed as freelancers or contract workers rather

than as a traditional employee. (Washington State University, 2020) According to Eurostat, in Q2 2021 13% of the employed people aged between 20-64 years in the European Union were self-employed. (Eurostat, 2021) This is because working as a freelancer offers a lot more flexibility on working hours.

Furthermore, by working through your own company provides tax advantages and give the possibility of earning better salary for the workers.

3.2.3 Lower cost for users

Lower barriers to entry and flexibility for workers also enable the companies, the owners of the digital platforms, to provide their services at a lower cost.

(Washington State University, 2020) For example, Uber does not need to have its own cars to operate, and Airbnb does not need to have its own properties which cuts major costs from running a taxi or hospitality service. They only provide the platform for the community to facilitate the transactions and take a small cut to make profits.

For power bank sharing, renting a power bank is more cost efficient than buying one, especially if you don't have continuous use for one or damaging your own on a night out.

3.2.4 Extra income for providers

For the providers or sellers of these services, the owner can utilise the potential value of an item, such as a car that would otherwise not be in use all the time, or possible talents that would not be used in a day job, by sharing it when it is not in use. By giving rides or working in a talent marketplace (e.g., Fiverr UpWork), providers can supplement or even replace the income they would earn in a traditional job. By renting one's possessions or house, they can earn income almost passively while focusing on other things. (Martucci, 2022)

For power bank sharing this means extra income to the partners who provide the service in their venues or events. They also receive growing visibility to the

users of the power bank sharing platforms, which means they might get more customers as well.

3.2.5 New and better opportunities

Everything is not practical to own or obtain if you would use it rarely or cannot afford it. For instance, people living in a bigger city, owning a car would not make sense in many cases as public transport is convenient but taking a larger trip might require a car so renting one or borrowing from a friend becomes convenient rather than purchasing one. (Martucci, 2022)

For the rentable power banks this means being available where other phone charging solutions wouldn't work. For example, festivals and bars. They wouldn't benefit from selling their own power banks, providing other solutions can be expensive. Also, if the customers' phones are taken into the custody of the staff to charge, the phones can be forgotten and they are responsible for any damage that may be caused to the devices, for example a spilled drink behind the bar.

3.2.6 Stronger communities

A widely adopted phenomenon in the gig economy is a rating system, for example with ride sharing services. This keeps the providers and consumers honest in the transactions and using the platforms. This also creates social proof for consumers and makes it more comfortable to use such services when you can see how others rated a specific driver or host on Airbnb. Some platforms are also known to use their influence, and the shared resources of their participants, to help those in need. According to an article in TechRepublic "Open data, crowdsourcing, and sharing economy tech take on new roles in disasters" by Alex Howard, Airbnb has organised for people affected by natural disasters, and TaskRabbit has tried out organising volunteers in crisis situations (Howard, 2014). These and other trust-building efforts helps sharing economy participants to see each other as equals and creating constructive relationships where none existed previously. (Martucci, 2022)

For power bank sharing this can be used to create a community of outgoing people. This network can also be leveraged to help the partners by advertising and promotions.

3.3 Disadvantages of sharing economies

3.3.1 Privacy and safety concerns

Forfeiting some privacy is required by people on both sides of the transactions in the sharing economy. For instance, when you rent out your house on Airbnb or TripAdvisor, you are in essence inviting strangers into your home. You cannot be 100% certain that the tenant is respectful and law-abiding. For example, before the authors last Airbnb experience, the provider of the accommodation told him that the previous tenants caused damages worth of 10 000€ because they threw a big party on new year's. The same issue applies to ridesharing, using a task platform to source in-person labour such as home repairs or housecleaning, and selling or renting items in an online marketplace.

In contrast with the traditional market, taxi services, retail outlets, and cleaning and contracting services must be licenced and/or abide by consumer-protection regulations that do not necessarily apply to sharing economy providers. However, for example in Finland, all Uber and Yango drivers are required to have a taxi licence to operate. This and other regulations have been put in place to alleviate the concerns for the consumers.

When it comes to power bank sharing the largest concern in terms of safety becomes from device malfunctions and data privacy. When it comes to electronic devices, there is always a risk of fire or short circuiting. Furthermore, the power banks themselves might impose privacy issues as some might be used to install malicious software into the users phone. These issues are however rare.

