

Final project
(IT Strategy 22:544:670:40 Fall 2022)

Arthi Ravichandran
Bhagyashree Parkar
Dhananjay Gaonkar
Parth Gandhi

Contents:

Introduction.....	3
Why Fix-it?.....	3
Sustainable Living.....	3
Increasing digital inclusion.....	3
Business Model.....	4
IT Strategy: Technology Setup and Structure.....	4
Advantages of Fix-It being a SaaS Business.....	5
Implementation.....	5
Porter's Five Forces.....	6
The 7 Barriers to Entry.....	8
5-year Plan.....	10
Market strategy.....	10
Application development process.....	11
Initial expense.....	11
Pre-commencement expenses.....	11
Total income distribution over 5 years.....	12
Post-commencement expenses.....	12
Equity and Shares.....	13
References	14

Introduction

How did we come up with the idea of developing this mobile-based application as well as a web-based application?

When a user checked his phone after it had been dropped, the phone's rear camera and display both sustained significant damage. We went to the Apple Store to check for repairs as it was an iPhone 13 Pro, and they estimated the cost at around \$600. It is excessively expensive. When we went to Best Buy to check the repair costs, they provided a quote of \$550, which was also way too high. I then got in touch with a few of my friends and learned of a technician who gave me a fair cost of \$375 to fix the entire phone. The price included his fees for the parts and his abilities.

This got me to thinking: if it's this difficult to locate a trustworthy and affordable expert to fix an electric device, then I wonder how many other people would experience the same problem as my friend. This is how we came up with the concept and began our study for the application.

Why Fix-it?

Users can register, view, and search nearby local repair shops or individual people using the platform's app. Our app motto is to help people find their ideal answer to their problem, hence the app will always be free in its earliest stages. When the program achieves its user download database objective, the business will begin charging technicians a premium subscription to use the application's premium features. The business will begin to generate income from advertising and commission for each successful customer solution. Users and trained technicians will be able to demonstrate their ability to connect ,all through this app.

Sustainable Living:

Nearly every element of modern life now includes electronics. They have altered the way we interact, learn, work, and play. We're also producing more e-waste at an exponential rate because we possess more electronics and are continually updating them. But there is simply no responsible way to handle the amount of rubbish that is being produced in the world today. We hear about the detrimental effects of careless judgments with old electronics all too frequently. However, there are numerous instances of people, businesses, organizations, and governments working toward sustainable electronics all around the world. We aspire to be one of them and facilitate sustainable development even more easier and accessible to everyone in the society.

Increasing digital inclusion:

Devices that are considered outdated in one market might be in high demand in another. In truth, many economically underdeveloped countries of the world have closed the digital divide thanks to the selling of inexpensive, second hand electronic gadgets in developing markets. 95% of the world's population now resides in a region serviced by a mobile-cellular network, according to the ITU (the United Nations Special Agency for Information and Communication Technologies). 84% of the world's population now has access to mobile broadband networks (3G or above), including 67% of the rural population. Given that practically everyone has access to the internet, there is a high need for low-cost mobile devices. However, getting tested and functional used devices into people's hands is challenging.

Business Model:

Now, we will talk about the Business Model. There will be two primary stakeholders in the ecosystem. I.e.,

- a) Users: Anyone looking to use the application's services to locate nearby businesses or individuals that can fix their electrical devices. Each user will have the ability to register and search the app for certain criteria for their repair. The user can compare all the repair/shops or specific employees after looking at the list, and depending on the search results, the user can decide.
- b) Repair Shops and Individual Employees: Based on prior performance and user feedback, they will be highlighted on the app. By reviewing the images included with the application for the repair, they must provide an approximate estimate or quote of the cost of the repair.

The application will generate income through advertising and commissions from each order or sale. We will create a new premium subscription option for freelance technicians where they will receive additional sales for subscribing to our premium plan when the application hits its user download goal.

There isn't a similar app available right now that shows neighboring independent contractors so the user may choose where to go. You can use the Google search feature to look up local businesses, but it won't help you locate independent contractors or seasoned experts who can service your devices. Fix-It can aid users in this situation by repairing their devices, saving them money and time.

