



EcoTrack - Executive Summary

ACM 654 Strategic Technology

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1. Problem Statement & Our Product

EcoTrack addresses critical inefficiencies in consumer shopping habits, which lead to financial waste, environmental harm, and an overwhelming demand for actionable sustainability tools. Research reveals that consumers often overspend by 10-15% on unnecessary purchases due to poor management of household essentials, contributing to significant financial inefficiencies and waste. Additionally, everyday purchases, such as groceries and consumer goods, are responsible for substantial environmental damage. Food waste alone generates nearly 8% of global greenhouse gas emissions, while non-recyclable packaging constitutes 30% of total U.S. waste. Despite this, over 60% of consumers aspire to adopt eco-conscious shopping habits but lack intuitive tools to connect their consumption patterns to real environmental outcomes.

EcoTrack is a smart shopping habit tracker and eco-friendly advisor designed to simplify the decision-making process, helping consumers choose the most suitable products to meet their shopping needs while staying aligned with their sustainability goals. Through personalized habit tracking, automated purchase logging, consumption analysis, and sustainability recommendations, EcoTrack optimizes shopping behaviors, reduces waste, and lowers carbon footprints. With real-time feedback and actionable insights, EcoTrack transforms everyday shopping into a step toward sustainability.

2. Market Analysis and Our Niche Market

2.1 Market Size and Demands

Consumer interest in sustainability has grown exponentially, with studies revealing that **73% of millennials** and **72% of Gen Z** are willing to pay more for eco-friendly products. Sustainability-marketed products now hold an **18.5% market share** in the consumer goods sector, driving nearly **one-third of growth** in this industry over the last decade.

This rising demand creates a clear gap in the market: consumers want tools that help them integrate eco-conscious choices into their everyday routines effortlessly. The market for sustainable consumer goods is projected to reach \$29.3 billion by 2031, with a compound annual growth rate (CAGR) of 5.64%. Similarly, the global habit-tracking app market is expected to

grow from \$9.93 billion in 2023 to \$30.34 billion by 2032, reflecting a CAGR of 13.21%. These trends highlight a significant demand for tools that integrate habit management with sustainability, providing users with both convenience and measurable impact.

2.2 Market Competition

The rising demand creates a **clear gap** in the market: consumers want tools that help them integrate **eco-conscious choices** into their everyday routines effortlessly. However, existing solutions fail to **holistically achieve convenience and sustainability**. For example:

- **Shopping List and Replenishment Apps** (e.g., Amazon’s “Subscribe & Save”): Focus on automating recurring purchases but lack personalized insights or sustainability metrics.
- **Sustainability Recommendation Platforms** (e.g., Good On You, EWG’s Healthy Living): Highlight eco-friendly products but do not offer habit-tracking features or dynamic personalization.
- **Habit-Tracking Apps** (e.g., HabitBull, Streaks): Help users develop habits but do not integrate shopping management or sustainability guidance.
- **Shopping Analytics Tools** (e.g., Fetch Rewards, AnyList): Offer budgeting and cost insights but overlook environmental impact or habit optimization.

EcoTrack can bridge this gap perfectly. Unlike single-function apps, it integrates dynamic habit management with real-time environmental impact data, turning sustainability into an accessible, measurable, and rewarding process.

2.3 Our Niche Market

EcoTrack occupies a distinct niche at the intersection of the sustainable consumer goods market and digital habit-tracking technologies. By seamlessly integrating habit management, environmental insights, and actionable eco-friendly recommendations, EcoTrack directly addresses the growing need for tools that enable sustainable living without compromising convenience or efficiency. This niche is defined by tech-savvy, eco-conscious consumers seeking solutions to optimize their shopping habits and reduce their environmental impact.

Niche Market Breakdown:

1. Total Addressable Market (TAM):

EcoTrack operates at the intersection of two rapidly growing markets: **the global sustainable consumer goods market & the global habit-tracking app market**. While these markets are independent, EcoTrack bridges them by catering to consumers prioritizing both sustainability and personal efficiency. This combined potential market represents a TAM exceeding **\$50 billion**, underscoring the scalability of EcoTrack's value proposition.

2. Serviceable Available Market (SAM):

EcoTrack's SAM narrows to urban, tech-savvy consumers aged 18–45 in regions characterized by high smartphone penetration and strong environmental awareness. These target demographics include:

- **Geographical Reach:** North America, Europe, and select parts of Asia, where sustainability is a prominent consumer priority.
- **Demographic Traits:** Early adopters of technology, with disposable incomes to invest in sustainable products and digital tools.
- **Behavioral Focus:** Eco-conscious individuals who actively seek ways to align shopping behaviors with environmental values.

