**IT 427  
Entrepreneurship and Innovation in IT**

**2024-2025 [2]**

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AI-generated content may be incorrect.

**AirAlert**

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Semester – 2 1446H (Spring 2025)

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\*\*\* Please note that the page numbers listed above are simply examples. Also, the questions in the sections are for **guiding** you only on the things you need to think of and not to answer them or including them as is.

**EXECUTIVE SUMMARY**

In this section, the reader should know exactly what you are going to do in our startup, how you are going to do it, why you can do it better than anyone else, why you will continue to do it better, how much money you are going to make and the funding you will require.

In other words, this is a brief summarized version of the startup. It must adequately identify the problem (customer pain point) you are addressing, what minimum viable product (MVP) you have designed to solve that problem and your value proposition, what validated learning you have discovered through field research and customer development interactions.

In your executive summary, address the situation in the market, who your target customer is, and what unique problem your application can solve.

**EXECUTIVE SUMMARY**

AirAlert is a smart, IoT-based detection system developed to solve a critical customer pain point: the unnoticed buildup of smoke, gas leaks, and poor air quality—serious threats to human health and safety, especially in residential and vehicular environments.

To move beyond assumptions and better understand how users would engage with our product, we created a landing page as our minimum viable product (MVP). This MVP showcases our product concept, service offerings, and unique value proposition: a portable, all-in-one device that integrates advanced environmental sensors with a mobile application. The system delivers real-time hazard alerts and automated responses through smart home integration and AI-powered analysis.

Our MVP included a short explainer video and a subscription form, allowing us to validate user interest, gather contact information, and test demand. Through field research and customer interaction, we identified a strong interest among homeowners and car owners who are underserved by existing fragmented safety solutions.

AirAlert stands out in a growing market that is increasingly aware of indoor air quality and safety issues. While most current solutions offer limited or single-function detection, our device combines fire, gas, and air quality monitoring in one compact unit, offering proactive protection and immediate emergency communication.

We plan to capitalize on this gap by delivering a reliable, AI-driven safety solution. While we anticipate early-stage losses due to development and marketing expenses, we project we will reach profitability by year two, reaching 12,526.23 SAR. By year four, we expect net profits to exceed 105,000 SAR. To achieve these milestones, we are seeking initial funding to complete product development, expand marketing efforts, and scale operations.

With our innovative technology, validated market need, and strategic growth plan, we are confident that AirAlert can outperform competitors and sustain long-term leadership in the smart safety solutions market.

**PRODUCT/SERVICE DESCRIPTION**

With rising concerns over health, safety, and indoor air quality, many homeowners, car users, and even outdoor enthusiasts face the growing problem of undetected smoke buildup, gas leaks, and poor air quality. These environmental hazards not only threaten lives but also cause long-term health risks and property damage. At the same time, despite advancements in smart devices, current safety solutions are fragmented—forcing consumers to purchase and manage separate tools for fire detection, gas leaks, and air monitoring, which are often bulky, non-portable, and limited in functionality.

After thoroughly understanding these problems and pain points, we identified an opportunity to consolidate multiple safety needs into a single solution—leading to the creation of AirAlert.

AirAlert is a portable, IoT-based smart device designed to provide real-time detection of smoke, gas leaks, and air quality changes. Unlike traditional detectors, it offers three-in-one functionality in compact form, supported by a mobile application that provides instant alerts, emergency contact notifications, and remote monitoring. AirAlert empowers users with immediate awareness and response capability—whether they’re at home, in the car, or away.

To test our assumptions and validate user interest, we built a Minimum Viable Product (MVP) in the form of a landing page. This landing page showcased our core features, explained our value proposition, and included an explainer video outlining the problem, our proposed solution, and how AirAlert works. We also added a subscription form to collect user interest and feedback, which helped confirm strong demand from homeowners, drivers, and tech-savvy families seeking proactive safety tools.

The MVP provided important validated learning, confirming that users are looking for smarter, unified solutions for everyday safety threats. Based on this feedback, our future roadmap includes enhancements such as:

* Automatic emergency calling and direct integration with firefighting services
* Smart home system connectivity for automated actions (ventilation, gas shutoff)
* AI-driven environmental trend analysis and risk forecasting
* Multi-user and household sharing options via the mobile app

To operate our vision, we plan to collaborate with key partners including sensor technology providers, mobile app developers, and smart home platforms. Our first implementation step is to finalize the working prototype, followed by early-stage user testing and onboarding select households for pilot usage.

Aligned with our mission to make homes and vehicles safer through smart environmental monitoring, AirAlert delivers proactive, AI-powered protection—helping users prevent hazards before they escalate and ensuring peace of mind for modern living.