3.3.2 No or few guarantees

In addition to privacy and safety concerns there is no or few guarantees when you share your resources. You as a provider take a risk that you do not get paid for your services or items that you share will be damaged by the renter. The example above of the author's Airbnb experience also applies to this point. Furthermore, in the talent marketplace there is usually a finite number of tasks or jobs for which you are qualified and therefore no guarantee of a steady income. It might also be an issue if the buyer is not happy with the results and the payment is not guaranteed.

For power bank sharing this is not such a large concern because the equipment is not too expensive per unit and the margins on the power banks themselves are very high. For the customers, by providing sufficient feedback and customer service channels (and procedures focused on creating a good customer experience) are enough to create trust. But, as the risks are overall relatively low, the concern for them is not too high.

3.3.3 Market distortions

The sharing economy has disruptive effects on the markets which can be seen either positive or negative depending on the perspective. One of the most widely studied of which is the local housing market distortions caused by short-term rental platforms in main cities and popular tourist destinations.

A study conducted by National Bureau of Economic Research, UCLA, and the University of Southern California in 2017 found that "a 10% increase in Airbnb listings leads to a 0.42% increase in rents and a 0.76% increase in house prices." (Kyle Barron, 2017) One of the more competitive markets on Airbnb, like San Francisco, the increase of listings has been rapid in the past decade. Also, while increasing in popularity to live, San Francisco's housing prices roughly doubled between early 2012 and early 2017 and keep on increasing steadily, one of the reasons being short-term rentals as well. (Zillow, 2022)

The largest distortion for the power bank sharing industry was Covid-19 and its implication on the HORECA and events industry. Due to quarantines and restrictions the traffic to the locations was low and people were not going out. Thus, there was low demand for the service during that time.

3.4 Conclusion

In conclusion, sharing economy has been widely embraced by individuals as a way of exchanging, renting, or sharing resources without necessarily owning them. The sharing economy industry has grown exponentially over the years, with the availability of community-centric online-based platforms that facilitate transactions. This industry is more decentralized and community-owned, and it has the advantage of low barriers to entry, flexibility, lower cost for users, and extra income for providers. These benefits have been realized by popular sharing economy services such as Uber, Airbnb, Wolt, and many others. In the power bank sharing industry, power bank renting is a cost-efficient solution, especially for individuals who do not have continuous use for one or risk damaging their own power bank. Overall, sharing economy is an innovative solution, utilised by many start-ups, that has revolutionized the way we interact and transact, leading to the creation of new business models and opportunities.

4 Start-ups

4.1 Definition and characteristics

A start-up can be defined as a newly established business that aims to grow and expand rapidly, often by developing a unique product or service and capturing new markets (Blank, 2013). This definition is in line with the commonly accepted definition of a start-up as a company in the early stages of operation with a focus on rapid growth and substantial returns (Feld, 2012)

Start-ups are typically characterized by having a small initial team, limited resources, and a high level of risk and uncertainty. However, they are also known for their potential for high impact and growth (Bruno S. Sergei, 2019)

The following are key characteristics that differentiate start-ups from established businesses (Blank, 2013):

- Innovation: Start-ups often strive to solve problems in novel and innovative ways and bring new products or services to market.
- Scalability: Start-ups are designed for rapid growth and expansion, with the potential to become large and successful businesses.
- Risk: Start-ups operate in uncertain and rapidly changing environments and therefore, carry a high level of risk.
- Agility: Start-ups can pivot and adapt quickly to changing market conditions.
- Focus on impact: Start-ups are often driven by the goal of creating a positive impact, be it through the creation of new products or services, job opportunities, or social or environmental benefits.

4.2 Components of a successful start-up

Starting a successful startup requires a combination of creativity, strategic thinking, and execution. There are several key components involved in the process, including ideation, market research, product development, and fundraising. Understanding and effectively managing these elements is critical to the success of any startup.

Ideation:

Ideation is the process of coming up with new and innovative ideas for products or services. The best ideas often come from recognizing a need in the market and developing a solution to meet that need. According to Blank (2013), many successful startups start with an "aha" moment, where the founder identifies a problem and sees an opportunity to create a new product or service that solves that problem.

Market research:

Once an idea has been generated, the next step is to conduct market research. This involves studying the target market, including potential customers and competitors, to validate the idea and identify any potential issues. Successful startups take the time to thoroughly understand their target market and validate their ideas before investing significant resources in product development. (Hague, 2021)

Product development:

Product development is the process of bringing the idea to life and creating a product that can be sold to customers. This process can be complex and time-consuming, and often involves several iterations before the final product is ready for market. Nir Eyal, the author of *Hooked: How to Build Habit-Forming Products*, stresses the importance of continuous testing and improvement during the product development stage, as this can help identify and address any issues before the product is released. (Eyal, 2013)

Fundraising:

Once the product is ready for market, the next step is to secure funding. This can involve seeking investment from venture capital firms, crowdfunding, or taking out loans. Feld (2012) notes that securing funding can be a major challenge for startups, as investors are often looking for businesses with a proven track record of success. However, with the right pitch and a solid business plan, it is possible to secure the funding needed to grow the business. Also, important to note that environments also play a large role in the available funding. For example, Covid and the invasion of Ukraine has brought more uncertainty to the markets and thus securing funding can be more challenging.