This market captures a subset of the sustainable consumer goods and habit-tracking markets, refined to focus on individuals already engaged or motivated by sustainability trends.

3. Serviceable Obtainable Market (SOM):

In its initial phase, EcoTrack's SOM focuses on capturing a modest share of its SAM by targeting early adopters in its core regions.

- **User Base:** A penetration rate of **0.5–1%** within the SAM during the first 2 years, translating to **100,000–200,000 active users** globally.
- **Revenue Potential:** With an average revenue per user (ARPU) of **\$20–30 annually** (through subscriptions and brand partnerships), EcoTrack's initial SOM equates to \$2–6 million annual revenue.

- **Scalability:** Over time, as EcoTrack expands its features, partnerships, and geographic footprint, both penetration rates and ARPU are expected to grow, creating opportunities to target additional segments and regions.

By targeting a motivated and growing demographic, EcoTrack ensures relevance and scalability within its niche, with opportunities for expansion through continuous innovation and strategic partnerships. This dual-market intersection positions EcoTrack as an indispensable tool for modern consumers striving to balance convenience, cost-efficiency, and sustainability. Looking ahead, EcoTrack's dynamic features, strategic partnerships, and scalability will drive continued growth, allowing us to capture a larger share of this expanding market. By turning everyday shopping into a simple, sustainable, and rewarding process, EcoTrack positions itself as the go-to solution for modern consumers striving to balance convenience, efficiency, and environmental impact.

3. Target Audience

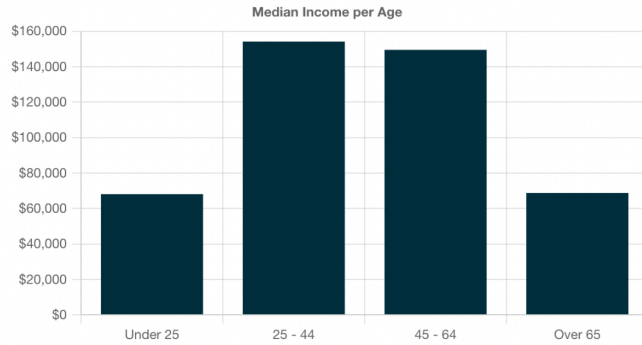
3.1 Who are we targeting

Eco Track aims to engage environmentally conscious individuals aged 18 to 45 residing in urban cities mainly in North America, Europe, and Asia, with a household income at or above the median level. This demographic includes young professionals, middle-income families, and educated individuals who are proactive about sustainability and have the financial capacity to invest in eco-friendly solutions.

3.2 Why are we targeting them?

- **Environmental Awareness:** This age group is generally more attuned to environmental issues and is motivated to adopt sustainable practices.
- **Technological Proficiency:** Individuals in this segment are typically comfortable with technology, facilitating the adoption of digital platforms like Eco Track.
- **Economic Capability:** With incomes at or above Manhattan's median household income of \$138,608, they are more likely to invest in sustainable products and services.

		Y-o-Y Change
Average Household Income	\$162,110	7.2%
Median Household Income	\$138,608	8.4%
People below Poverty Level	0	N/A
People above Poverty Level	1,305,113	-1.7%



3.3 What are they looking for

- Sustainability Tracking:** The target audience is looking for a streamlined way to monitor their environmental impact and progress toward sustainability goals. This includes tools that measure carbon footprint, energy usage, waste generation, and sustainable purchasing behaviors. Many individuals in this group feel empowered when they can visualize their impact and track incremental improvements. They want actionable insights that translate data into meaningful steps they can take to reduce their ecological footprint. By providing this level of clarity, Eco Track ensures users can make informed decisions and feel confident that their efforts are contributing to a larger environmental cause.
- Community Engagement:** Community and accountability are key motivators for the target audience, as they value being part of a network that shares their passion for sustainability. They seek opportunities to connect with others, exchange ideas, and collaborate on eco-friendly initiatives. A sense of belonging not only reinforces their commitment to sustainable habits but also allows them to learn from peers and feel supported in their journey. Eco Track can meet this need by offering forums, group challenges, and community-driven events that foster connection and collaboration. This communal aspect encourages users to stay active and inspired by shared progress and collective goals.
- Incentives:** Incentives play a critical role in encouraging the adoption and maintenance of sustainable behaviors for the target audience. Many people are motivated by tangible rewards, such as discounts on eco-friendly products or redeemable points, while others value social recognition, like earning badges or appearing on leaderboards. Incentives

make sustainable actions feel both enjoyable and worthwhile, creating a positive feedback loop that drives continued engagement. Eco Track supports this need through gamification, rewarding users for eco-conscious decisions, and providing opportunities to redeem these rewards in meaningful ways. Additionally, showcasing user achievements fosters a sense of accomplishment and inspires others to participate.

