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Cybex Baby Car Seat & Mobile App Project Portfolio



Team "IE's Rock"

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TABLE OF CONTENTS

| | |
|--|-----------|
| OPPORTUNITY IDENTIFICATION..... | 3 |
| PROJECT CHARTER..... | 4 |
| PROJECT NAME..... | 4 |
| PROJECT TEAM MEMBERS..... | 4 |
| SPONSORING ORGANIZATION..... | 4 |
| PRODUCT DESCRIPTION..... | 4 |
| CUSTOMER BENEFITS..... | 5 |
| TARGET MARKET..... | 5 |
| PROJECT BUSINESS CASE AND GOALS..... | 6 |
| ASSUMPTIONS AND RISKS..... | 7 |
| PROJECT REQUIREMENTS..... | 9 |
| VISION STATEMENT..... | 9 |
| VISION OVERVIEW..... | 9 |
| VISION SKETCH(ES)..... | 9 |
| TARGET MARKET ANALYSIS..... | 9 |
| CUSTOMER NEEDS ANALYSIS..... | 11 |
| <i>Figure 1: Customer Needs Evaluation.....</i> | <i>12</i> |
| COMPETITOR ANALYSIS..... | 13 |
| <i>Figure 2: Competitive Product/Service Summary.....</i> | <i>13</i> |
| <i>Figure 3: Competitive Product/Service Feature and Specification Comparison.....</i> | <i>14</i> |
| PRODUCT/SERVICE SCOPE AND FEATURES..... | 14 |
| <i>Figure 4: System Architecture Illustration.....</i> | <i>15</i> |
| TARGETS AND RANGES..... | 16 |
| <i>Figure 5: Economic Target.....</i> | <i>17</i> |
| <i>Figure 6: Feature Matrix.....</i> | <i>17</i> |
| PROJECT MANAGEMENT AND KEY MILESTONES..... | 18 |
| <i>Figure 7: Technology Persona.....</i> | <i>19</i> |
| PROTOTYPING..... | 19 |
| <i>Figure 8: Mobile App Prototype Layout.....</i> | <i>19</i> |
| PRODUCT COSTING..... | 20 |
| <i>Figure 9: Costed BOM Worksheet.....</i> | <i>20</i> |
| MARKETING PLAN..... | 20 |
| <i>Figure 10: Marketing Communications Plan.....</i> | <i>20</i> |
| ECONOMIC ANALYSIS..... | 22 |
| <i>Figure 11: Economic Analysis by Discounted Cash Flows (DCF).....</i> | <i>22</i> |
| REFERENCES..... | 23 |

OPPORTUNITY IDENTIFICATION

The opportunity identification process for the Cybex Baby Car Seat & App project involved evaluating several alternative ideas before selecting the current project. Each team member submitted ideas for consideration, and several options were evaluated, including developing a new line of baby strollers, creating a baby monitoring system, and designing a smart baby diaper. After careful analysis, the decision was made to pursue the Cybex Baby Car Seat & App project.

The selected project offers a unique opportunity to combine the safety features of a high-quality baby car seat with the convenience and functionality of a mobile app. By integrating smart technologies, such as real-time monitoring, location tracking, and advanced safety alerts, the project aims to revolutionize how parents interact with and ensure the safety of their children during car journeys.

Adopting the Cybex Baby Car Seat & App project holds significant potential for the adopting organization. It enables them to establish a strong market presence in the highly competitive baby products industry by offering a differentiated and technologically advanced solution. The project aligns with the organization's vision of providing innovative and reliable products that address the evolving needs of modern parents. Furthermore, the opportunity to develop a comprehensive ecosystem of connected baby products, with the car seat and mobile app as key components, opens up avenues for future growth and expansion. The organization can leverage its expertise and brand reputation to expand the product line, introduce complementary accessories, and foster long-term customer loyalty.

The importance of this opportunity to the adopting organization lies in its ability to enhance customer satisfaction, generate new revenue streams, and strengthen the organization's market position. By delivering a superior product that prioritizes child safety and provides seamless user experiences through the mobile app, the organization aims to become a trusted and preferred choice for parents seeking the best baby technology.



PROJECT CHARTER (4/20/23)

PROJECT NAME

Baby Car Seat & App

PROJECT TEAM MEMBERS

Sidney McBride, Misty Tomlin, Olivia Wright

SPONSORING ORGANIZATION

CYBEX

PRODUCT DESCRIPTION

The Cybex Baby Car Seat & App is a state-of-the-art baby car seat designed to prioritize child safety and provide convenience for parents. It combines advanced safety features with smart technology integration to offer an unparalleled experience for parents and infants.

The car seat is meticulously engineered to meet the highest safety standards. It incorporates impact-absorbing materials, a secure harness system, and adjustable supports to ensure optimal protection for infants and young children. The seat is designed to provide a comfortable and secure environment, allowing parents to confidently travel.