4.3 Business plan

A business plan is a crucial document for any new or existing business. It outlines the company's goals, strategies, target market, and financial projections, and serves as a roadmap for the business's growth and success. A

well-structured business plan can help entrepreneurs secure funding, measure their progress, and make informed decisions about their business. In this page, we will discuss the importance of a business plan for start-ups and how it can contribute to their success.

Ideation and market research are important steps in starting a business, but they are not enough to ensure success. A business plan acts as a blueprint for the business, providing a clear vision of the company's future and helping to organize the steps needed to get there. For example, according to Blank (2013), "the Lean Startup method encourages experimentation, which can lead to innovation, but without a plan for scaling the business, a start-up is unlikely to succeed in the long term."

When seeking funding, a business plan is often a required document. Investors want to see that the company has a clear understanding of its market, target audience, and financial projections, and a business plan provides that information. Venture capital firms are in the business of investing in start-ups, and they need to see a clear path to profitability before they will invest. (Zider, 1998)

Moreover, a business plan helps the business owner to stay on track and measure progress. A well-designed business plan can help entrepreneurs focus their efforts, allocate resources effectively, and measure progress against goals. The business plan provides a roadmap for the company's growth and success and can help entrepreneurs stay focused on their goals and make informed decisions about their business. (Hayes, 2023)

Finally, a business plan can serve as a reference point for the business owner as they make decisions about their business. It provides a clear understanding of the company's direction and can help the entrepreneur make informed decisions about future investments, product development, and hiring. According to Feld (2012), "having a clear and concise business plan can help entrepreneurs avoid common pitfalls, such as losing sight of their goals or making decisions that are not in line with the company's vision."

4.3.1 Business Model Canvas (BMC)

The Business Model Canvas (BMC) has emerged as a widely used tool for startups and established businesses alike to develop, refine, and implement their business plans (Osterwalder & Pigneur, 2010). The BMC provides a visual framework for analysing the key components of a business model, including customer segments, value propositions, revenue streams, key activities, partnerships, resources, costs, and channels. This tool enables startups to identify potential challenges and opportunities in their business model and adjust their strategy accordingly. For instance, when implementing power bank sharing in Finland, a startup could use the BMC to determine which customer segments are most likely to use the service, which channels are most effective for reaching those customers, and which resources and partnerships are needed to support the business.

Figure 4 - The Business Model Canvas

4.3.2 SWOT Analysis

SWOT analysis is a widely used tool for assessing a company's internal and external environment and developing strategies for achieving their objectives. The acronym SWOT stands for Strengths, Weaknesses, Opportunities, and Threats, and is used to identify the factors that can impact a business. According to Kotler, SWOT analysis is an essential component of strategic planning, enabling a company to evaluate its internal resources and capabilities, as well as external market trends and competitive forces. (Kotler, 2013)

By identifying the company's strengths and weaknesses, opportunities and threats, SWOT analysis can help companies develop marketing strategies that leverage their unique selling proposition to achieve their goals. The tool can also be used to identify the company's core competencies and areas for improvement, providing a comprehensive assessment of the company's overall strategic position. As such, SWOT analysis is a valuable tool for businesses seeking to improve their performance and achieve their objectives.

4.3.3 Competitor analysis

Competitor analysis is an important aspect of strategic planning, as it helps businesses understand their competitive landscape and develop effective marketing strategies. In the case of power bank sharing, competitor analysis can help businesses identify key players in the market and evaluate their strengths and weaknesses. According to Kotler (2013), competitor analysis is a crucial component of marketing strategy, enabling businesses to assess their competitors' market share, pricing, product offerings, and marketing activities.

By conducting a competitor analysis, power bank sharing businesses can identify areas where they can differentiate themselves from their competitors and develop a unique value proposition that resonates with their target market. For example, they could focus on offering a wider range of charging locations or more competitive pricing. Furthermore, competitor analysis can help businesses identify potential threats to their market position and develop contingency plans

to mitigate them. Overall, competitor analysis is a valuable tool for businesses seeking to gain a competitive advantage in the power bank sharing market.