3.4 Persona

Mia Carter represents the ideal user for Eco Track—someone who is deeply invested in sustainability but faces challenges integrating eco-friendly practices into a busy urban lifestyle. With her tech-savvy mindset and preference for data-driven solutions, Mia aligns perfectly with Eco Track's mission to provide an accessible, centralized platform for tracking and improving environmental impact.

Mia's active engagement with social media and community events also makes her a potential ambassador for Eco Track, amplifying its reach among like-minded individuals. By addressing her goals, frustrations, and preferred channels, Eco Track can create a personalized experience that meets her needs while inspiring others in her network to adopt sustainable habits.



4. Product Information

4.1 Features and Technology

EcoTrack integrates key features to deliver an impactful and seamless user experience. Each feature is powered by specific technologies that ensure functionality, efficiency, and scalability. Below is an explanation of the core features and the technologies enabling them.

1. *Personalized Habit Tracking:* Track and analyze user shopping behaviors, preferences, and consumption patterns to provide tailored insights.

- **Technology:** AI and machine learning algorithms analyze user data, identifying trends and patterns in shopping habits over time.
- **Implementation:**
 - Algorithms dynamically adjust recommendations based on real-time data, such as purchase frequency and product usage.
 - The system refines profiles continuously, ensuring insights remain relevant and actionable.
- **Result:** Users receive personalized reminders and suggestions, helping them optimize their shopping habits and reduce waste.

2. *Automated Purchase Logging:* Simplify the tracking process by automatically logging purchase data from receipts.

- **Technology:** Optical Character Recognition (OCR) extracts purchase details (e.g., product names, quantities, purchase dates) from scanned or uploaded receipts.
- **Implementation:**
 - OCR processes various receipt formats, ensuring compatibility across stores and regions.
 - Data is seamlessly integrated into the user's consumption history for accurate tracking.
- **Result:** Users save time and effort by avoiding manual data entry, making the app convenient and engaging.

3. *Sustainable Product Recommendations:* Suggest eco-friendly alternatives and optimized purchasing schedules tailored to user needs.

- **Technology:** Recommendation algorithms use user profiles, shopping history, and sustainability data to generate relevant suggestions.
- **Implementation:**
 - Algorithms prioritize products with lower carbon footprints, recyclable packaging, or zero-waste attributes.
 - Recommendations evolve based on user feedback and interactions, ensuring relevance.
- **Result:** Users transition to sustainable habits effortlessly, receiving guidance aligned with their goals and preferences.

4. Real-Time Environmental Impact Feedback: Provide visual insights into the user's carbon footprint, waste generation, and sustainability progress.

- **Technology:** Data visualization tools transform complex sustainability metrics into intuitive graphs and charts.
- **Implementation:**
 - Interactive dashboards allow users to track their environmental impact over time.
 - Visual feedback reinforces sustainable behaviors by making progress tangible and rewarding.
- **Result:** Users stay motivated by seeing how their actions directly contribute to reducing waste and carbon emissions.

5. Secure, Scalable, and Accessible Data Management: Store and process user data securely, ensuring smooth app performance across devices.

- **Technology:** Cloud infrastructure supports real-time data processing, encrypted storage, and multi-device synchronization.
- **Implementation:**
 - Scalable architecture adapts to increased user activity without performance degradation.
 - Data encryption and anonymization ensure privacy compliance with regulations like GDPR.
- **Result:** Users enjoy reliable access to their data, trusting that their information is handled securely and responsibly.

4.2 Incentive Mechanism

EcoTrack's incentive mechanism is designed to make sustainability rewarding, engaging, and impactful. By incorporating gamification and tangible rewards, the platform motivates users to adopt eco-friendly habits and stay committed to their sustainability goals.

The Eco-Points System serves as the foundation, rewarding users for sustainable actions like reducing waste, tracking purchases, or choosing eco-friendly products. These points can be redeemed for valuable rewards, including premium features such as access to advanced analytics or an ad-free experience. Users can also use their points to unlock discounts on eco-friendly products from partnered brands or donate directly to environmental organizations, empowering them to make a broader impact.

