

PowHawk



Team 5: ELPP Fall 2023

The Team



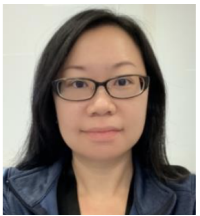
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Problem Statement:

41% of smartphone users experience a battery drain at least once a week, with an average smartphone battery life of 10.9 hours¹. Meanwhile, 40% of tourists never remember to bring their chargers when they leave on a trip². Those who are dependent on their phones may become stressed out by this. According to Reviews.org, 56.9% of Americans claim to be addicted to their phones. For these addicts to stay in touch with the outside world, they depend on their cell phones. How are they going to record this once-in-a-lifetime event and stay in touch with friends, family, and coworkers if they don't have the resources to charge their phones?

Our Solution:

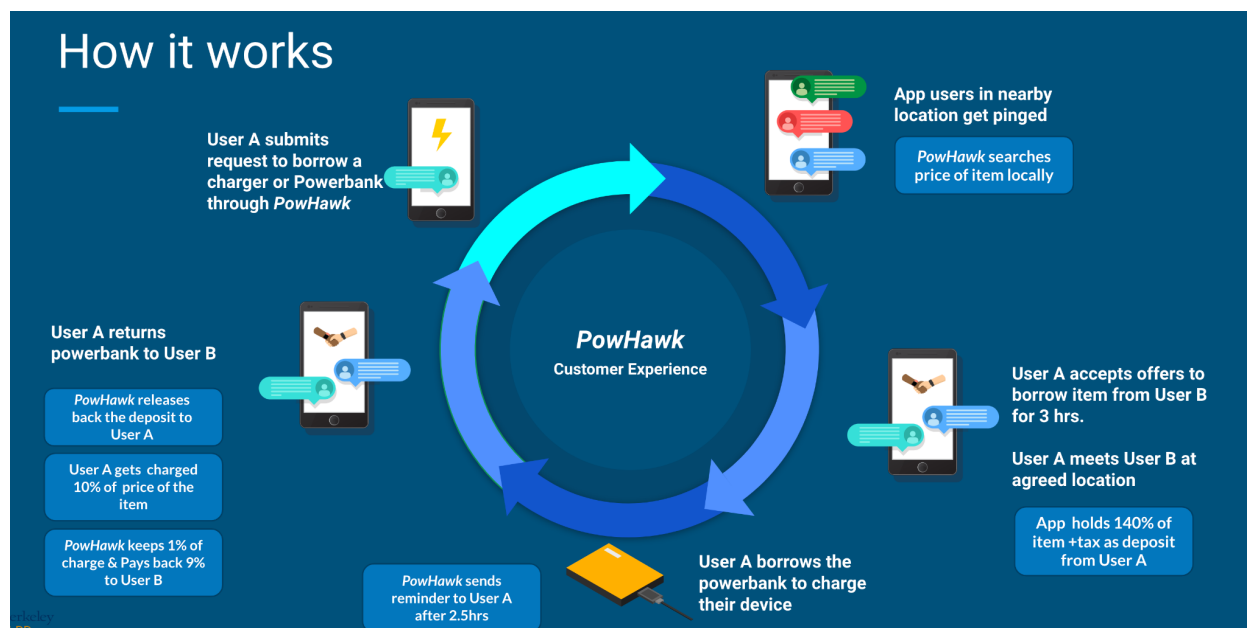
PowHawk is an app that uses GPS to find people in your area who are renting out chargers or power banks for a cheap price, quick delivery, and instant satisfaction. Based on our survey, we found out that 44% would pay to charge and 75% would want immediate help. According to a 2023 cell phone statistics poll by Review.org, 47% of consumers report feeling scared or anxious when their phone's battery gets low³. These folks will experience less stress thanks to *PowHawk*.