4.4 Scalability

Startups face numerous challenges as they grow and strive to become sustainable businesses. One of the critical challenges that startups face is the ability to scale their business model effectively. Scalability is a vital characteristic that distinguishes successful startups from the rest. Therefore, startups must determine if they have achieved scalability to ensure long-term success.

Ries (2011) argues in “The Lean Startup” that startups can achieve scalability by focusing on three essential areas: product-market fit, sustainable growth, and operational scalability. The product-market fit is the critical first step towards scalability. Startups must create a product or service that meets the needs of the market, resonates with the customers, and provides unique value propositions. A startup can determine product-market fit by measuring customer satisfaction, analysing customer feedback, and tracking customer retention rates. (Ries, 2011)

Sustainable growth is the second area that startups must focus on. Sustainable growth means that a startup can grow its business while maintaining a healthy balance between costs and revenue. Startups can achieve sustainable growth by implementing effective customer acquisition strategies, measuring the lifetime value of customers, and analysing customer acquisition costs. By doing this, startups can identify the most effective marketing channels and optimize their marketing budget accordingly. (Ries, 2011)

Operational scalability is the third area that startups must focus on. Operational scalability involves designing and implementing a business model that can handle increased demand without significantly increasing costs. Startups can achieve operational scalability by focusing on process optimization, automation, and standardization. By doing this, startups can reduce their operational costs

and improve their efficiency, thereby increasing their profit margins. (Ries, 2011)

4.5 Conclusions

The rise of technology has led to a growing need for reliable and accessible sources of power for electronic devices. Power bank sharing is a relatively new concept in Finland, but it has the potential to revolutionize the way people access power for their devices.

Start-ups are characterized by innovation and entrepreneurship, which are key components for the success of power sharing. Market research and product development are also important factors in starting a successful start-up, and these same principles apply to power bank sharing. The key to success in this area is to understand the needs of the market and to develop a product that meets those needs. In addition, it is important to have a solid business plan and to be prepared for the various stages of a start-up's lifecycle.

Overall, the development of power bank sharing in Finland has the potential to be a game changer for both consumers and businesses. By capitalizing on the strengths of the Finnish start-up ecosystem, and by following best practices for starting a successful start-up, there is a real opportunity to create a sustainable and profitable power bank sharing business.

4.5.1 Future directions for research

In conclusion, the field of power bank sharing has seen a growing interest due to advancements in technology, and this trend is expected to continue in the future. Future directions for research on power bank sharing include exploring new business models and revenue streams, as well as understanding consumer behaviour and preferences. It is also important to identify potential challenges and obstacles that may arise, such as competition from established companies and limited access to funding.

Starting a successful start-up requires a comprehensive and systematic approach, and the key components of this process include ideation, market research, product development, fundraising, and launch and growth. It is essential to have a clear understanding of the market and the needs of the target audience, as well as a focus on marketing and customer acquisition. Additionally, a commitment to continuous improvement is necessary for sustained growth.

5 Research methodology

Research is defined as a systematic investigation that aims to discover or develop knowledge, theories, or principles about a particular phenomenon (Saunders, et al., 2019). It involves collecting and analysing data to answer research questions or test hypotheses. Research can be classified into three types: exploratory, descriptive, and causal. Exploratory research is used to gain an understanding of a phenomenon, identify research questions and variables, and develop hypotheses (Bryman & Bell, 2015). Descriptive research is used to describe the characteristics of a population or phenomenon, while causal research is used to establish a cause-and-effect relationship between variables (Saunders, et al., 2019).

The research methodology employed by the author is primarily exploratory and descriptive. The aim of this research is to gain an in-depth understanding of the operations and culture of the company being studied. By using techniques such as observation, participation, and informal interviews, the author intends to identify research questions and variables, as well as describe the characteristics of the company. The exploratory nature of this research will also allow the author to develop hypotheses for future research.

In terms of research approach, the author has chosen a qualitative methodology. Qualitative research is concerned with understanding and interpreting social phenomena, and it is characterized by an emphasis on context, meaning, and subjective experience (Bryman & Bell, 2015). The author chose this approach because it allows for a comprehensive analysis of the

company's operations and culture, providing a deeper understanding of the phenomena being studied. The author also believes that this approach is appropriate for this research as it enables a more nuanced analysis of the subjective experiences and perspectives of the individuals involved in the company.