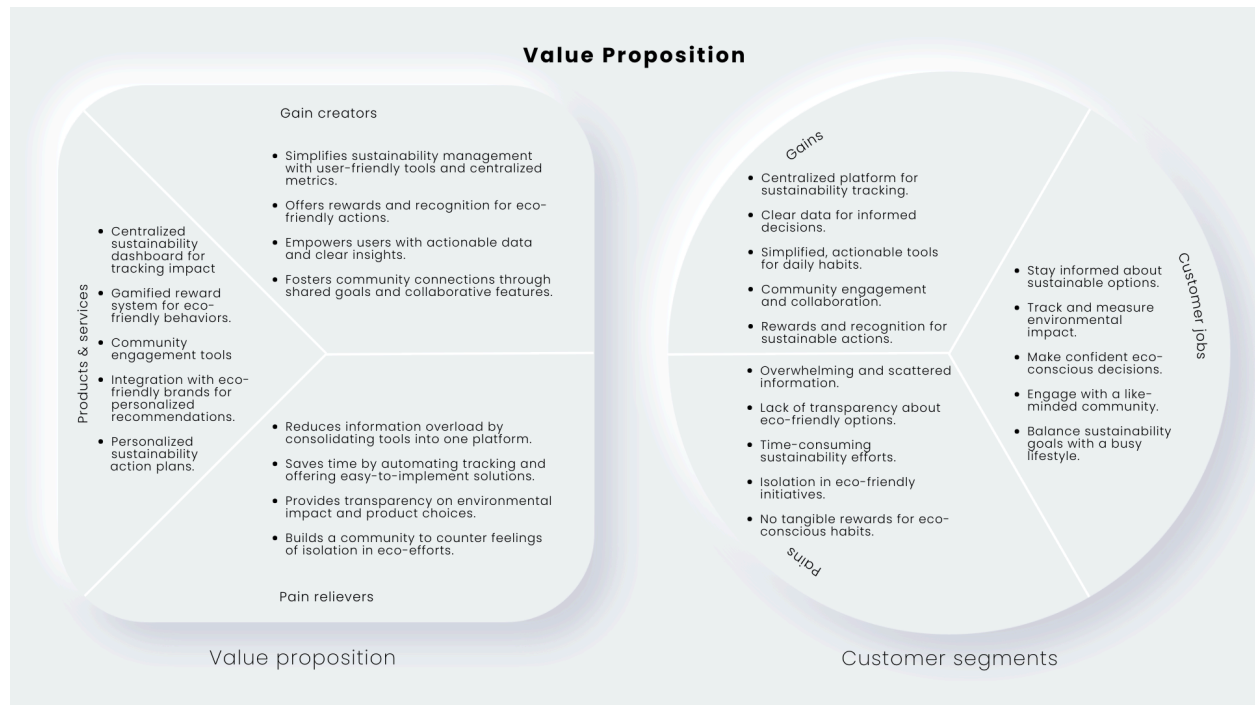
To further encourage progress, EcoTrack awards **Achievement Badges** for reaching key milestones. These badges celebrate accomplishments like reducing household waste by 50% ("Waste Warrior") or offsetting a month's carbon footprint ("Carbon Neutral Hero"). By earning badges, users feel recognized and motivated to achieve more while gamifying the path to sustainability.

Monthly Challenges and Leaderboards add a layer of competition and collaboration. Challenges like "Zero-Waste Month" or "Reduce Your Carbon Footprint by 10%" inspire users to take action within a set timeframe, while leaderboards highlight top performers. Both individual achievements and group contributions, such as workplace teams or local communities, are showcased, fostering friendly competition and collective engagement.