**PRODUCT/SERVICE DESCRIPTION**

Describe your solution to the customer problem, what specifically your MVP is, and the customer pain point. You can elaborate here and discuss what you envision the fully developed product or service to look like.

**THE TEAM**

One of the most critical and often overlooked elements to successful startups is explaining why you and your team are qualified to launch this business. Explain who the team members are, and what value each team member brings to the business.

You should specify each person’s name, position, work experience, and responsibilities in the startup.

**THE TEAM**

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**THE TEAM**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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**MARKET AND COMPETITIVE ANALYSIS**

In your startup, you are targeting one specific market segment with one MVP, value proposition etc. By forcing yourself to stay focused on a narrow segment of the market, you are better able to engage in testing and fact-finding. It is imperative that you support your market assessment with facts (not feelings) that you uncovered over the course of the class time and specifically the research you conducted in the field.

Things to think about for the market analysis section when you are performing your research in the field are:

* 1. **Target Customers**

AirAlert specifically targets the following groups: homeowners and car owners. Homeowners include families and individuals who prioritize indoor safety and air quality in their living environments. Car owners include drivers, rideshare operators, and long-distance commuters who face risks from poor ventilation and carbon monoxide buildup inside vehicles.

These customer segments were selected because they directly experience the risks that AirAlert is designed to solve, such as fire hazards, gas leaks, and deteriorating air quality. In our market research, a majority of survey participants expressed strong concern over air quality and fire risks. Specifically, 86.5% of respondents showed interest in a device capable of detecting smoke, gas leaks, and monitoring air quality. Parents, in particular, valued the idea of receiving real-time alerts to protect children and elderly family members.

Homeowners will use AirAlert to monitor critical hazards like fires and gas leaks at home, improving safety and enabling immediate responses through mobile alerts and smart home integration. Car owners will carry AirAlert in their vehicles to detect dangerous gases early, enhancing personal safety and providing peace of mind while driving. The portability and real-time monitoring provided by AirAlert give users a distinct safety advantage, reducing the likelihood of accidents and health risks compared to relying solely on traditional alarms.

Several trends affect the target market. Geographically, in Saudi Arabia, there is an increase in incidents of suffocation during the winter season, especially from indoor wood burning, which heightens the need for real-time monitoring. Demographically, the growing number of young families, health-conscious individuals, and an expanding rideshare workforce increases demand for portable safety solutions. Culturally, the rapid adoption of smart home technologies and a heightened focus on personal health and safety post-pandemic drive interest in comprehensive hazard detection devices. From a regulatory perspective, Saudi Arabia’s smart city initiatives and growing public safety campaigns support the adoption of integrated, AI-powered devices like AirAlert.

* 1. **TAM, SAM and SOM**

**Total Addressable Market (TAM)**

Total Addressable Market (TAM) refers to the overall revenue potential available for a product or service if it achieves 100% market share [3]. For AirAlert, the TAM includes individuals who are likely to use the device in **homes and vehicles**, which are the two main usage environments identified through market research. These segments were selected based on their strong alignment with AirAlert’s features:

* **Homeowners** need indoor air monitoring and fire/gas detection, especially in homes with fireplaces or gas heaters.
* **Car owners** are exposed to in-vehicle air pollution and hazardous gases, particularly in traffic-congested areas.

According to the General Authority for Statistics, there were 12.4 million households in 2024. Excluding unoccupied homes, we arrive at 8.1 million **occupied households** [4].  
 Additionally, there are **15.1 million registered vehicles** in Saudi Arabia [5], representing a large market for mobile air hazard detection.To determine pricing potential, we calculated the average price of similar devices currently in the market:

* Atmotube Pro: 1,024.18 SAR
* XLA Alert Portable Gas Detector: 481.51 SAR
* Matjer Salamah: 136.62 SAR
* X-Sense Smoke and CO Detector: 105.49 SAR
* Kidde Smoke Detector: 176.63 SAR
* ELRO Smoke Detector: 219.00 SAR

**Average device price = 357.24 SAR**

**TAM Calculation:**  
 TAM = (Number of occupied households + Number of vehicles) × Average price  
 TAM = (8,100,000 + 15,100,000) × 357.24 SAR  
 **TAM ≈ 8,293,044,000 SAR**

Therefore, the Total Addressable Market for AirAlert is estimated to be approximately **8.29 billion SAR per year**, representing the maximum potential revenue within the smart air safety device sector in Saudi Arabia.

### Serviceable Addressable Market (SAM)

Serviceable Addressable Market (SAM) refers to a subset of the Total Addressable Market, determined by the specific demographics and preferences of our product’s target users [8]. It reflects the portion of the market that AirAlert can realistically serve based on actual consumer interest and price sensitivity.Based on our survey:

**86.5%** of respondents showed interest in a smart device that monitors smoke, gas, and air quality through an integrated mobile app.

