

PYZO

EVERY WATT MATTERS

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"THE EARTH IS DYING"

Year	No of smartwatch users
2023	224.27 million
2024*	227.94 million
2025*	229.21 million
2026*	231.27 million

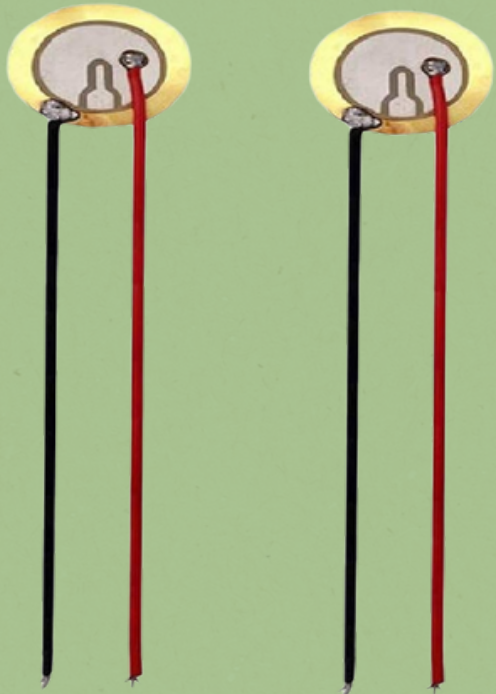
Per Wh of Energy (smartwatches take 5 Whatt to charge)

CO ₂	0.54 g
SO ₂	6.94-7.2 mg
NO	4.2- 6.3 mg

YOUR ENERGY, YOUR GADGETS: CHARGE WITH EVERY STRIDE EVERY WATT COUNTS!!!



By combining **piezoelectric discs** with **energy storage** in **cycles** and **shoes**, we capture energy from your daily activities such as running, walking, and cycling. This energy is converted into electricity and stored in a battery system, which in turn charges your gadgets. This not only reduces your carbon footprint but also offers a convenient and eco-friendly way to power your devices. **Enjoy your tech luxuries while minimizing your environmental impact**



MARKET SIZE

**TAM : ₹47,600
cr**

**SAM :
₹30,940 cr**

**TARGET
MARKET :
₹3,570 cr -
₹4,760 cr**

- Total elite class population+Fitness Enthusiasts: ₹47,600 cr
- Out of which 65 % can be reached (from the hypothesis): ₹30,940 cr
- The target market is people is initially elite + fitness-inclined Indian people from metro cities: ₹3,570 cr - ₹ 4,760 cr
- During the first year, the target market is specifically Mumbai (which is the smallest dot)

HYPOTHESES

HYPOTHESIS 1

OUR BELIEF IS THAT FITNESS ENTHUSIASTS HIGHLY APPRECIATE ACCESSORIES THAT ENABLE THEM TO CHARGE THEIR DEVICES WHILE ENGAGING IN PHYSICAL ACTIVITIES, SEAMLESSLY BLENDING THEIR LOVE FOR FITNESS WITH THE CONVENIENCE OF GADGET CHARGING.

THIS HYPOTHESIS WILL BE VERIFIED IF AT LEAST **60%** OF OUR AUDIENCE AGREES THAT THIS IS SOMETHING THEY CAN EASILY ADD TO THEIR DAILY FITNESS ROUTINE.

65% agree

HYPOTHESIS 2

WE BELIEVE THAT A LOT OF PEOPLE FACE CHALLENGES WHEN IT COMES TO CHARGING THEIR DEVICES WHILE ON THE MOVE, WHEN THEY DON'T HAVE THEIR CHARGING CABLES, OR IN SITUATIONS WHERE TRADITIONAL CHARGING OUTLETS ARE UNAVAILABLE, MOTIVATING THEM TO SEEK INNOVATIVE AND PORTABLE CHARGING SOLUTIONS.

THIS WILL BE VERIFIED IF AT LEAST **51%** OF THE PEOPLE WE INTERVIEW/SURVEY AGREE THAT THIS IS AN ISSUE AND THEY WOULD LIKE FOR IT TO BE SOLVED.