However, one of the limitations is that it may be subject to researcher bias, as the researcher's interpretations and perspectives may influence the findings (Bryman & Bell, 2015). To address this limitation, the author has taken a reflexive approach, constantly reflecting on their position and potential biases. Despite these measures, it is important to note that the findings of this research may still be subject to limitations such as the small sample size and potential limitations in the scope of the data collection.

6 Case study – Lectogo

6.1 Background

Lectogo is a Swedish start-up company which provides a power bank sharing service in the Nordic Market. Now of writing, Lectogo has 3600+ locations divided among the four countries (approximately) as follows: Sweden 2 200, Finland 800, Denmark 300, and Norway 300. In terms of users, the app has managed to gain more than 200 000 users since its launch in 2018. The company has also secured about 2 million € or 20 million SEK in funding during funding rounds, with the latest 10 million SEK investment announced on www.breakit.se on 10th of November 2021. (Blixt, 2021)

In Finland, Lectogo started in July of 2021, and this is also the time when the author started working with the company. At first, the operations focused on expansion of partners as fast as possible. By the end of 2021, the company had a little less than 300 locations in Finland. The goal for the summer of 2022 became 700 locations, but we quickly grew to almost 1 000. In the summer of 2022, Lectogo attended 13 different music festivals during the summer including Ruisrock, Himos Juhannus, Iskelmä Himos, Flow Festival and Original Student

Festival. Lectogo also was a partner in one of the largest start-up conventions in the world called “Slush”, held every year in November in Helsinki.

6.2 Target market

6.2.1 Users

Target market for power bank rentals are people ages 20–35-year-old, socially active and outgoing. However, Lecotgo has also found that people between 50-70 years of age are using the service a surprisingly high amount in Sweden. The company does not yet have enough processed data to see what target group the company should focus on the most but in Finland the target group for marketing efforts has been university students as they are generally very outgoing and social. Furthermore, as the app does not collect further information on the users such as age, sex, address it is more difficult to get exact data, which would help in planning business activities and marketing strategies.

Location also plays a big role in the target group for users. The main cities are a focus as it is possible to reach more higher number of users because the partner venues also see more traffic compared to smaller cities. However, smaller cities such as Savonlinna and Kokkola see relatively high amount of usage even though the service is only provided in singular locations in these areas through larger partner deals.

6.2.2 Partners

One of the key shareholders in power bank sharing is the partners who offer the services in their venues. The key focus has been on cultural and even centres, gyms, bars, hotels, casinos, restaurants, playgrounds etc. where you would typically need a charging solution. Until the beginning of May the focus has been in all four countries to spread the network of devices as much as possible, almost disregarding the perceived quality of the venue. For example, it is more profitable to have a station in a high traffic bar or a club in a central location

than a pizzeria on more suburban areas. Of course, this is also expected as the focus was on spreading the network, but the focus has shifted from quantity to perceived quality of a specific venue and the supply for the stations for partners is now limited.

Other key partners include event organisers. Charging solutions are needed in permanent event spaces as mentioned above but also “pop-up” style events such as festivals and fairs. Phone charging is an issue that the organisers of these events need to solve to satisfy the visitors/customers in today’s market. Thus, power bank sharing can also be utilised in events and solves a problem also for the organisers. Moreover, events can also be utilised by the power bank sharing firms to market themselves and offer customer support in situations where the standalone station might fail to do so because of the possible intoxication of the visitors. This will also help creating awareness which is a challenge when introducing a new service to the market.

6.3 Competitor analysis

When it comes to competition in Finland for Lectogo, there is only one direct competitor now, UpCharge. There are also a lot of indirect competitors in the market but as power bank sharing has become more relevant in the market, other options such as charging lockers are becoming increasingly irrelevant.

As of the market share, UpCharge currently offers their services in around 70 venues in Finland. They have also recently partnered with Night People Group, also known as NPG, to provide services in their venues.

However, Lectogo has more than 800 locations in Finland meaning that the market share is more than 10x larger than UpCharge's. When it comes to users, it is difficult to compare the two as data that is publicly available is not accurate enough, for example app downloads on the app store as it also varies by areas.

6.4 SWOT analysis

6.4.1 Strengths

Lectogo has many areas of strengths such as all internal operations (no franchise model), dense network of stations, good relationships with partners and a low bottom line. Furthermore, the product itself is a large strength that Lectogo has over the indirect competitors in the market.

Diversity of backgrounds of the staff has also helped the company immensely. As the company's employees came from various ethnic and professional backgrounds, the diversity allowed for more creativeness and openness in the work environment.