Among them, **25%** indicated they are willing to pay within the defined price range (≤ 400 SAR).

**SAM Calculation:**  
 SAM = TAM × interest percentage × willingness to pay  
 SAM = 8,293,044,000 × 0.865 × 0.25  
 **SAM ≈ 1,791,612,015 SAR**

Thus, the updated SAM is approximately **1.79 billion SAR per year**, representing a more realistic revenue opportunity based on both interest and affordability.

### Serviceable Obtainable Market (SOM)

Serviceable Obtainable Market (SOM) represents the portion of the SAM that AirAlert can capture in a competitive landscape [9]. Assuming equal distribution of market share among the six existing competitors and AirAlert (7 players total), the SOM is calculated as follows:

**SOM Calculation:**  
 SOM = SAM / (number of competitors + 1)  
 SOM = 1,791,612,015 / 7  
 **SOM ≈ 255,944,573 SAR**

Therefore, the revised SOM for AirAlert is approximately **255.9 million SAR per year**, representing the realistic annual market share that AirAlert could capture in the Saudi market for smart air safety solutions.

* 1. **Competitors**

**Direct Competitors**

* **Atmotube Pro** is a compact, portable device that measures air quality by tracking particulate matter (PM2.5, PM10) and volatile organic compounds (VOCs). It connects to a mobile app for real-time updates, making it useful for individuals concerned about pollution exposure. However, it does not detect smoke or gas leaks, limiting its functionality in complete hazard detection.
* **XLA Alert** Portable Gas Detector is a handheld device that detects harmful gases like carbon monoxide and hydrogen sulfide. It is popular in industrial and home settings but lacks smartphone integration and does not monitor general air quality or smoke, reducing its appeal for users seeking an all-in-one smart solution.
* **Smart Gas & Smoke Alarm** System detects smoke and gas leaks and sends alerts to smartphones. While it offers connectivity, it does not monitor broader air quality conditions, missing out on providing users with proactive environmental safety insights.
* **X-Sense Smoke and CO Detector** is a smart smoke and carbon monoxide detector that integrates with smart home systems and mobile alerts. Despite its smart features, it does not assess general air quality or monitor pollutants, limiting its usefulness for users who want comprehensive air hazard data.

**Indirect Competitors**

* **Kidde** produces traditional smoke alarms that are reliable for fire detection but lack smart features, gas detection, or air quality monitoring. Their low cost makes them a popular choice, but they are not competitive in the smart safety device market.
* **ELRO** offers basic smoke alarms that serve essential fire detection needs. They have no gas or air quality monitoring or smart connectivity, which places them behind newer, IoT-based safety solutions like AirAlert.

**Competitor Reactions**  
 Existing companies are likely to enhance their products by adding air quality monitoring or smartphone connectivity features to remain competitive. Some may lower their prices to attract budget-conscious customers, while others could invest heavily in marketing campaigns that emphasize their brand reputation and attempt to position AirAlert as a new and less-proven product.

**How AirAlert Will Address Competitive Threats**  
 Against Atmotube Pro, AirAlert provides both air quality monitoring and critical hazard detection (smoke and gas leaks), offering a more complete safety solution. Against XLA Alert, AirAlert stands out through its smartphone connectivity, real-time alerts, and multi-user tracking features. Compared to Smart Gas & Smoke Alarm Systems and X-Sense, AirAlert distinguishes itself by monitoring air quality, gas, and smoke simultaneously, ensuring broader protection. Against traditional devices like Kidde and ELRO, AirAlert’s smart technology, portability, AI-powered risk detection, and real-time insights provide a modern and proactive alternative, meeting the demands of today’s users for smarter, integrated solutions.

* 1. **Competitive Advantages**

AirAlert’s sustainable competitive advantages lie in its integration of three critical detection capabilities—smoke detection, gas leak detection, and air quality monitoring—into a single portable device. In the short term, this multi-functionality provides a strong competitive edge by offering consumers a more comprehensive and cost-effective solution compared to purchasing multiple devices.

In the long term, AirAlert’s AI-driven predictive alerts and commitment to continuous innovation will ensure it remains ahead of competitors. As technology advances and user expectations for real-time safety grow, AirAlert’s proactive approach to hazard detection will continue to offer unmatched value and protection.

AirAlert’s key selling points include its three-in-one functionality, combining smoke detection, gas leak detection, and air quality monitoring, eliminating the need for multiple devices. Additionally, the AI-driven predictive analysis enables proactive responses before conditions become hazardous, rather than reacting after danger occurs. These unique features address critical gaps in current market offerings, making AirAlert a more compelling, versatile, and forward-thinking solution that appeals to safety-conscious consumers.