58% agree

HYPOTHESIS 3

OUR BELIEF IS THAT THE MAJORITY OF INDIVIDUALS ARE INCLINED TO ADOPT AND FULLY EMBRACE TECHNOLOGIES THAT SEAMLESSLY FIT INTO THEIR DAILY ROUTINES, DEMAND MINIMAL EXTRA EFFORT, AND ENHANCE THEIR OVERALL COMFORT AND CONVENIENCE.

WE INTEND TO CONFIRM THIS THROUGH SURVEYS TO ASSESS HOW MANY PEOPLE ASPIRE TO MAKE CHANGES BUT HAVEN'T DUE TO CONSTRAINTS SUCH AS LACK OF TIME OR INERTIA. ADDITIONALLY, WE'LL CONDUCT IN-PERSON INTERVIEWS WITH INDIVIDUALS. WE CONSIDER OUR HYPOTHESIS VALIDATED IF AT LEAST **80%** OF THE RESULTS EXPRESS AGREEMENT OR INTEREST IN THIS DIRECTION.

82% agree

HYPOTHESES

HYPOTHESIS 4

WE HYPOTHESIZE THAT THE CURRENT GENERATION MAY HAVE A LIMITED AWARENESS OF THE ACTUAL ENVIRONMENTAL CONSEQUENCES OF GLOBAL WARMING AND MAY PERCEIVE IT AS A MERE BUZZWORD, POTENTIALLY LEADING TO A LACK OF CONCRETE ACTIONS TAKEN TO ADDRESS THIS ISSUE.

THIS HYPOTHESIS WILL BE VERIFIED IF AT LEAST **60% OF OUR AUDIENCE IS UNAWARE OR HAS TAKEN NO STEPS TOWARDS IMPROVING THE WORLD**

HYPOTHESIS 5

OUR HYPOTHESIS SUGGESTS THAT END-USERS WILL READILY EMBRACE AND UTILIZE THE SUSTAINABLE CHARGING SOLUTION. THIS ALIGNMENT WITH THEIR ECO-FRIENDLY VALUES AND THE FULFILLMENT OF THEIR DEVICE CHARGING REQUIREMENTS ARE THE DRIVING FACTORS.

OUR HYPOTHESIS IS APPLICABLE IF AT LEAST **70% OF OUR CUSTOMERS IN THE CUSTOMER DISCOVERY AGREE TO THIS**

>70% validate this

Course Survey

CUSTOMER DISCOVERY

This survey is taken as a part of course project for ENT 603, IIT Bombay. It would only take 5-10 minutes to fill. It would greatly aid us. Questions are short, requiring yes/no answers,



Idea - Piezo on Public Space Pathways

- Railway Station Authorities (CSMT)
- Dean IPS, Dean SA, Estate and EMD Office, IIT Bombay
- Principle, KV, Powai
- Domain Expert - Professors at IIT Bombay
- Dean, EMD Department, KJ Somayia
- Ghatkopar Metro Station Authorities

Idea - Piezo in bicycle tires and shoes

- Elite students at IIT Bombay who are passionate about sports and physical fitness
- Working class in the Powai area (including Ghatkopar and Hiranandani)
- Professors at IIT Bombay
- Conducted a google form survey to which **170+** people across the globe responded

ANALYSIS OF CUSTOMER DISCOVERY

- We had promising talks with interested authorities. (railways, colleges' authorities). After consulting with our **domain experts** we found that:
- Using piezoelectric disks in public areas (like railway stations, metro stations, and college campuses) **isn't cost-effective** compared to solar PV technology because they offer higher energy density, making them a more efficient choice for energy generation in these settings.



- Led to change of idea (original): **Piezoelectric disks embedded in shoes and bicycle tires**
- 72% of people were eager to use this technology if they were given the choice if it was cheap and didn't hinder much with their present schedule
 - 78% of the people lacked awareness of sustainable practices at the individual level, but they were motivated to embrace sustainability.