IT Strategy: Technology Setup and Structure:

There are mobile and web versions of the "Fix-It" application. The software serves as a conduit between a user and all of the professionals, allowing users to browse different technicians and choose the best one for their particular problem. Before the technicians' accounts are approved on the app, background checks will be conducted on them (this will be implemented at the initial stage). The business will use Amazon Web Services (AWS), an Amazon-operated cloud-based database service with pay-as-you-go billing, to host the platform. Amazon offers a wide range of services, and in this case, it will be in charge of the following:

- Amazon management console
- The technology platform, Amazon EC2 (Elastic Compute Cloud)
- Mobile app
- AWS Identity & Access Management (IAM) - securely manage access to services and resources - specify who can access which services and resources and under which conditions
- Platform validation and testing for functionality and security.
- We will also provide a 24/7 help desk/ in app-technician through a chatbot on the app, which will give every kind of help required by the user.

The servers, databases, and software necessary for the program to be accessed online by web browsers are maintained by a SaaS provider. Almost any device can be used to access the software by users.

SaaS users frequently pay a monthly membership fee to access the application. The amount of data that needs to be saved, the number of users who will access the program, or the quality of technical assistance required are some of the factors that influence subscription prices.

Advantages of FixIt being a SaaS Business:

The primary benefit of FixIt being SaaS is centrally managed apps vs installing software onsite is how much more efficient it is to do so. This means that the following advantages are available to us as a company:

- **Savings** – FixIt can levy a monthly membership price to help spread the expense of the software over time. Because businesses don't have to spend money on pricey hardware to host the applications, SaaS customers enjoy cheaper upfront costs.
- **Low-effort updates** – SaaS providers keep their software up to date as necessary. Customers of SaaS don't have to set up any software or apply fixes and upgrades.
- **Mobility** – SaaS users should be able to access their systems from any place or device. When it comes to workforces that are not limited to central locations or offices.
- **IT expertise** – We can invest in the IT needed to troubleshoot and maintain their applications, customers don't. SaaS companies also have the resources to better maintain system reliability and data security than customers with limited IT budgets.
- **Scalability** – When SaaS customers need to add capacity or add users, there is no need to buy new hardware or install new software. SaaS companies can increase capacity quickly, but the subscription fees are likely to be high which in turn will profit us.

Implementation:

Typically, a startup or an established technician chain will develop a web-based or electronic consumer app. However, there are a variety of ways to market the technician on search engines.

For instance, if a user wants to repair his or her electronic device (at this time, we are only accepting phones and tablets), he or she only needs to register on our app, choose the model of their device, and upload a few pictures of their damaged device. Within minutes, they will receive a notification with a rough estimate quotation for their repair. The users would rate the technician based on his abilities and quality of work. Top professionals receive additional benefits as premium features from Fix-It.

The first step is to offer a reliable app service and a web platform. Therefore, these app development features are crucial for fix-it services.