While most competitors specialize in only one or two functionalities, AirAlert offers all three in one compact system supported by AI analysis. Atmotube Pro monitors air quality but does not detect smoke or gas leaks. XLA Alert Portable Gas Detector detects gases but lacks air quality monitoring. Smart Gas & Smoke Alarm Systems can detect gas leaks and smoke but do not monitor overall air quality. In contrast, AirAlert integrates multi-hazard detection with AI-driven predictive insights into a single device, positioning it as a superior and more complete solution in the market.

**MARKETING STRATEGY**

Here are some questions to think about in the marketing strategy section when you are performing your research in the field.

* How will the market be accessed?
* How are you going to market your product effectively?
* What will attract customers to your product?
* What pricing methods will you probably use? What validated learning has led you to conclude that this pricing method is most appropriate?
* What promotional methods will you use (i.e. social media, WoM, etc.)?

**MARKETING STRATEGY**

1. Market Access

AirAlert’s market will be accessed primarily through digital platforms where our target audiences are most active. We are using WhatsApp, Instagram, and TikTok to deliver direct, engaging messages about the product. WhatsApp helps us connect personally with potential customers, while Instagram and TikTok allow us to visually demonstrate the importance and benefits of air quality monitoring through videos, posts, and stories.

2. Effective Marketing Approach

We market AirAlert effectively by targeting specific customer personas, such as homeowners concerned about indoor pollution and car owners worried about cabin air quality. We use engaging, educational, and relatable content that highlights how AirAlert improves health and safety. Our strategy includes running performance-driven campaigns with measurable KPIs, such as increasing followers, visitors, and signups, and analyzing results for continuous improvement. We also leverage Odoo analytics to monitor visitor behavior and campaign performance, enabling data-driven adjustments.

3. Customer Attraction

Customers will be attracted to AirAlert because it addresses critical health and safety concerns by detecting smoke, harmful gases, and pollution before hazards occur. The product offers seamless smart home integration, making it easy to incorporate into daily life. It appeals to tech-savvy and health-conscious consumers who value real-time monitoring and proactive solutions. Additionally, our strong brand mission and vision — focused on safety and well-being — resonate with the emotional priorities of our audience.

4. Pricing Method and Validation

We will likely use a value-based pricing method, where the price reflects the significant value AirAlert brings to consumers’ health, safety, and convenience. Our validated learning comes from market research indicating that homeowners and car owners are willing to invest in smart technologies that prevent hazards and improve quality of life. The success of our early marketing efforts — including high website traffic and WhatsApp engagement — demonstrates a strong perceived value, supporting a premium yet accessible pricing strategy.

**5. Promotional Methods**

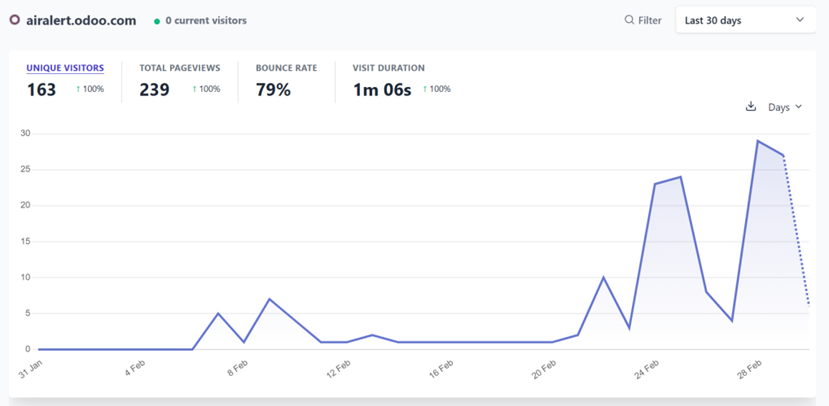
Our main promotional methods are WhatsApp Marketing, where we use direct communication and group promotions to spread awareness rapidly among communities; TikTok Campaigns, using short, engaging videos leveraging trending topics and challenges to reach a younger, tech-focused audience; Instagram Engagement, through visual storytelling with posts, reels, stories, interactive Q&A sessions, polls, and user testimonials; Word of Mouth (WoM), encouraging satisfied early users to share their positive experiences, especially within WhatsApp groups and social circles; and Landing Page Campaigns, using Odoo-powered landing pages linked from our social media to capture registrations and track user engagement.