High Level Workflow:

¹ <https://www.grandviewresearch.com/industry-analysis/power-banks-market>

² <https://nypost.com/2022/07/05/this-many-americans-forget-their-phones-more-before-travel/>

³ <https://www.reviews.org/mobile/cell-phone-addiction/>



Market Size:

Interestingly the global power rental services refer to the short-term rental of a portable power bank or a charging cable with a brick. The Global Power Bank Rental Services Market was valued at USD 7.1 billion in 2021 and is expected to reach USD 15.9 billion by 2030, growing at a CAGR of 13.5% during 2021-2030.

Global Power Bank Rental Services Market	Details
Base Year:	2021
Market Size in 2021:	USD 7.1 Billion
Forecast Period:	2021-2030
Forecast Period 2021-2030 CAGR:	13.50%
2030 Value Projection:	USD 15.9 Billion

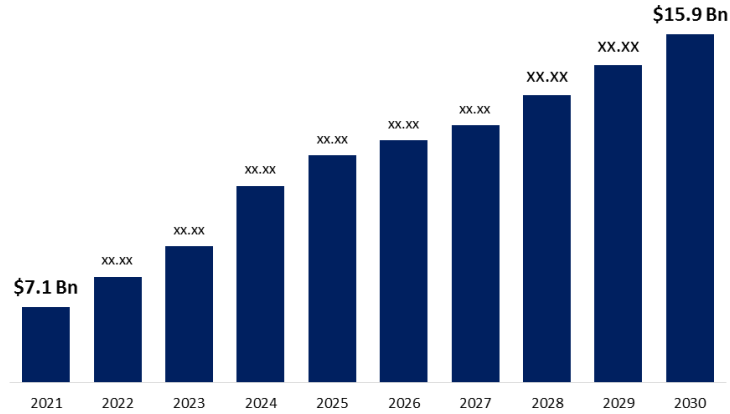


Figure X Power bank rental market growth X [phone arena]

PowHawk team conducted a detailed market study which indicated that our market and target audience can be segmented on the visitors of the cafes, metro stations, stores, shopping malls, restaurants, university campuses, parking lots, and other public or private establishments. Moreover, Global Power Bank Rental Services market is segmented based on, Type, Application, End User, Service, and Region.

1. Type
 - a. Micro USB,
 - b. Type C, and
 - c. iOS Cable.
2. Application
 - a. Mobiles,
 - b. Laptops, and
 - c. wearables.
3. End User
 - a. Cafes and Restaurants,
 - b. Bars and Clubs,
 - c. Retail and Shopping Centers,
 - d. Transportation Hub,
4. Region
 - a. North America,
 - b. Europe,
 - c. Asia-Pacific,
 - d. Latin America,
 - e. Middle East and Africa.

The market segments, the potential maximum frequency of app usage (if everyone would use it), and total addressable market (TAM) are listed in table XYZ. This brings us to the healthy 3B transaction of the TAM and also the 300M service addressable market (SAM).

Market segments, the maximum number of transactions and TAM based on the

PowHawk market study

Market segments	maximum # transactions	TAM
Hotel (overnight stays)	1,300,000,000.00	260,000,000.00
University (visits/students)	17,000,000.00	5,100,000.00
Malls (shoppers)	2,520,000,000.00	75,600,000.00
Arenas and stadiums (sport event visitors)	180,000,000.00	36,000,000.00
Tourism (hikers/outdoor travelers)	168,000,000.00	33,600,000.00
Festivals (festival goers)	32,000,000.00	9,600,000.00
Airports (airport passengers)	7,000,000,000.00	2,100,000,000.00
Restaurants and bars (dinners)	7,824,000,000.00	391,200,000.00
Total	19,041,000,000.00	2,911,100,000.00

Market Validation:

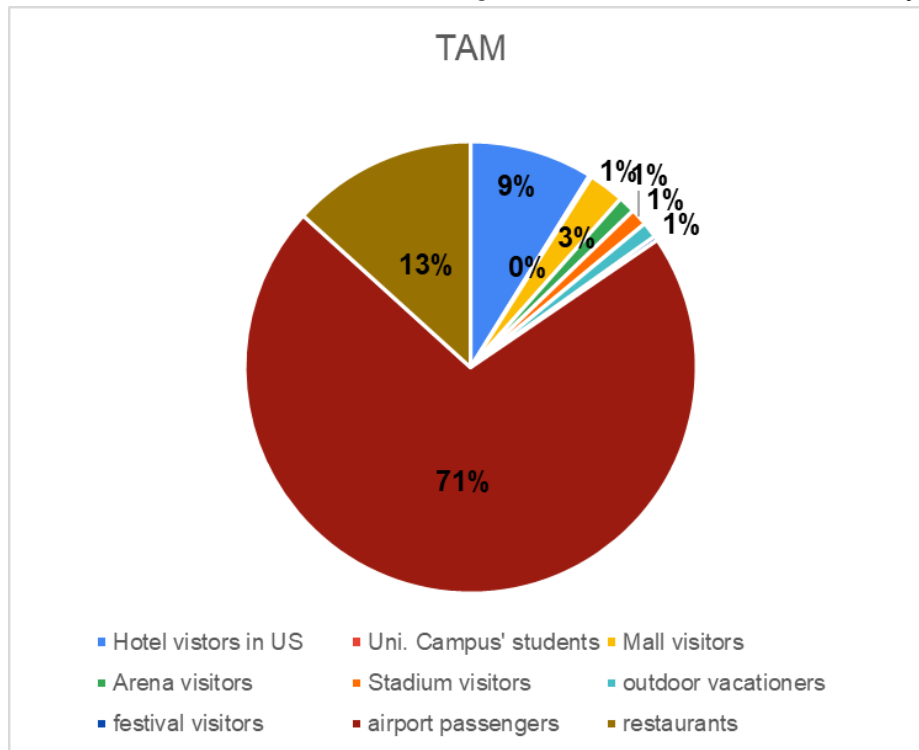
A study by the University of Cambridge estimated that the average smartphone battery life is 10.9 hours, and that 41% of smartphone users run out of battery at least once a week.

The global power bank market size was valued at USD 13.48 billion in 2022 and is anticipated to grow at a compound annual growth rate (CAGR) of 8.3% from 2023 to 2030.⁴

⁴ <https://www.sphericalinsights.com/reports/power-bank-rental-services-market>

According to a survey by 9to5Google, 29.7% of their readers charge their phones multiple times a day, which suggests that they may need a power brick to keep their phones running. Another survey by Asurion, a device insurance company, found that 40% of smartphone owners use a portable charger at least once a week, and 16% use it daily.

Breakdown of the TAM according to the *PowHawk* market study



PowHawk team conducted a market study in which participated 55% of people older than 40, 40% of people in age span between 20 and 40 and 15% were younger than 20. According to the market study conducted by *PowHawk*, we find out that:

1. 45% of the polled people an important event when their mobile run out of juice
2. 72% of people forgot their charger
3. 43% would pay to charge
4. 79% would do it on the move
5. 60% are afraid to get help due to the unreliability of the source
6. 75% would accept immediate help

Some of the highlights of the study can be found in the figure below while Details of the conducted market study can be found at the following [link](#).

<p>a) How frequently do you forget to bring your charger?</p>	<p>b) Would you pay to charge?</p>
<p>c) How do you prefer to charge?</p>	<p>d) Would you get immediate help?</p>
<p><i>PowHawk Market study highlights.</i></p>	

Competitive Landscape:

Currently, the main players in peer-to-peer power bank rental is Charger GoGo. In addition to previously listed direct peer-to-peer competitors, the current competitive landscape is comprised of at one-end retail and vending machine power rental companies on other. Our customers can also have the option to purchase their charger in retail shops (e.g. BestBuy) or even get it delivered through overnight services by Amazon. However, this is only sometimes a viable or applicable solution, given the fact that customers can be located on busy streets and need an instant solution. On the other hand, several providers of power bank rental are currently fostering the vending

machine approach. The dominant market is currently Asia and Pacific while the leading players are A3 Charge Pvt. Ltd., Spykke, Laidian Technology, Energy Monster, Xiaodian Technology, RedShare, ChargedUp, Powerqube, Brickshare. PowerNow.⁵

PowHawk App Development:

Coming up with a unique app idea, to achieve *PowHawk's* goals, a good fundamental development process will give a lot of competitive advantages.