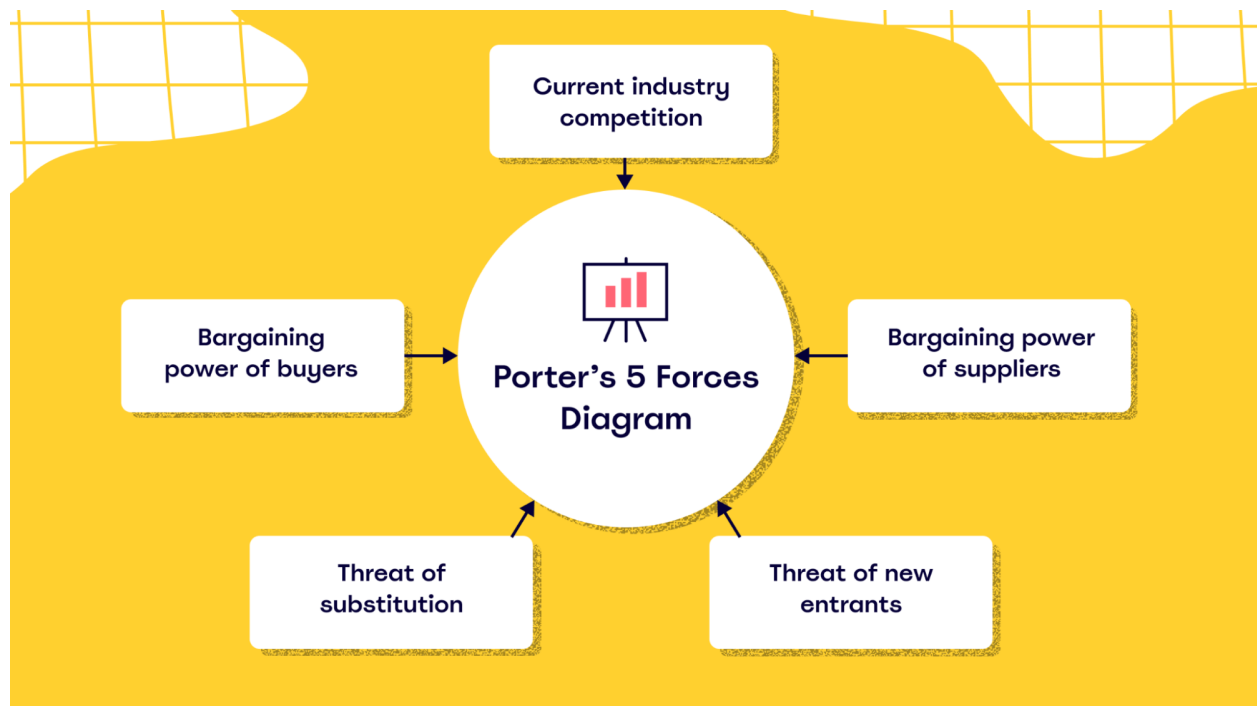
- Website/mobile application
- Management of technicians for operations and moderation
- Store administration pages for the affiliates.
- A user's mobile app for an iOS or Android device.

The technician would be charged a set sum of money as a fee to be made available on the platform app, and advertisements would be the major sources of income.

The main goal of Fix-It is to lessen the stress associated with having to fix a mobile device in a nation where labor costs are excessively high. The business end staff would review the communication and forward the reviews with the assistance of the moderators.

Porter's Five Forces:

Porter's Five Forces is a model that allows you to assess the intensity of a specific industry or commercial center. It likewise thinks about your providers, end clients, and contiguous items that might represent a threat to your industry. It is a total industry evaluation centered around the setting of your item or business offering.



[1] Figure 1: What is Porter's Five Forces model?

Porter's five forces are:

1. Competition in the industry
2. Potential of new entrants into the industry
3. Power of suppliers
4. Power of customers
5. Threat of substitute products

For "**Fix It**" the analysis of Porter's Five Forces goes as follows:

Competition in the industry:

The idea of Fix It is Unique in the market as far as the Current Scenario is concerned. To stay ahead of the competition and gain prominence in the market, our product will focus mainly on

upgrading the user-friendly environment and client criticism methods, which will be the most magnificent assets. Giving the best and precise skills description of the technician to accumulate the fixings effortlessly which will provide a user-friendly environment for the customers. The quality of the service offered by the idea is a significant factor for the customers to seek attraction towards the vision and gain their trust. Connecting the customers to various technicians, nearby or far depending on the repair, with the effectiveness of getting the device repaired is where we can win the customer satisfaction and trust in the idea.

Potential of new entrants into the industry:

The potential of new entrants is high as there is a significant increase in the number of people using smartphones and the internet nowadays. The other companies can find a potential market in the repair services and come up with their own application and website with lucrative offers such as promo codes and discounts on the first appointment. Since there is no patent involved here, we must develop a robust system that helps our customers in getting what they are looking for. With this robust system, the search will be faster and less time-consuming for our customers.

Power of suppliers:

In our scenario, the technicians are the main suppliers that will be providing the repair service. When talking about providing the repair services and solutions at different locations of the device issue, and compatibility from various technicians and their work rates, suppliers of the components would play a massive role in the idea's effectiveness. This is what we are referring to the power of suppliers. Providing the best product quality at a very economical price is a must for the supplier to get their skills and work popularized in the market and gain greater profits and growth. No wonder the quality of fixing varies from geographical locations, and transportation plays an essential role in capturing the market for the product in the hands of the suppliers.