6.4.2 Weaknesses

One of the key weaknesses of the company is very high turnover of key employees. Within 2 years, they have had 3 country managers in Norway, 3 in

Denmark. Also, CPO and previous COO left the company not even a year after they started with Lectogo after being bought out from a competitor in Sweden.

There is a large issue on the treatment of employees, which might be an explanation of the high turnover rate. For example, during the festival season, due to limited budget, the employees were required to work upwards of 14h per day. No extra seasonal employees were hired and the employees within the company did not receive any legally required compensation for working out of their main base of work, nor overtime.

Another key weakness of the company is that there is no clear marketing strategy in place as it has not been seen as a worthwhile investment rather than an expense. The only active marketing besides events are the stations themselves. However, brand awareness is still low, which also reflects on the rental amounts.

6.4.3 Opportunities

Lectogo has many opportunities that it could undertake. For example, expansion of the network prominently into other larger cities in Finland like Turku, Tampere and Jyväskylä, which are university cities and only have a few locations connected to larger partner agreements. Being more present in these markets would also increase the revenue more than acquiring small venues in Helsinki region, which has been covered well within the past 1.5 years.

One other opportunity is to grow the platform into a nightlife/events platform. The app should be viewed as a media platform which could be leveraged to sell advertising space to partners for example. This would bring in another large revenue stream to the company as well.

Brand collaborations can also become a new revenue stream as the stations and power banks could be co-branded, for example in festivals by some of the other partners.

Increased marketing efforts and active social media usage by the company could also bring the brand awareness to the desired levels. However, the activity in these has been moderately low due to reasons mentioned earlier.

6.4.4 Threats

The largest threats Lectogo has are smaller competitors, with more experienced teams, who are not afraid to participate in marketing activities or aggressively hunt large venues with potential for a high number of rentals. For example, Naki has offered some venues in Sweden upwards of 100 000 SEK to replace Lectogo stations according to the partners. However, it can be debated that these efforts are not sustainable in the long run as financing is increasingly hard to get and the revenue per rental is relatively low and the volume has not seen drastic increases.

6.5 Scalability

As discussed in the literature review, Lectogo would fall under the fourth stage in the lifecycle, growth. Lectogo has been expanding out of the origin country, Sweden, into three more countries. Furthermore, the expansion of the network in these countries has been very rapid. For example, in Finland, at the end of 2021 they had a little over 100 venues, before the summer of 2022, the number was nearly 1 000. This growth was strategic at the time as the venue quality did not really matter if the network expanded. Since then, the strategy has been altered and the focus has shifted to nightlife and events, as people typically spend more time in nightclubs or festivals than they would be having a lunch at a sushi restaurant. Thus, also the need to charge their phone is also higher in these environments, where people spend more time. From the demand, both from the consumer and business side we can conclude that a product market fit has been established well. In addition, the rapid expansion had its benefits as it caught the attention of larger groups such as HOK-Elanto and Restel which would not have been possible as a small player in the market.

When considering the sustainability of the growth, if nothing changes in the current operating model, the growth is not sustainable. The company does not have enough human capital i.e., talent, time and skills to sustain the growth in all 4 countries. Due to the high turnover rate of employees, it will be difficult in this aspect to keep the growth that the company has experienced this far sustainable. However, as the network infrastructure is already built in for example Helsinki region, it does not take that much physical efforts to sustain the operations. The only location specific activities that are necessary are upkeep of the stations, but this does not require that much special skills from the employees. The larger emphasis is going to be on the marketing side.

The customer acquisition costs, the lifetime value of a customer is unknown, which makes the analysis of marketing activities challenging. This should be done on both B2B partnership side as well as B2C user side as this is where the money comes from. However, when determining the scalability of the business, knowing this is enough, as we can deduce that the business has not reached scalability yet considering the aspects discussed in the literature review.

6.7 Financial analysis

Financial analysis is important to assess how a company is performing. It can also be helpful in making assessments of future actions of the organisation. It is important to also consider limitations of data available. For confidentiality reasons, this part will be discussed using indexed values from the original data when appropriate. Furthermore, for the purposes of this analysis, the data will only include fixed costs including but not limited to salaries, SIM-card costs, and storage rental cost.