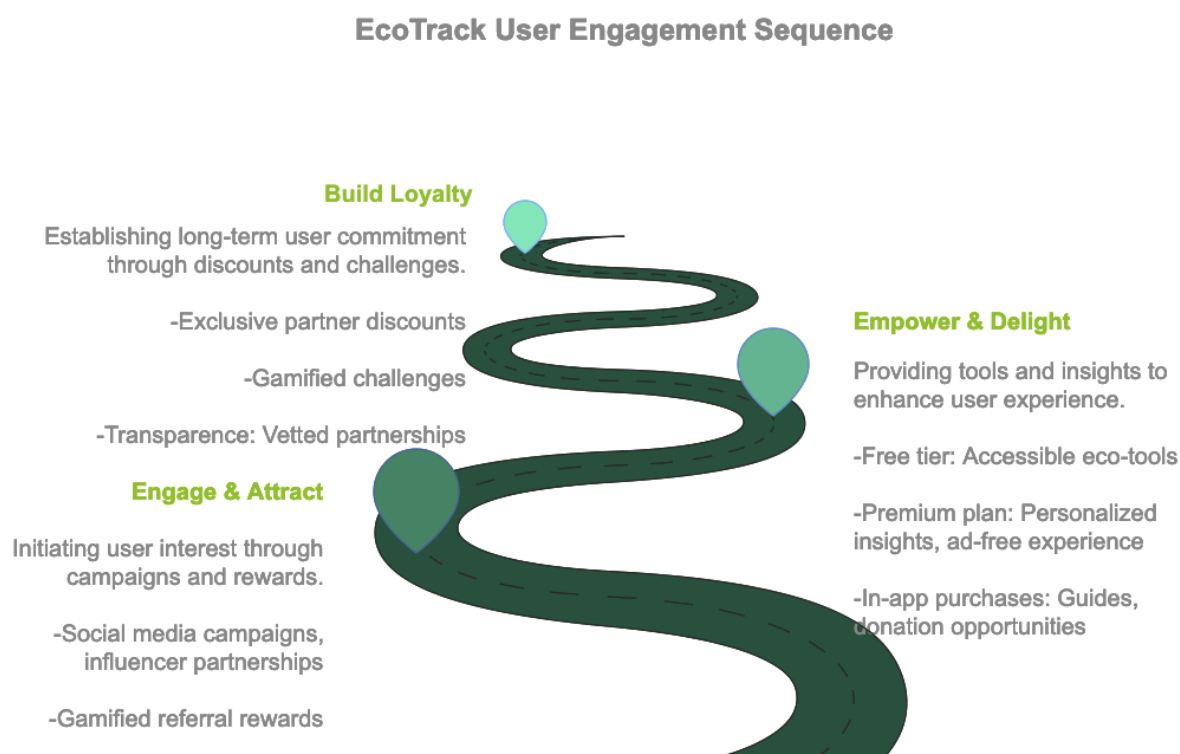
EcoTrack also empowers users to create **Interactive Sustainability Goals** tailored to their needs. These could include objectives like "Reduce plastic use by 20% this month" or "Avoid food waste for the next two weeks." Progress is visualized through engaging animations and graphs, making each step toward sustainability tangible and rewarding.

To ensure consistent engagement, EcoTrack **Streaks** rewards users for regular app usage. Completing daily logs or maintaining progress on challenges unlocks streak bonuses, reinforcing sustainable habits over time. By combining points, badges, challenges, and streaks, EcoTrack transforms sustainability into an interactive and rewarding journey. Users not only feel good about their actions but also see measurable progress, driving long-term commitment to eco-conscious living while fostering a sense of community and achievement.