Power of customers:

The buyers' market in this scenario of Fix it may vary from region to region as the area with many customers will result in a lower power in the hands of customers to negotiate in terms of price and better offers. On the other hand, regions with fewer customers will provide customers with greater power to negotiate for lower prices and deals. The same is applicable for the technicians. This also depends on the status of the customers as affluent customers would not usually arrange for the repairing of a damaged item but look for more outstanding quality by buying a new product instead. In contrast, the middle class would look for repairing rather than buying a new product. These are the factors that should be utilized to provide the products in various regions to provide popularity among the buyers.

Threat of substitute products:

Initially, the idea may not face much competition in the industry as it is very unique and difficult to implement. It is also a fact that due to the ever-growing information technological aspects, it would not take much time for the idea to face the threat of new entrants into the industry. We can deal with this by upgrading and improving the idea depending on the feedback provided by the customers. Hence, preparing future goals to sustain in the industry is a much important aspect to be looked upon. Also, gaining the customers' trust by providing information about the technicians at the most accurate and legitimate cost is a factor that will give the success of the

idea among new entrants as they will have a lot of factors to improve in order to supersede our idea. A great way to stand out among the new entrants is by advertising about the concept in the right way and market by various means simultaneously through online and offline mediums. Giving out various profits in terms of gift cards, coupons, cashback and more exciting offers may also help a lot to gain customers loyalty and gain attention in the customers' minds.

The 7 Barriers to Entry

1. Supply side economy of scale:

We are planning to earn a sizable amount of revenue from subscription fees from technicians for accessing our application, through which they will be able to meet the potential customers for repairs. Additionally, replacement parts required for restoration will be hand-picked by technicians for a low price without affecting the quality. Thus, we will achieve an economy of scale by keeping our operating costs minimal since all the technicians will work from home.

2. Demand-side benefits of scale:

Demand-side benefits of scale, known as network effects, occur whenever customers are likely to choose a company's product as that company's customer base gets more prominent. Our product allows users to discover technicians at a high level with whom other users have engaged while facing similar repairs. This feature enables Fixit users to understand their audience better; the more users there are, the bigger the data set and the greater the value to each technician.

3. Customer switching cost:

We will be providing a free complete list of technicians and their services available locally, along with the price and time to get the repair done. Furthermore, a one-time new member discount will lure customers into looking at what we offer as it will automatically reduce the time, psychological and effort-based costs.

4. Capital requirements:

The initial capital requirement will focus mainly on creating the Fixit application based on a SaaS-based platform to provide the end-users with a seamless experience and security. Additionally, funds will be allocated toward onboarding skilled technicians.

To stay in the ever-competitive market, we will constantly need to update our application features and user interface, leading to additional R&D and updating costs. DevOps and DevSecOps, which focus on security in the cloud operation, will hold a significant share of investment. Our Hybrid Cloud usage will ensure scalability, flexibility, and efficiency and will also be cost-efficient compared to the private cloud. One of the most critical tasks of making the Fixit brand a household name, we will need to invest a good amount of funds in marketing to gain public exposure and trust.

We intend to overcome capital requirements by starting small and growing organically from profit rather than seeking large loans. When rapid growth is essential, there are

better approaches than this, and collaborative options such as partnering, or licensing may be preferable.

5. Incumbency (lender) advantage:

The incumbents always have an advantage over newcomers due to established cash flow and resources. Nevertheless, it is just a matter of time before anyone can fall prey to invaders. To be ahead of the competition and thrive in an ever-changing market, we need to explore unique ways to engage existing users while attracting new ones. Locked within our records is a vast, largely untapped asset that no attacker can hope to match is called incumbent's advantages. One of the significant barriers in this is to have deeper insights into the various needs of the customers we serve than any potential invader does. Another aspect is to understand the profitability of serving them and, therefore, be in a stronger position to invest resources to capture and retain the best of them. Third, and perhaps most important, the expectation from the user and profitability of customer segments are far less harmful to copy than the app's features and functions.