In addition to social media efforts, we will utilize dedicated landing pages created via Odoo. These pages will be linked directly from our campaigns on TikTok, Instagram, and WhatsApp. The landing pages will feature clear calls-to-action (CTAs) to capture user information, drive registrations, and measure campaign success through tracked visitor analytics. This ensures a seamless flow from social engagement to customer conversion.

**Marketing Campaign Success**

Our 4-day marketing campaign focused on driving website traffic, enhancing social media engagement, and increasing user registrations. Overall, the campaign was successful, achieving most of our key performance indicators (KPIs) while highlighting areas for further improvement.

The first KPI was to attract 50 unique visitors to the landing page within four days. According to the campaign analytics, we exceeded this goal significantly, reaching 163 unique visitors — surpassing the target by 226%.



*Figure 12: Landing Page Analytics*

The second KPI targeted gaining 50 new Instagram followers during the campaign period. By the end of the campaign, we secured 38 new followers, achieving 76% of the intended goal.

The third KPI aimed to gain 50 new TikTok followers. However, the campaign resulted in 21 followers, achieving 42% of the target. This indicates that engagement on TikTok was lower compared to other marketing channels and will require additional focus in future campaigns.

**FINANCIAL ANALYSIS**

The success or failure of any business model will depend greatly on the cost structure and revenue streams that you develop. Therefore, you are responsible for outlining the general cost structure and revenue streams for your startup. Create preliminary financial projections (with a clear understanding of assumptions) and an estimation of all variable and fixed (overhead) costs, and projected profitability of the proposed venture.

Important considerations to determine profitability include:

* Are you sure that you have considered all costs, variable and fixed, that should be allocated to the startup?
* Do you have enough information to prepare projected statements for the first two years of operation?
* When will the business reach the break-even point? a.k.a. not making or losing money.
* When will the business become profitable?
* Is there enough profit potential to allow for growth of the business?
* Have you performed a relative analysis of other firms already engaged in this business or activity?
* Have you interviewed actual entrepreneurs to find out what financial factors are most important, and what problems entrepreneurs encounter with finance?

The financial plan consists profit and loss projection, and a break-even calculation. Together they constitute a reasonable estimate of your company's financial future. More important, the processof thinking through the financial plan will improve your insight into the inner financial workings of your company.

Your sales projections will come from a sales forecast in which you forecast sales, cost of goods sold, expenses, and profit month-by-month for one year.

Profit projections should be accompanied by a narrative explaining the major assumptions used to estimate company income and expenses.

**FINANCIAL ANALYSIS**

The financial success of the AirAlert project relies on careful planning of its cost structure, revenue streams, and market growth potential. A full understanding of fixed and variable costs, alongside market conditions like inflation and industry growth rate, has been incorporated to project the startup’s financial outlook. Saudi Arabia’s inflation rate of 2.00% has been considered [1], which will impact the cost of materials, labor, cloud services, and maintenance over time. To maintain profitability, future costs have been adjusted based on their nature and expected growth. For example, employee salaries are projected to grow by 2% annually due to inflation and market competition, while cloud services and maintenance costs are expected to increase by 2%–3% annually based on service provider pricing trends. On the other hand, certain development costs like application and website development are treated as one-time expenses and do not recur in future years.

The cost structure includes both fixed and variable components:

##### Fixed Costs: Development of AI and IoT (750 SAR annually), application and website (2,000 SAR annually), cloud services (6,900 SAR annually), salaries (432,000 SAR annually), marketing campaign (7,500 SAR), and system maintenance (2,550 SAR annually).A detailed breakdown is provided in Table 1: Fixed Costs.

##### Variable Costs: Each unit produced carries a cost of approximately 545 SAR, with additional shipping (30 SAR/unit), payment gateway fees (24 SAR/unit), and customer support and maintenance (20 SAR/unit), leading to a total variable cost of about 619 SAR per unit. These are outlined in Table 2: Variable Costs.

##### Market research indicates the global air quality monitoring market is growing at a compound annual growth rate (CAGR) of 13.85% through 2032 [2] , suggesting strong future demand for AirAlert’s solutions.

##### These financial projections enable the preparation of profit and loss estimates, and break-even calculations for the first two years. The analysis shows the potential for reaching profitability as market adoption increases, providing a solid base for sustainable business growth.