4.3 Value Proposition



5. User Journey: User Acquisition, User Experience, and Loyalty

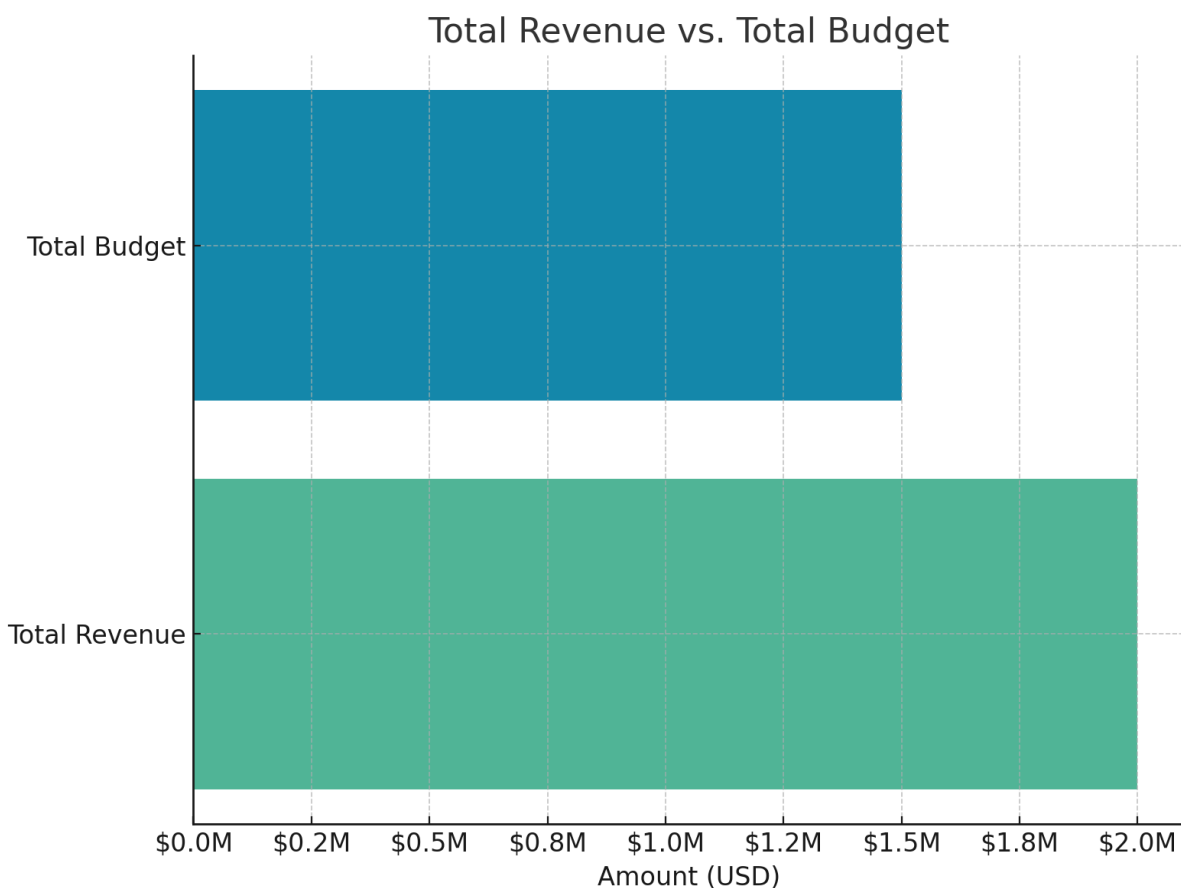


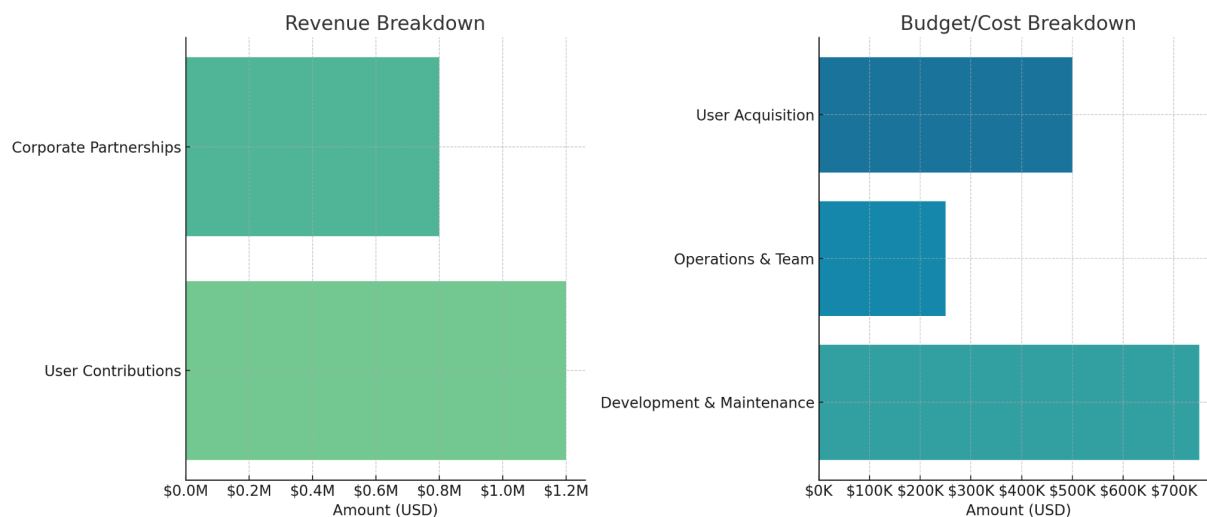
EcoTrack's user journey begins with an engaging acquisition strategy that leverages digital marketing and community-driven initiatives. Social media platforms such as Instagram, TikTok, and Pinterest host dynamic content, including eco-tips, success stories, and sustainability challenges, to attract users. Collaborations with eco-conscious influencers amplify brand visibility and provide authentic endorsements, driving trust and engagement. Gamified referral programs incentivize users to invite friends, fostering organic growth and building a community of sustainability-focused users.

The app offers an accessible experience through a free tier supported by brand sponsorships, which ensures inclusivity for all users. For those seeking enhanced features, the premium subscription plan, priced at \$1.99 per month, delivers personalized product recommendations, advanced carbon footprint analytics, and an ad-free interface. Users can also deepen their engagement with EcoTrack's mission through in-app purchases, such as eco-guides or donation opportunities for sustainability causes.

To maintain user loyalty, EcoTrack integrates exclusive offers from vetted sustainable brands, providing meaningful discounts and product recommendations that align with user values. Community-building initiatives, such as regular updates, gamified challenges, and newsletters, strengthen the user-app connection. Transparency is key to fostering trust, with EcoTrack rigorously vetting partners to ensure alignment with its sustainability mission and avoiding greenwashing. By combining targeted acquisition strategies, a value-driven user experience, and a commitment to trust, EcoTrack turns users into long-term advocates for its eco-conscious mission.