6. Unequal access to distribution:

We plan to develop our application as secure, reliable, and user-friendly for a successful sustainable advantage to distribution channels. Over the long run, this is prosecuted to our advantage. Enforceability can come from ownership, binding contracts, or self-enforcing mechanisms such as switching costs. This can be one of the barriers if incumbents have locked up logical distribution channels. As a new entrant, we first must secure product distribution. Meanwhile, we must quickly replace the existing players when the distribution channel is limited. The distribution channels are divided into sales, delivery, and service. For each channel, we either use a direct channel, a third-party/indirect channel, or a combination of both.

7. Restrictive government policy:

Both state and federal governments can significantly play a role in limiting or preventing entry to the industry with various laws. Besides, big companies can lobby the government to prevent specific bills like right-to-repair to constrain consumers from servicing gadgets from third-party and push them to buy the latest models. Our business is designed to navigate such problems by studying them in advance and developing appropriate solutions. Startups in highly regulated industries will find that incumbents have fine-tuned their businesses according to the regulation. With new apps materializing almost daily and increased financial involvement, government policies regarding app development have become more stringent. Therefore, the government acts as another barrier to entry into an industry that had close to no government intervention in the past. The amount of regulation regarding app development has increased on a colossal scale in the past few years. We must adhere to government rules and regulations, such as licensing, when we would have put the app on the market before.

5-year plan:

- For the first two years, we solely want to focus on the growth and expansion of our brand in one city while operating with minimal cost and limiting our main expenditure to the marketing regime.
- We plan on enlarging our services across the continent for the third year by the end of 2025.
- Initially, a local storefront can be opened in one city to gather data on whether it is feasible and economical. We will work on franchising the stores depending on the customer's response.
- In the next two years, with the growth in demand, we plan to outsource the replacement parts from countries like Taiwan directly to reduce costs.
- To retain talented technicians from moving to competitors, many incentives, such as a free subscription fee for a month or two, deducting less commission from the pay.

Market strategy

Marketing will anchor our whole startup, as we will advertise our application on various social media platforms like Facebook, Instagram, and Snapchat.

Advertising:

- Fixit will be advertised heavily on social media platforms, mostly via influencer channels. Primarily targeting young people looking for the most bang for their buck.
- We will be able to market the platform to just the right people at the right time via programmatic channels.

Loyalty programs:

- Fixit Gold will be a unique membership plan for users, where they will get a discount for the sixth time after using our services five times continuously.
- Fixit will roll out membership features to gain initial market shares, where they will get discounts on certain services if they choose nearby technicians. Such offers will be available only on the app, and referring a friend will help customers return.

Blogs and Reviews:

- Fixit will host a community edition where users can rate and share their experiences with the service or about the technicians. Community engagement should serve as a platform for electronics blogging, where individuals can review our application.

Application development process:

In order to develop an engaging mobile application, we need to analyze the target audience, industry, and business objectives enabling us to build a better structure. The buttons, screens, and other elements make the application unique and convenient, but each additional feature comes at a price.

Therefore, a prototype is created, and overall functionality has been designed to minute detail.

Cost of developing an application is based on three things:

1. the application's complexity level
2. Design and structure
3. the platform on which the application will run

Keeping the cost and time taken to develop an app, we decided to go with mid-level app development, which includes - integration with API, such as GPS, which can help us find the technicians closest to the user's location.

Mid-level apps take around 7 - 11 months to development. Our expert development team for our project consists of the following:

- a project manager,
- a UI/UX designer,
- iOS or/and Android developer,
- a backend developer,
- and a QA engineer.

Initial Expenses:

Initially we would want to set up an office virtually or offline for building a web application and mobile application to build a prototype and demonstrate it to our potential investors. Secondly, we will also want to increase our outreach to various technicians to get onboarded with us and discuss their salary expectations. With this data we can budget out a portion of the investments towards the technicians salaries initially.

The initial setup can cost up to approximately 1,500,000 USD which can be raised by angel investors, bank loans or start-up incubation cells. Peer to peer lenders, venture capitalists or personal investments can also value add as and when the start-up grows. There will be a requirement of more capital to further expand which can be dealt by profit investments or more investors.