CUSTOMER SEGMENT	Demographic	Psychographic	Geographic
Elite Class	30-65, Urban and high income with high spending power	Value luxury and seek latest and most advanced technology	Metropolitan areas, Western Continen tn, Globalk Cities, Luxury Destinations
Fitness Enthusiast (Cycling and Running Community)s	Varied but physically active	Prioritize health and exercise	Urban Areas, Western European countries
Eco Conscious Consumers	18-65 diverse gener in urban and suburban residents	Prioritize sustainability in daily life	sustainable cities, green lifestyle hubs, eco-tourism destinations, outdoor enthusiast regions, university towns, eco-friendly communities, climate-sensitive areas, culturally driven regions
Tech Savy	25-40, urban dwellers	Early adopters of technology, prioritize convenience	urban centers with a strong technology presence, including tech hubs like Silicon Valley, Seattle, and cities with a thriving startup ecosystem.
Business travellers	35-65, frequent travellers	Tech reliant for work, value convenience	urban centers, airport hubs, and cities with a strong corporate presence
Students	15-30	Rely on technology, seek convenience	Everywhere :)

VALUE PROPOSITION

- Effortless Device Charging On-the-Go
- Seamless Sustainability Integration
- Reduce Carbon Footprint
- Innovative in sustainable tech
- Connects health and sustainability
- Customization
- Ease of use
- Cost Reduction (in electricity bills)
- Eco-friendly challenges
- Connecting with like minded users and being eco conscious

CUSTOMER RELATIONS

- Personalized Sustainability Coaching
- Tech Fitness Communities
- Exclusive Eco Tech Workshops
- Co Creation Forums
- Sustainability Challenges
- User friendly app and Customer Feedback

REVENUE STREAMS

- Device sales
- Subscription model
- B2B partnership
- sustainability Consultation
- educational workshop
- advertising partnership

CHANNELS

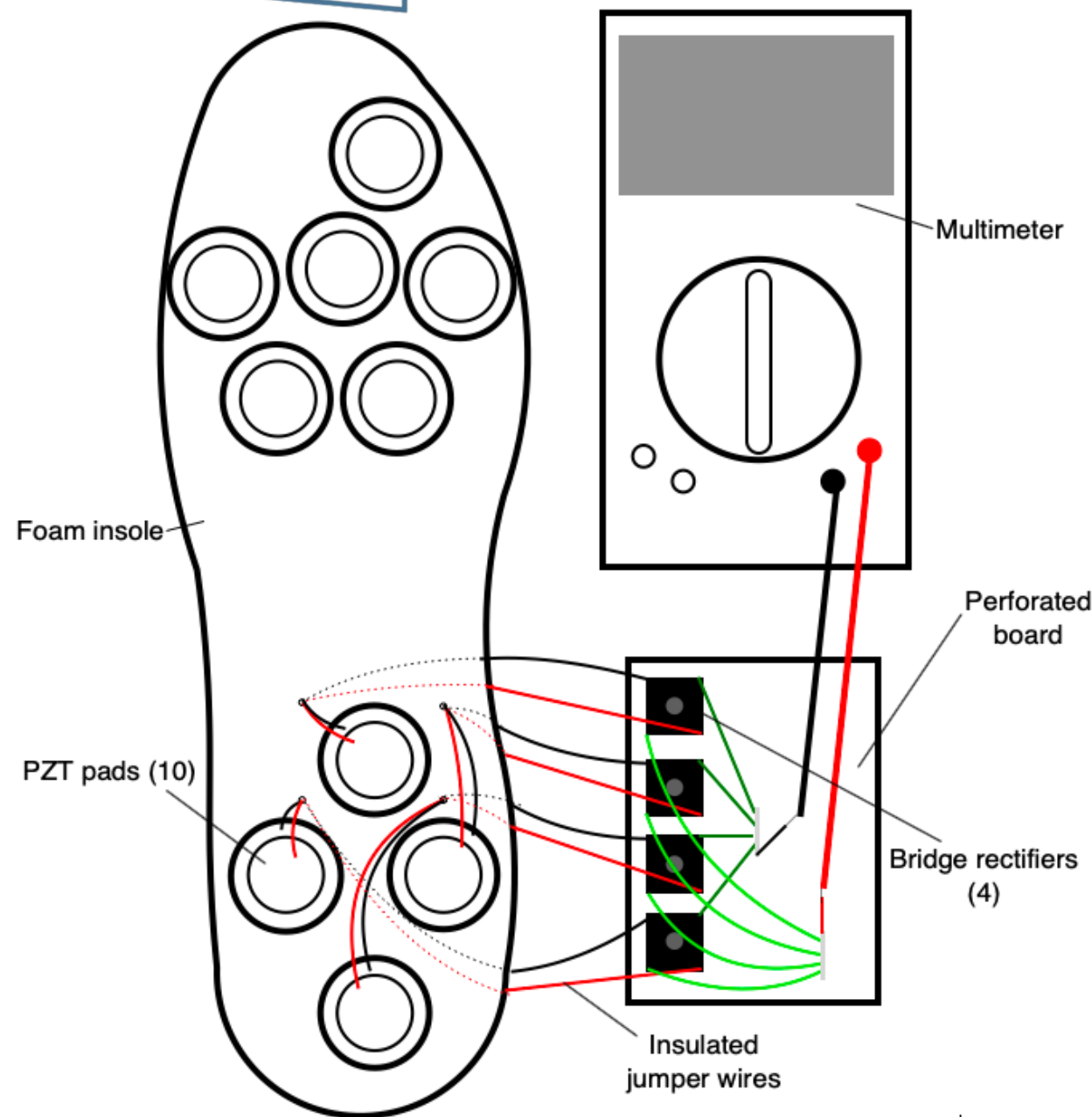
- Eco-Tech Subscription Box- delivers eco-tech solutions, including the technology, eco-friendly gadgets, and educational materials, directly to customers' doors on a regular basis.
- Digital Fitness Platform
- Sustainability E-Commerce Marketplaces