*Table 1 Fixed Costs*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Fixed Costs | | | | | |
| Fixed Costs Website and Application Development | | | | | |
| # | Title | | Quantity | Cost | |
| 1 | Total for AI + IoT Development (annually) | | 1 | 750 | |
| 2 | Total for Application & Website (annually) | | 1 | 2,000 | |
| 3 | Total for Cloud Services (annually) | | 1 | 6,900 | |
| 4 | Fixed Maintenance Costs (annually) | | 1 | 2,550 | |
| Total Development and Production Cost = 12,200 SAR | | | | | |
| Labor (Employees’ Salaries) | | | | | |
| # | Title | No. Of Employees | | | Average Monthly Salary Per Employee |
| 1 | Hardware Developer | 1 | | | **5,500** |
| 2 | Software Developer | 1 | | | **6,000** |
| 3 | AI Specialist | 1 | | | **7,000** |
| 4 | Marketing/Communications | 1 | | | **4,500** |
| 5 | Operations Manager | 1 | | | **13,000** |
| Total Salaries Cost per Year = (36,000\*12) = 432,000 SAR | | | | | |
| Advertising | | | | | |
| # | Title | Quantity in Year | | | **Cost in Year** |
| 1 | Digital Marketing (Social Media, Google Ads 3-mounth) | 1 | | | **2,000** |
| 2 | Content Creation & Video Production (one-time) | 1 | | | **1,500** |
| Total Advertising Cost for 3 Months: 7,500 SAR | | | | | |
| Total Fixed Costs per Year = 451,700 SAR | | | | | |

*Table 2 Variable Costs*

|  |  |  |
| --- | --- | --- |
| Variable Costs | | |
| # | **Title** | Cost per unit |
| 1 | Product Production | 545 |
| 2 | Shipping and Distribution Costs | 30 |
| 3 | Payment Gateway Transaction Fees | 24 |
| 4 | hardware maintenance | 20 |
| Total of Variable Cost Per Unit = 619 SAR | | |

# Revenue

AirAlert generates revenue through two main sources: device sales and subscription plans. These revenue streams ensure both one-time sales income and recurring revenue for sustainable business growth.

## 2.1 Device Sales

AirAlert's main revenue source is the sale of its smart safety devices. Each device is priced at 950 SAR and offers a one-time purchase model with essential features.

* **Projected Unit Sales:** 750 units in the first year
* **Total Expected Revenue from Device Sales:** 750units×950SAR=712,500SAR

Since sales of devices at the 800 SAR price point were unprofitable, we raised the price to 950 SAR to generate profit.

## 2.2 Subscription Plans

Besides device sales, AirAlert offers subscription upgrades that provide enhanced features such as smart home integration, historical reports, and AI-driven hazard predictions.

**Subscription Pricing Plans:**

Table 3 Subscription pricing

|  |  |  |  |
| --- | --- | --- | --- |
| Plan | Monthly Fee (SAR) | Annual Fee (SAR) | Features |
| Basic | Free | Free | Air quality monitoring, hazard detection, real-time alerts, emergency services alerts |
| Smart Home | 20 | 200 | Smart home integration, automated safety actions (e.g., shutting off gas valves, opening windows, activating air purifiers) |
| Historical Reports & AI Insights | 30 | 300 | Personalised AI safety reports, past hazard analysis, and predictive modelling |
| Complete Plan | 45 | 450 | Includes both Smart Home and AI Insights plans at a discounted rate |

* **Projected Subscription Sign-Ups:** 500 users in the first year
* **Estimated Average Subscription Fee:** 350 SAR per user annually
* **Total Expected Revenue from Subscriptions:**500users×350SAR=175,000SAR

## 2.3 Total Revenue Projection (First Year)

Combining device sales and subscription revenues, AirAlert is expected to generate:

* **Device Sales Revenue:** **675,000 SAR**
* **Subscription Revenue:** **175,000 SAR**
* **Total First-Year Revenue:** **887,500 SAR**

This revenue model ensures that while device sales bring immediate income, the subscription plans create recurring revenue, contributing to long-term financial stability and growth.

**projected statements for the first two years**

We have sufficient information to prepare detailed projected financial statements for the first two years of operation (2025-2026). The projections include a complete breakdown of both fixed and variable costs. For 2025, the fixed costs amounted to 451,700 SAR, covering AI and IoT development (750 SAR), application and website development (2,000 SAR), cloud services (6,900 SAR), employee salaries (432,000 SAR), advertising campaigns (7,500 SAR), and system maintenance (2,550 SAR). Variable costs are calculated at 619 SAR per unit, totaling 464,250 SAR for the projected 750 units. The 2025 statement shows total costs of 915,950 SAR against revenues of 887,500 SAR, resulting in a net loss of 28,450 SAR as shown in Table 3. For 2026, fixed costs increase to 458,694 SAR with variable costs rising to 631.38 SAR per unit (total 539,198.52 SAR for 854 units) as shown in Table 4. The 2026 projection anticipates total costs of 997,892.52 SAR and revenues of 1,010,418.75 SAR, yielding a net profit of 12,526.23 SAR. These projections account for annual cost increases (2-3% for salaries, cloud services, and maintenance) and are supported by detailed tables showing year-by-year financial performance through 2028.