Furthermore, the investments will help us with rentals, hardware and software services which will be essential for our SAAS start-up.

Pre-commencement Expenses:

As a part of RnD we would want to conduct a market research and understand our target audience and try to build a prototype model. We can use the revenue invested, to collect data from many data generating/ acquiring sites too, such as www.dataworld.com or, have a team to scrape this in house which will require additional capital disposal. Hence this in-house data generating model can be implemented at the later stages.

Once we have the required data we can focus on that region or states in the US markets. This will help us grow immensely and hence the profit generated from this can be reinvested in growing, advertising and marketing in regions where the data shows scarcity.

Total Income distribution over first 5 years:

INCOME					
	Year 1	Year 2	Year 3	Year 4	Year 5
Sales Revenue					
Subscription Revenue	85,000.00	153,000.00	428,400.00	1,199,520.00	2,159,136.00
Advertisement Revenue	25,000.00	45,000.00	126,000.00	352,800.00	635,040.00
One Time Revenue	10,000.00	11,500.00	13,225.00	15,208.75	17,490.06
Total Sales Revenue	120,000.00	209,500.00	567,625.00	1,567,528.75	2,811,666.06
Cost of Sales					
Total Salaries	45,000.00	49,500.00	54,450.00	59,895.00	65,884.50
Total Billings	51,000.00	52,020.00	53,060.40	54,121.61	55,204.04
Total Cost of Sales	96,000.00	101,520.00	107,510.40	114,016.61	121,088.54
Gross Profit	24,000.00	107,980.00	460,114.60	1,453,512.14	2,690,577.52
Non-Operation Income					
Rental	-	-	-	-	-
Interest	1,200.00	5,399.00	23,005.73	72,675.61	134,528.88
Gifts and Donations Received	-	-	-	-	-
Total Non-Operational Income	1,200.00	5,399.00	23,005.73	72,675.61	134,528.88
TOTAL INCOME	25,200.00	113,379.00	483,120.33	1,526,187.75	2,825,106.40

Post-commencement Expenses:

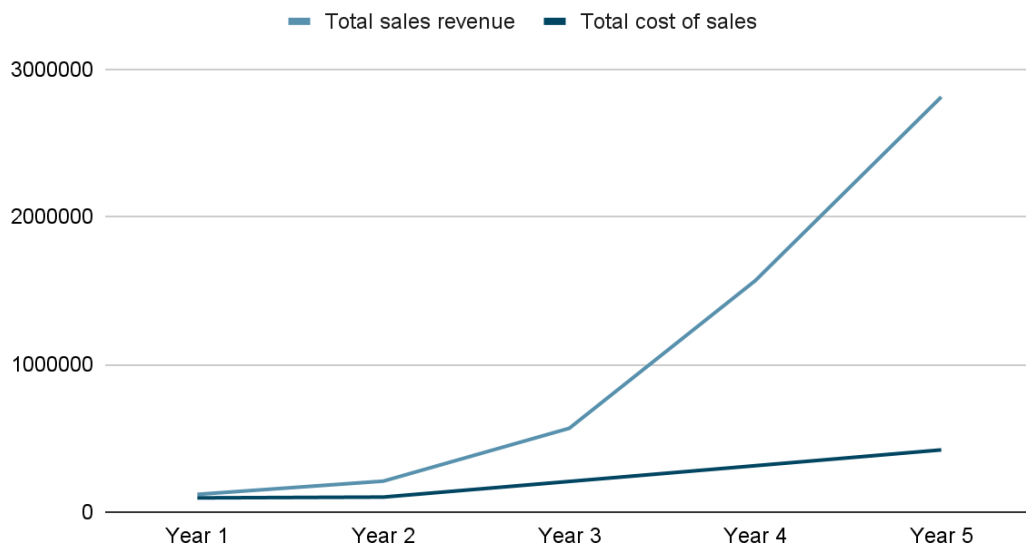
Marketing, expansion of office, human resources, rent , growing cloud services and hardware services will be required as and when there's a rise of user's. In the later stages we would also want to partner with small scale shop's and even large companies such as Xiaomi, Oppo, Huawei or companies which do not have a market presence in this domain for example HP might not have a market presence in a remote town of Wyoming. That's where we can come in, set up a mobile shop or hire local technicians to work on the products. Hence we aim to acquire an investment from the parent or the partnering company for this post launch commitment.