6. Revenue Model and Financial Strategy for EcoTrack





EcoTrack's revenue model balances financial sustainability with its eco-conscious mission, combining user contributions and strategic partnerships to ensure diversified and resilient income streams. This model reflects a clear, attainable growth trajectory for a sustainability-focused app in its early stages.

Revenue Projections

EcoTrack targets **\$2 million in annual revenue**, strategically divided between **user contributions (60%)** and **corporate partnerships (40%)**:

1. User Contributions (60% = \$1.2 Million)

- **Premium Subscriptions:** At \$1.99/month, a modest user base of 500,000 users, with 10% (50,000 users) subscribing, generates \$1.2 million annually. This estimate reflects a conservative adoption rate, consistent with app engagement trends in niche markets.
- **In-App Purchases:** Offering additional revenue opportunities, users can purchase eco-guides or contribute to sustainability causes, reinforcing their commitment to EcoTrack's mission.

2. Corporate & Nonprofit Partnerships (40% = \$800,000)

- **Sponsored Recommendations:** Collaborations with 50-100 sustainable brands to showcase eco-friendly products to free-tier users. Brands pay for impressions or clicks, delivering visibility while supporting EcoTrack's operations.

- **Affiliate Marketing:** EcoTrack earns commissions from purchases made through affiliate links, connecting users with sustainable retailers.
- **Data Analytics Services:** Selling anonymized, aggregated user insights to brands looking to optimize their sustainable offerings provides an additional revenue stream.
- **Sponsored Newsletters:** Monthly features of partner products deliver value to sponsors while engaging users.

Budget Allocation

EcoTrack's **\$1.5 million total budget** ensures sufficient resources to launch, scale, and sustain the app. The breakdown is as follows:

1. **Development and Maintenance (\$700,000-\$800,000):** This allocation supports building the app, incorporating advanced features like carbon tracking and AI-driven recommendations, and maintaining its functionality.
2. **Operations and Team Costs (\$200,000-\$300,000):** Salaries for a lean, skilled team, along with legal and administrative expenses, ensure smooth day-to-day operations.
3. **User Acquisition and Marketing (\$500,000):**
 - **Digital Marketing Campaigns (\$200,000):** Ads on platforms like Instagram, TikTok, and Pinterest target eco-conscious users effectively.
 - **Influencer Collaborations (\$150,000):** Partnering with sustainability influencers expands EcoTrack's visibility and credibility.
 - **Community Building (\$100,000):** Initiatives like referral programs, events, and user incentives encourage organic growth.
 - **Content Creation (\$50,000):** Developing high-quality, shareable eco-content (e.g., guides, tips, and challenges) strengthens EcoTrack's brand voice.

Financial Feasibility and Growth Strategy

- **\$2 Million Annual Revenue:** This target is attainable with a balanced focus on user contributions and brand partnerships. A user base of 500,000 with 10% subscribing is realistic, given the global growth in eco-conscious consumerism.

- **\$1.5 Million Budget:** The budget ensures EcoTrack has the resources to develop and market the app, with strategic allocations for user acquisition and team building.
- **\$500,000 User Acquisition:** Investing one-third of the budget in growth efforts aligns with startup benchmarks, ensuring market capture while balancing operational costs.

EcoTrack's financial plan is both ambitious and pragmatic, emphasizing **diversified revenue streams** and **scalable operations**. The projected revenue, budget allocation, and acquisition strategy reflect a thoughtful approach to positioning EcoTrack as a leader in the sustainability space. This plan empowers EcoTrack to not only grow its user base but also expand its impact, making sustainable living accessible to millions.

7. Risk Mitigation Strategies

EcoTrack takes a proactive approach to potential challenges, ensuring the app remains robust, reliable, and future-proof. Key focus areas include user adoption, market competition, technology integration, and keeping up with sustainability trends. To make EcoTrack user-friendly and widely adopted, we're designing an intuitive experience paired with targeted campaigns. Marketing efforts will highlight the app's unique benefits—like personalized eco-friendly product recommendations and gamified rewards that make sustainable habits fun and rewarding. The onboarding process will be smooth, with clear tutorials, an FAQ section, and incentives like discounts at eco-conscious stores. We'll also offer localized content to resonate with diverse regional sustainability needs.

When it comes to market competition, EcoTrack is all about standing out.

- **Personalization:** Proprietary algorithms will provide customized products recommendations tailored to individual habits.
- **Exclusive Features:** “Gamified challenges”, “carbon footprint tracking”, and “Real-Time Environmental Impact Feedback” with recycling programs will set EcoTrack apart from other apps.

- **Community Building:** A strong brand identity will position EcoTrack as a trusted companion for eco-conscious living. Become a platform for everyone to share and exchange ideas about environmental protection.