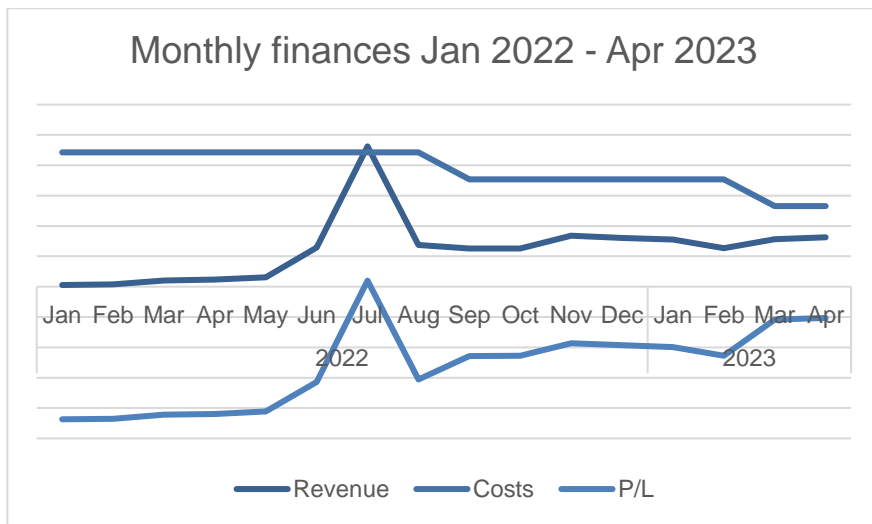


Figure 6 - Revenue, Cost, P/L

Figure 6 shows the fixed costs (top line), revenue (middle line) and P/L (bottom line) figures from January 2022 to April of 2023. Two small reductions in the costs can be accounted by 2 freelancers leaving the company. As we can see from Figure 6, the company made a small profit in July of 2022. This is due to the festivals including RuisRock, which had higher prices than individual venues and a lot of rentals compared to the “normal”. As we can see from the graph, the revenue has since not seen much growth. This can be explained by stable rental numbers because of the number of POS staying the same and lack of other marketing efforts than the stations themselves, and the partners’ staff.

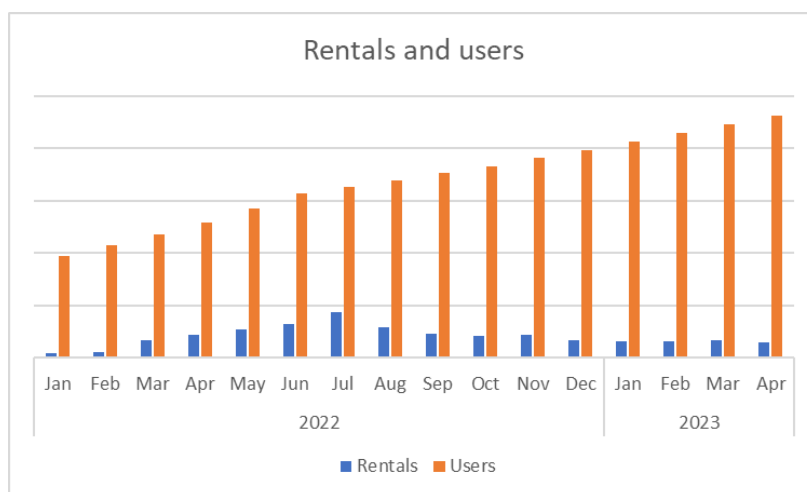


Figure 7 - Rentals vs users

In Figure 7, we can see the relationship between the total number of users in Finland and the monthly rental amount. If we assume that every new user rents a power bank once, they account for approximately 60% of all rentals from January 2023 to April 2023. This suggests that less than 5% of older users are renting each month. These figures demonstrate the importance of activating the existing user base and keeping new users engaged with the service and brand. By doing so, the company can increase the frequency of rentals, which would translate into higher revenue and improved profitability. To achieve this, the company could offer a loyalty program, introduce a subscription-based model, and do targeted marketing campaigns to encourage repeat rentals.

6.8 Marketing and sales strategies

The company has been focusing heavily on partner sales. After the company tried various sales strategies for the distribution of the network of stations. They found the most effective method was door to door. This is largely because of the new concept and the ease of understanding it through a demonstration of the service contrasting with phone and email sales. This also helps them with partnership success, as the partners are more likely to put the stations up in better locations if done with a representative. This also helps maintaining good partnerships with the venues, so it is harder for a competitor to turn the partners.

The whole concept of the service is that the stations are free for the venues, as they play a key role for the function of the concept overall. In return on offering the service to their customers, the venues get a percentage of the net revenues from the rentals on their stations.