The first step is a thorough market research. The team discovered from the extensive market research:

- Who are your competitors?
- What is their strategy?
- What are the strengths and weaknesses of other app developers in this market?
- What are their customers saying in the reviews and on social media?
- What is their unique selling point?

Next, the team made some crucial decisions about funding and budgeting, analyzed App monetization options based on below App development stages:

- Use case(s) definition
- Mapping of required functionalities
- Minimum viable product (MVP)
- Programming language/platform selection
- Coding options
- App design
- App analytics

The team aims to build a minimum viable product (MVP) to test the market with a small audience at a specific due date. From the MVP responses, the team can review, gather and implement users' feedback. This MVP will be used to pitch to potential investors or sponsors for more funding.

Lastly, it is important to protect *PowHawk* intellectual property protection rights. Getting copyright and trademark of *PowHawk* App is a must.

⁵ <https://www.sphericalinsights.com/reports/power-bank-rental-services-market>



Go-to-Market Strategy:

In our Go-to-Market strategy, our target customers are people-on-the move. According our study, total addressable market is going to be 300M transactions annually. Our initial target customers are going to be Business and leisure travelers. In future, we plan to extend to other verticals such as local events, malls, sports, restaurants etc.

In order to reach out to potential individual customers, we plan to partner with larger hotel chain companies and airports. Based on our analyses we found that the total addressable market for hotel occupants is 71% followed by restaurants & Airports. This marketing strategy would provide us with a larger reach to people on the move. We expect 1-in-1000 airport passengers and 1-in-2000 hotel occupants would use our app from this partnership. Our aim is to forge partnerships with top 6 airport authorities and 3 hotel chain companies in the next 5 years. Our partnership with these companies is going to be a revenue-share model. We will share 25% of our revenue with our partners on a per transaction basis. We plan to start this partnership model as pilot projects with two companies – Atlanta airport and Marriott Bonvoy. We would like to expand our partnership in other airports and hotel chains in the following years.

In addition to partnership, we plan to use influencers and advertisements to reach out to individual customers. In the next five years we plan to gradually increase advertisement spending and attract users to use our app.

No. of passengers annually traveling through six selected airports

Airports	No. passengers/yr
Atlanta Airport	94,000,000
Dallas-Fort Worth	69,000,000
Denver Airport	66,000,000
O'Hare Airport	59,000,000
LAX	50,000,000
New York Airports	127,000,000

No. of occupants (annually) staying in three selected hotel-companies in USA

Hotel chains	No. occupant/ yr
Marriott	925,000,000
Hilton	788,000,000
Hyatt	136,000,000

Go-to-market strategy



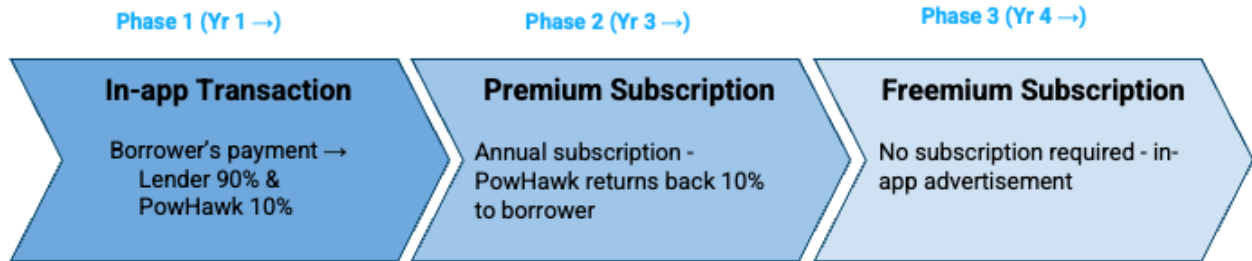
Business Models:

Our business model is composed of three phases: In-app transaction, Premium subscription and Freemium subscription.