8. Implementation Plan & Road Map

EcoTrack's implementation plan is designed to roll out features in phases, ensuring steady growth and adaptability. Each phase builds on the last, guided by user feedback and market insights.

Phase 1: Foundational Features (0-12 months)

In the initial phase, we will focus on establishing the app's core functionality to attract early adopters. This includes:

- **Household Essentials Tracker:** Launching with basic consumption metrics to help users monitor their usage.
- **Eco-Friendly Product Recommendations:** Rolling out suggestions based on user preferences to facilitate greener shopping choices.
- **Gamified Rewards:** Introducing incentives for sustainable shopping habits to increase user engagement.

These foundational features will help us gather baseline user data for future improvements.

Phase 2: Feature Expansion (12-18 Months)

This phase aims to broaden the app's appeal and establish EcoTrack as a trusted sustainability tool. Building on the foundation, we will enhance the app's capabilities by:

- **Advanced Sustainability Metrics:** Adding tracking for water and energy usage to provide a more comprehensive environmental impact assessment.
- **Enhanced Recommendation Algorithms:** Utilizing machine learning to offer more precise and personalized suggestions.
- **Local Integration:** Partnering with local eco-friendly retailers and recycling programs to enable users to take localized action toward sustainability.

Phase 3: Long-Term Innovations (18-24 Months)

In the long-term phase, we aim to position EcoTrack as a comprehensive platform for sustainable living by:

- **Carbon Footprint Tracking:** Developing features with real-time offset options to help users understand and reduce their carbon emissions.
- **E-Commerce Integration:** Collaborating with major platforms to integrate EcoTrack's recommendations directly into their systems.
- **Community Engagement:** Launching community-driven initiatives like virtual sustainability events and global challenges to foster a sense of community among users.

To ensure scalability and adaptability, EcoTrack will tailor its features for global audiences by incorporating localized sustainability data and forming partnerships in key regions. We'll also expand into emerging markets and collaborate with smart home and lifestyle apps for seamless integration.

9. KPIs & Validation

EcoTrack's success will be measured using detailed Key Performance Indicators (KPIs) focused on environmental, social, and product impact. These metrics are designed to validate the app's mission and effectiveness with quantifiable data, ensuring transparency and building trust among users and stakeholders.

Key Metrics and Targets:

Environmental Impact Metrics: EcoTrack aims to drive measurable improvements in users' environmental footprints, tracked through:

- **Household Waste Reduction:** Targeting an average reduction of 10–15 kg of waste per user per month through sustainable product recommendations and tracking tools.
- **Carbon Footprint Reduction:** Helping users decrease their carbon emissions by 5–10% annually, with an ultimate goal of reducing 1 metric ton of CO₂ per active user annually.
- **Eco-Certified Product Purchases:** Aiming for 60% of monthly purchases by active users to be eco-certified products within the first year of use.

Social Impact Metrics:

- EcoTrack fosters community engagement and sustainable habits through:
- User Retention and Engagement Rates: Achieving a 75% user retention rate within the first 12 months, with at least 50% of active users engaging in sustainability-related features weekly.
- Challenge Participation: Ensuring 40% of users participate in eco-challenges or recycling initiatives monthly, contributing to community-level sustainability efforts.
- Global and Local Partnerships: Establishing partnerships with at least 20 eco-friendly organizations within the first two years to enhance impact and scalability.

Product Validation Metrics: Continuous refinement of EcoTrack will be guided by

- In-App Surveys: Collect ratings (out of 5) and feedback from at least 20% of active users every quarter to identify areas of improvement.
- Behavioral Analytics: Monitoring key usage metrics, including:
 - Feature Utilization: Aiming for at least 70% of users to actively use product tracking and recommendations weekly.
 - Session Lengths: Average session times of 5–10 minutes, indicating meaningful user engagement.

Outcome Reporting - Validation Goals for Year 1:

- Household Waste Reduction: Achieve a collective reduction of 50 metric tons of household waste among all users.
- Eco-Certified Purchases: Facilitate 100,000 eco-certified product recommendations resulting in purchases.
- Partnerships: Establish at least 10 partnerships with eco-friendly retailers, recycling programs, and NGOs.
- User Base: Secure 10,000 active monthly users, with 40% regularly participating in challenges and engaging with the app's features.

EcoTrack will publish regular impact reports to showcase measurable environmental and social improvements. These reports will include user testimonials, success stories, and data visualizations of key metrics. Transparent communication will not only build user trust but also provide credibility for stakeholders, reinforcing the app's commitment to its mission. By focusing on these metrics and validation strategies, EcoTrack ensures its continuous improvement and impact, aligning its growth with user needs and global sustainability goals.

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