We can add a premium subscription model as post the success of the application where technicians can pay subscription fees to be recommended more.

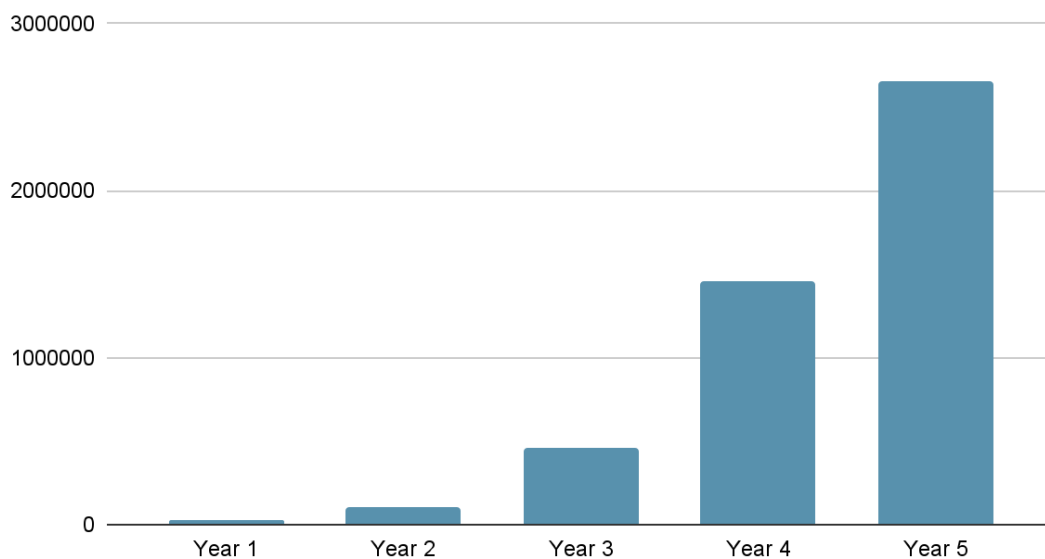
Equity and Shares:

As a part of initial capital investment FixIt can be owned by private shareholders as a form of residual ownership where we are expecting funds of about 1,000,000 USD for the growth of the company and in turn would part away with 10 % of equity to our investors.

Sales Revenue



Gross Profit



References:

- [1] What is Porter's Five Forces model? And how to use it to analyze the competition
<https://miro.com/blog/porters-five-forces/>
- [2] What is the Business model? <https://www.investopedia.com>
- [3] Advertising and its revenue generation. <https://www.wikipedia.com/revenue>
- [4] Investment Ideation and planning : <https://www.investopedia.com/terms/e/equity.asp>
- [5] Revenue generation and stakeholder information :
<https://www.indeed.com/career-advice/career-development/equity-account-types>
- [6] 7 Barrier to entry :
http://changingminds.org/disciplines/marketing/understanding_markets/barriers_entry.htm
- [7] One barrier to entry start-ups should focus on :
<https://versionone.vc/the-only-barrier-to-entry-you-should-care-about/>
- [8] Ubreakifix case study :
<https://www.forbes.com/sites/roberttreiss/2019/04/05/cracked-your-smartphone-this-brand-built-a-160-million-business-on-clumsy/?sh=28a03c2032e4>
- [9] Financial Modeling :
https://www.ey.com/en_nl/finance-navigator/the-ultimate-guide-to-financial-modeling-for-startups
- [10] Budgeting and planning :
<https://techcrunch.com/2022/05/05/budgeting-and-planning-for-your-first-digital-product/>
- [11] Key barriers to entry in electronics :
<https://www.investopedia.com/ask/answers/042115/what-are-key-barriers-entry-companies-electronics-sector.asp>
- [12] the incumbent's advantage: <https://hbr.org/2008/10/the-incumbents-advantage>