REVISED ELEVATOR PITCH

Imagine effortlessly charging your beloved smartwatches, AirPods, and Apple Pencils while reducing your carbon footprint. Our innovative system harnesses the power of your daily activities - be it running or cycling - and transforms it into energy that charges your cherished devices. It's the perfect synergy of luxury and environmental responsibility. Elevate your tech, elevate your impact, with our cutting-edge piezo disc technology.

PROOF OF CONCEPT



A pit is made inside the shoe sole with the tool to put battery and all circuitry inside



PIEZOELECTRIC SOLES

- Charge your airpods with just 2 hours of walking.
- 6 months warranty of our product with lifetime warranty of piezoelectric disk
- Water resistant
- Rs.900 / pair of sole
- Low weight, easy to carry
- Convenient

ELECTRONIC CIRCUIT COMPONENTS

- Detachable 3.7 V battery (wireless)
- Circuit Board - diodes
- Piezoelectric disks

Calculations :

Capacity of an aipod = 93 mWh
It gets fully charged 93 mW in 1 hr

Piezoelectric disks generate 3.5 mW per footstep
While running, we take ~2.8 footsteps per second and walking ~ 1.6 footsteps per second

Power = $3.5 \times 2.8 \text{ mW} = 9.8 \text{ mW}$ (running) and
 $3.5 \times 1.6 \text{ mW} = 5.6 \text{ mW}$ (walking)

Time required by 1 disk = $93/9.8 \text{ hr}$; $93/ 5.6 \text{ hr}$

Shoes - 5 disks in a shoe

Running : $93/(9.8 \times 5) = 1.89 \text{ hrs}$;

Walking : $93/ (5.6 \times 5) = 3.5 \text{ hrs}$

AWARENESS CHANNELS:

- Online Platforms and Website:
Broad visibility and accessibility.
- Social Media:
Community building and engagement.
- Content Marketing :
Education and thought leadership.
- Influencer Marketing:
Credibility and wider audience reach.
- Email Marketing:
Direct communication & customer retention.
- Partnerships and Collaborations :
Amplified reach through aligned brands.

SALES CHANNELS:

- Direct-to-Consumer (D2C) Online Sales:
Control over customer experience and data.
- Nike Retail Collaboration :
Global reach and enhance brand credibility.
- Specialized Retailers:: Targeted marketing to specific demographics.
- Pop-Up Shops and Events:
In-person experience and customer trust.
- Corporate Wellness Programs:
Bulk sales and business partnerships.
- Affiliate Marketing :
Word-of-mouth marketing and wider reach.