Table 4: 2025 Projected Statement (showing fixed costs, variable costs, and final calculations)

|  |  |
| --- | --- |
| Fixed Costs | |
| Title | Annual Cost (SAR) |
| AI + IoT Development | 750.0 |
| Application & Website Development | 2000.0 |
| Cloud Services (Annual) | 6900.0 |
| Employee Salaries | 432000.0 |
| Advertising (3-month Campaign) | 7500.0 |
| Fixed Maintenance Costs (Annual) | 2550 |
| Total Fixed Cost = 451700 SAR | |
| Variable Costs | |
| Title | Cost per unit (SAR) |
| Product Production | 545.0 |
| Shipping and Distribution Costs | 30.0 |
| Payment Gateway Transaction Fees | 24.0 |
| hardware maintenance | 20.0 |
| Total Variable Cost Per Unit =619 SAR , for 750 unit = 464250 | |
| Final Calculations | |
| Total Costs (Fixed + Variable) | 915950 SAR |
| Total Revenue | 887500 SAR |
| Total Net Profit (Total Revenue - Total Costs) | -28450SAR |

Table 5: 2026 Projected Statement (showing the same breakdown for the second year)

|  |  |
| --- | --- |
| Fixed Costs | |
| Title | Annual Cost (SAR) |
| AI + IoT Development | 765.0 |
| Application & Website Development | 0 |
| Cloud Services (Annual) | 7038.0 |
| Employee Salaries | 440640.0 |
| Advertising (3-month Campaign) | 7650 |
| Fixed Maintenance Costs (Annual) | 2601 |
| Total Fixed Cost =458694SAR | |
| Variable Costs | |
| Title | Cost per unit (SAR) |
| Product Production | 555.9 |
| Shipping and Distribution Costs | 30.6 |
| Payment Gateway Transaction Fees | 24.48 |
| hardware maintenance | 20.4 |
| Total Variable Cost Per Unit = 631.38 SAR for 854 units =539198.52 | |
| Final Calculations | |
| Total Costs (Fixed + Variable) | 997892.52SAR |
| Total Revenue | 1010418.75 SAR |
| Total Net Profit (Total Revenue - Total Costs) | 12526.23 SAR |

**Break-Even Analysis**

*Break Even Point = Fixed Cost / (Unit Selling Price – Variable Unit Cost).*

The fixed cost is 451,700 SAR in the first year. And since AirAlert sells its smart device at 950 SAR, while the calculated variable cost per unit is 619 SAR, the result of the calculation gives 331 SAR as the Contribution Margin.

Contribution Margin = 950 SAR – 619 SAR = 331 SAR

And for the break-even calculations across the years:

* Break Even point for the first year = 451,700 SAR / (950 – 619) = 1364.05 ≈ 1364 units
* Break Even point for the second year = 458,694 SAR / (950 – 619) = 1385.04 ≈ 1385 units
* Break Even point for the third year = 467,868 SAR / (950 – 619) = 1413.07 ≈ 1413 units
* Break Even point for the fourth year = 477,225 SAR / (950 – 619) = 1442.01 ≈ 1442 units

**Profitability Timeline & Growth Potential**  
AirAlert is projected to achieve consistent profitability beginning in Year 4 (2028) with a net profit of 105,284 SAR, following its break-even point in Year 3 (2027). The financial projections demonstrate strong growth potential:

* Revenue growth from 887,500 SAR (2025) to 1,309,687 SAR (2028) - a 48% increase
* Positive net profit margin emerging in Year 2 (1.2%) expanding to 8% by Year 4
* Reinvestment capacity from cumulative profits of 145,877 SAR by 2028  
  This profit trajectory, combined with the global air quality monitoring market's 13.85% CAGR, confirms sufficient potential for business expansion.

**Competitive Benchmarking**

Our comprehensive competitive analysis confirms that AirAlert’s pricing, cost structure, and value proposition are strategically positioned within the smart air quality monitoring market. By benchmarking against established competitors like **IQAir AirVisual Pro**, **Airthings Wave Plus**, and **X-Sense Smoke Detectors**, we have validated that:

1. **Pricing Strategy** – AirAlert’s **950 SAR** price point offers a **30% cost advantage** over premium competitors while maintaining similar core features, enhancing market competitiveness.
2. **Multi-Hazard Differentiation** – Unlike single-function devices (e.g., radon-only detectors), AirAlert’s **multi-hazard detection** aligns with broader consumer demand for comprehensive safety solutions.
3. **Market Viability** – Strong demand for smart safety devices (as seen with X-Sense) supports AirAlert’s revenue projections.