- In-app transaction:** In this business model, we aim to capture 10% of fees paid by the borrower and give 90% back to the lender. Our average revenue per transaction is going to be \$1.25. Our market study shows the serviceable addressable market (SAM) is about 30M transactions. We expect our serviceable obtainable market (SOM) to be about 8M transactions. That would generate about \$14M in 5 yrs.
- Premium subscription:** In our 5-year plan, we would like to introduce Premium subscription models in year 3. In this phase of our business model, we will return back 10% to the borrower with subscription. The annual subscription is going to be \$25. In this phase, we aim to have total premium subscribers to be 500,000 in three years.
- Freemium subscription:** In the third phase of our business model, we plan to introduce a freemium subscription model in year 4. In this model, there is no subscription required for users to use the app, but there would be in-app advertisement. From our survey study, we found that the serviceable addressable

market for subscription is 140M in the US. Total addressable market for advertisement is \$110B and in which in-app advertisement TAM is \$60B.

PowHawk's three phase business model



Cost & Revenue:

Based on these three business models, our projected revenue is about \$27M in 5 years. On the table below, we show yearly cost and revenue over 5 yr period. The total cost incurred is about \$8.3M, in which the major cost is fixed cost (\$6.4M) in next five years.

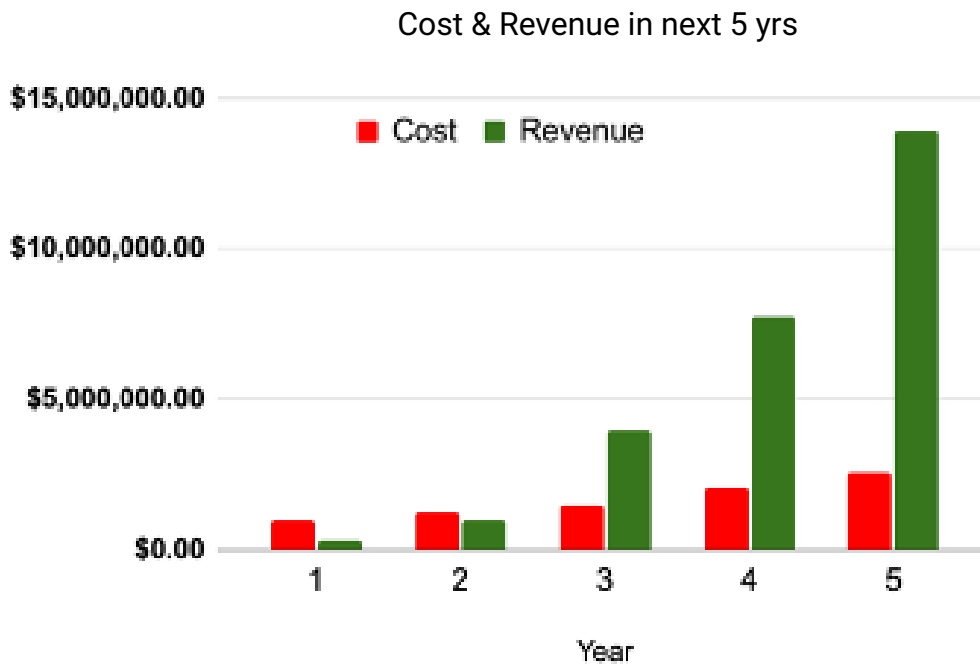
Revenue breakdown & cost over 5 years

	Phase 1 →				
				Phase 2 →	
				Phase 3 →	
Year →	1	2	3	4	5
Transaction revenue	\$310K	\$977K	\$2.2M	\$4M	\$6.7M
Subscription revenue			\$1.8K	\$3.5M	\$7M
Ad revenue				\$100K	\$200K

Total Cost	\$960K	\$1.2M	\$1.5M	\$2.1M	\$2.6M
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Financial Projections:

Based on our analysis, we expect to breakeven in the early part of year 3. Following figure shows the cost and revenue over time.



Funding:

We are seeking \$1.5M as an initial investment in *Powhawk*. This initial investment is going to provide us with a two-years of runway. The capital would be invested in app (iOS & Android) development and building partnerships with hotel companies and airport authorities. Our breakeven point is the early part of year 3.

We expect investors are going to join us, *PowHawk* and build the power that would never run out of charge.