WHY THESE CHANNELS:

- Direct Control and Data:
Insights for strategic decision-making.
- Global Reach and Credibility:
Access to a vast audience and established trust.
- Targeted Marketing: Precision in reaching specific consumer segments.
- Customer Experience:
Building trust through in-person interactions.
- Diversification and Niche Markets:
Broadening market reach and appeal.
- Brand Advocacy: Utilizing influential voices for organic promotion.

Marketing through potential partners

- sport shoes companies
- fitness chains

Paid advertising

- social media marketig
- blogs/ articles

Social media & SEO

- hire marketing agency

Awareness programs

- workshop
- seminar
- magazine

GO TO MARKET

No profit strategy

- free delivery (for first 6 months)
- free coupons

REVENUE STREAMS

B2C

- Online Sales
- Subscription Model
- Customization Fees
- Accessory Sales
- Data Analytics Services
- Educational Content
- Event Sponsorships

B2B2C

(COLLABORATION WITH NIKE)

- Wholesale and Retail Sales with Nike
- Licensing Technology to Nike
- Co-Branded Merchandise
- Marketing Collaborations
- Technology Integration



GANTT CHART- PROJECT PLAN

	2024												2025												2026			2027			2028			2029																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
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FINANCIAL PLAN

	Year 1	Year 2	Year 3
# of units	10000	40000	110000
Price per unit	900	950	950
Revenue	9000000	38000000	106150000
Cost of Goods sold (COGS) Material costs, Manufacturing, Logistics	7760000	29955000	82270000
Sales & Mktg Costs	1350000	2160000	8140000
Overheads (People, Offices etc)	878500	2702500	20700500
Profit / Loss	-988500	3182500	-4960500

Detailed Sheet-

https://docs.google.com/spreadsheets/d/1ur1GIKg8DMLn_0HiJLF4_D2Pv1BjkEYTUR0EjwWjLOE/edit?usp=sharing

	2024	2025	2026				
Market :	Mumbai	Mumbai + Bangalore	Major Indian Metroplotian cities- 5 ...				
# of units	10,000	40,000	110,000				
Price per unit (includes delivery)	900	950	950		1st yr- delivery not included		
Revenue with sales (Price * No of units)	9000000	38000000	104500000				
Membership/ premium earnings	NA	NA	1650000		5% people go for memberships/ premium offers @Rs300		
Total Revenue	9000000	38000000	106150000				
Cost of Goods sold (COGS) Material costs, Manufacturing, Logistics	7760000	29955000	82270000				
New Machine units purchased	1	1	3		COGS per pair (1 unit)	650	
Warehouse	0.75	2	5		Machine cost	90000	
Electricity	1	2	5		Warehouse rent per year	400000	
Packaging	200000	800000	2200000		Electricity per year	120000	
Delivery contracts	350000	1225000	3500000		Packaging cost per unit	20	
Sales & Mktg Costs	1350000	2160000	8140000				
Advertisement contracts	1350000	2160000	3600000				
Workshops and openhouses	NA	NA	540000				
B2B Partenrships (NIKE)	NA	NA	4000000				
Overheads (People, Offices etc)	878500	2702500	20700500				
Labour - 1	1	2	5		Labour 1 wage per year per head	252000	
Labour - 2	1	4	12		Labour 2 wage per year per head	324000	
IT- web/ App dev + salary	300000	300000	750000				
Legal- Patentship+copyrights- 5years (Ammortised for 20yrs)	2500	2500	2500				
Sales Team (10 employees)	NA	NA	5800000		Saleperson salary per year per head	580000	
Design Team (5 employees)	NA	NA	2400000		Designer salary per year per head	480000	
PR Team (5 employees)	NA	NA	2700000		PR representative salary per year per head	540000	
HR Team (4 members)	NA	NA	2400000		HR professional salary per year per head	600000	
Offices	NA	600000	1500000		Office	500000	
Profits / Loss	-988500	3182500	-4960500				



Thank
You



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