Additionally, our **cost structure benchmarking** ensures financial realism and scalability:

* **Salaries** (via GulfTalent) confirm our **432,000 SAR/year** tech-team costs are within Saudi market rates.
* **Marketing spend** (per WebFX) aligns with industry-acquired costs for digital campaigns.
* **Development expenses** (via UpsilonIT/Aalpha) verify that our **AI (750 SAR) and app development (2,000 SAR)** costs are competitive for IoT startups in MENA.

**Final Assessment:**  
AirAlert’s financial model is **both aggressive and achievable**, leveraging competitive pricing, validated cost structures, and differentiated features to capture market share. For further refinement, we recommend **ongoing competitor monitoring** and **customer feedback loops** to adapt to evolving industry trends.

##### Entrepreneurial Insights & Financial Validation

##### While our financial model incorporates extensive secondary market research, we recognize that direct interviews with IoT and hardware startup founders would provide critical, ground-level insights into real-world financial challenges. This represents a key area for future validation to further strengthen our assumptions.

##### Key Financial Factors Needing Entrepreneur Validation:

##### Working Capital Management

##### How do hardware startups manage cash flow gaps between production costs and revenue generation?

##### What are typical payment terms with suppliers vs. customers?

##### True Customer Acquisition Costs (CAC)

##### Are our digital marketing estimates (7,500 SAR campaign) aligned with actual conversion rates in this niche?

##### What hidden costs emerge in educating consumers about air quality tech?

##### Supply Chain Risks

##### How frequently do component delays or price fluctuations impact margins?

##### What inventory buffer is needed to avoid stockouts?

##### Your Ask

You should show the following:

* Funding Required
* Valuation - In your opinion, what is the current value of your company? What percentage of your company will you give away for how much money

### Funding

The funding required for **AirAlert** is estimated at **300,000 SAR**, determined through a valuation approach based on projected revenue and market growth trends. This amount will support product scaling, marketing, and enhancement of AI-driven features. In return for this investment, we are offering **20% equity** in the company. This structure ensures that early investors are rewarded for their risk while the founding team retains the remaining **80% ownership** of the company.

This funding structure aligns with early-stage benchmarks for hardware and AI-integrated startups in the MENA region, as supported by GulfTalent salary estimates and regional investment reports such as MAGNiTT and STV Insights [10][11][12].

### Valuation

To calculate **AirAlert’s** current valuation, we used the standard **revenue-based multiplier model**:

**Valuation = Projected Revenue × Multiplier**

According to the financial projections outlined in our 2028 statement, AirAlert is expected to reach **1,309,686.84 SAR** in revenue during that year . Given that our compound annual growth rate (CAGR) is estimated at **10%** [11], a conservative multiplier of **1** was used to reflect realistic early-stage conditions where profit has just begun.

**Valuation = 1,309,686.84 SAR × 1 = 1,309,686.84 SAR**

To align with investor expectations and support scalability, we propose a **post-money valuation of 1.5 million SAR**, from which 300,000 SAR represents 20% ownership.

This methodology follows established startup valuation techniques, consistent with those applied in the Saudi and GCC markets by Flat6Labs, STV, and other regional accelerators [12][13].

**CONCLUSION**

In this section, you will conclude all what you have learned through this process and what your next steps are. Also you need to state what lessons learned from your journey in this project.

The AirAlert project has been a transformative entrepreneurial journey that guided our team through every essential phase of building a tech-driven startup—from identifying a real-life safety problem to developing a scalable business model and financial strategy. Beginning with thorough market research, we discovered a critical gap in the current solutions for indoor and vehicle air safety in Saudi Arabia. This insight laid the foundation for designing AirAlert: a portable, AI-powered device that monitors smoke, gas, and air quality in real time.

Throughout the project, we explored and applied practical entrepreneurship tools such as the Business Model Canvas, Lean Canvas, and break-even analysis. We validated our solution using a real landing page and an explainer video that helped us communicate our value clearly. These MVPs were essential in testing demand and gauging customer interest, allowing us to iterate on both the product and the business concept with confidence.

This process also helped us develop new skills in areas like financial modeling, customer segmentation, cost estimation, and revenue projection. We learned the importance of aligning pricing with market willingness, calculating realistic TAM/SAM/SOM values, and building a roadmap to profitability. Working as a team, we refined our leadership, decision-making, and adaptability in the face of feedback and data.

As we look ahead, the next steps for AirAlert involve finalizing the prototype, launching early tests with real users, and seeking strategic partnerships with manufacturers and investors. We are committed to delivering a meaningful solution that protects lives, leverages AI for good, and contributes to the growing ecosystem of smart safety technologies in the Kingdom.

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