As stated, the company has not done too much marketing actively. The only consistent marketing are the stations and the staff of the venues. Social media activity has been relatively low, and posting is not consistent. This also leads to poor visibility and engagement in these channels. The only active social media channel is [Instagram](#) that has 958 followers as of writing this and 59 posts overall, with the latest more than a month ago and the previous ones are more

than 4 months old. The average engagement amount per post is about 25 likes if giveaways for festival tickets are not considered. This gives engagement percent compared to the follower amount of about 3% which is low. Activity on [LinkedIn](#) has also been low as the latest post was done 4 months ago and the ones before are more than a year old. Although LinkedIn is not nearly as effective of reaching the user base, it is important for the B2B sector for partnership marketing. The largest promotional activities that Lectogo does, are the festivals during the summer.

The most underutilised marketing tool for the company is the app platform itself. As of writing this, the app shows where the stations are located and functions for renting the power banks. Getting the users to come back repeatedly for example by push notifications and targeted marketing is essential for the sustained growth of the business.

6.9 Growth plan

Growth is necessary for any businesses' survival. Currently epicentre of activity in Finland is the capital region. The company has expanded into other cities as well, but the company has developed in the market immensely since the first visits to other cities, such as Tampere, Turku and Jyväskylä. As these are large university cities, the expansion into the nightlife venues in these cities could be very profitable in the long run. However, this can be difficult as there is only 1 employee in Finland as of now.

One of the biggest business opportunities is the platform, the app itself. As the discussed in part 6.7, one of the key things to achieve profitability is to get existing users to rent a power bank again. This could be done by running promotions to people who have not used the app in a while through push notifications. Also if a subscription model with a monthly fee would be introduced, this could bring in predictable MRR (Monthly Recurring Revenue) for the company.

Furthermore, offering promotional space for partners could be very beneficial as this has a very high profit margin and requires little resources. These promotions could be sold by impressions, clicks or commission on sales. As the platform has already over 200 000 users, many partners could be interested to be featured on the platform to the users. This could be a large revenue stream for the business, as it owns the platform, meaning margins of 80-90%. In addition, the platform would be unique as an advertising platform compared to for example social media and could help with brand lift of the partners and Lectogo as well. This could be also done as a trade with marketing Lectogo's services in the partners' venues and vice versa.

In the long-term, it is vital to gain large partnerships with relevant companies such as R-Kioski, Rekom, Night People Group, SOK and NoHo. These partnerships will improve the brand recognition and credibility of Lectogo, which can lead to increased customer trust and loyalty. Customers are more likely to use a service that is associated with a trusted brand, and by partnering with relevant companies, Lectogo can tap into their customer base and reach a wider audience.

Furthermore, partnerships with these companies can help create a nationwide network of power bank sharing locations without the need to make individual deals with independent venues. This can lead to greater efficiency in expanding the company's network and can result in significant cost savings. It can also create a seamless user experience for customers, who will be able to find a power bank sharing location wherever they go.

7 Conclusion

In conclusion, the development of power bank sharing in Finland has shown great potential for growth, as seen through the success of Lecotogo in the Nordic market since its launch in 2018. With over 3600 locations across Sweden, Finland, Denmark, and Norway, and a user base of more than 200,000, Lecotogo has focused on expanding its network of partners to various venues and has been successful in attracting a diverse age range of users.

Targeted marketing efforts have been directed towards young adults in Finland, and Lectogo has attended several music festivals and events to promote its services. The key focus has been on expanding the network of devices, with a shift towards perceived quality of a specific venue. In terms of competitors, UpCharge is Lectogo's only direct competitor in Finland, with other indirect competitors becoming increasingly irrelevant.

When looking at the future development of the market, as of now, the direction is very unclear due to the volatility inside the company. Most likely competitors will start taking over the market unless growth of the business can be sustained. This requires improvements in management and marketing activities of the company.

Marketing challenges can have a significant impact on a company's growth potential. Even if a company has a great product or service, if they are unable to effectively promote it to their target audience, they may struggle to attract new customers and retain existing ones. This can lead to stagnant growth or even a decline in revenue.

Moreover, employee retention is also a critical factor that can impact a company's growth potential. Losing key employees can be disruptive and costly, as it can take time and resources to find and train replacements. Additionally, turnover can lead to a loss of institutional knowledge and company culture, which can further impact a company's ability to grow and compete in the market.

If a company is unable to effectively address these marketing and employee retention challenges, it may become vulnerable to its competitors. Competitors may be better positioned to take advantage of the market and win over customers and employees, which could further undermine the company's growth potential. It is therefore essential for companies to proactively address these challenges to ensure their long-term success and competitiveness.

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