Complementing the car seat is a user-friendly mobile application. The mobile app is a companion to the car seat, offering real-time monitoring and control features. Parents can use the app to track their child's position, temperature, and safety status, providing them with peace of mind during car journeys. The app also sends alerts and notifications, such as reminders to check the harness or when the child unbuckles themselves.

The Cybex Baby Car Seat & App incorporates smart technology beyond traditional car seats. It enables seamless smartphone integration, allowing parents to access the app's features and receive real-time updates. The app's intuitive interface and customizable settings make it easy for parents to personalize their experience and ensure their child's safety. Its innovative design, advanced safety features, and smart technology integration set a new standard for child safety in the automotive industry. It offers a comprehensive solution that addresses parents' concerns while providing a comfortable and secure environment for their little ones.

CUSTOMER BENEFITS

- ★ **Enhanced Child Safety:** The Cybex Baby Car Seat & App prioritizes child safety by incorporating advanced features such as impact-absorbing materials, a secure harness system, and adjustable supports. Parents can have peace of mind knowing their child is protected in the car seat.
- ★ **Real-Time Monitoring and Control:** The accompanying mobile app allows parents to monitor their child's position, temperature, and safety status in real time. They can receive alerts and notifications, ensuring that they are always aware of their child's well-being during car journeys.
- ★ **Convenience and Peace of Mind:** The mobile app provides convenience by offering remote control functionalities. Parents can check and adjust settings, receive reminders, and track important information about their child's car seat directly from their smartphone. This feature saves time and adds an extra layer of convenience to parents' daily routines.
- ★ **Customizable Experience:** The app's intuitive interface allows parents to personalize their experience based on their preferences and their child's needs. They can customize settings, receive tailored notifications, and adjust various parameters to ensure maximum comfort and safety for their child.
- ★ **Integration with Smartphones:** The seamless integration of the car seat with smartphones makes it easy for parents to access the app's features and receive real-time updates. This connectivity allows for a smooth and user-friendly experience, enhancing the product's overall usability.
- ★ **Innovative and Modern Solution:** The Cybex Baby Car Seat & App stands out as an innovative and modern solution in the market. It combines cutting-edge safety features with smart technology integration, offering a unique and forward-thinking approach to child car seats.

TARGET MARKET

The Cybex Baby Car Seat & App targets two primary market segments: parents of infants and toddlers and retailers/distributors. The product is designed to meet the needs of these distinct groups and provide them with valuable benefits and features.

Parents of Infants and Toddlers:

- This segment includes parents who prioritize the safety and well-being of their children during car travel.
- They seek a reliable, technologically advanced car seat solution that ensures optimal safety and comfort.

- These parents are well-informed about the latest advancements in child safety technology and are willing to invest in high-quality products.
- They appreciate the convenience and flexibility the mobile app integration offers, allowing them to monitor and control safety features.

Retailers/Distributors:

- This segment comprises retailers and distributors specializing in baby products and child safety equipment.
- They are looking for innovative and high-quality products to offer customers.
- The Cybex Baby Car Seat & App provides a unique selling proposition with its advanced safety features and integration with the mobile app.
- Retailers and distributors can benefit from partnering with Cybex to expand their product offerings and cater to the needs of safety-conscious parents.

By targeting both parents and retailers/distributors, Cybex aims to create a strong market presence for its Baby Car Seat & App. The product's features and benefits align with safety-conscious parents' demands while presenting a compelling value proposition to retailers and distributors in the baby products industry.

PROJECT BUSINESS CASE AND GOALS

The Cybex Baby Car Seat & App project presents a compelling business case driven by the increasing demand for advanced child safety solutions and the growing market for baby products. The project aims to develop a state-of-the-art car seat integrated with a mobile app to provide parents with enhanced safety features and convenience. By leveraging technology and innovation, Cybex aims to capture a significant market share and establish itself as a leader in the industry.

Goals

- **Develop a Technologically Advanced Car Seat:** The primary goal is to design and manufacture a high-quality car seat equipped with cutting-edge safety features. The car seat will prioritize child safety, comfort, and ease of use, setting a new standard in the industry.
- **Integrate Mobile App Functionality:** The project aims to develop a user-friendly mobile app that seamlessly integrates with the car seat. The app will provide parents with real-time information, such as seat position, temperature monitoring, and safety alerts, enhancing their peace of mind during car journeys.
- **Ensure Compliance and Safety Standards:** Meeting and exceeding safety regulations and standards is a crucial project goal. The car seat will undergo rigorous testing to ensure optimal protection and adherence to industry guidelines.

- **Capture Market Share:** The project aims to penetrate the target market and capture a significant market share in the child car seat industry. Cybex seeks to attract customers and establish brand loyalty by offering a technologically advanced and user-centric product.
- **Establish Partnerships and Distribution Channels:** A key goal is to forge strategic partnerships with retailers and distributors in the baby products industry. Collaborating with established market players will help expand the product's reach and availability to customers worldwide.
- **Drive Revenue and Profitability:** The project is designed to generate substantial revenue and profitability for Cybex. The company aims to command a competitive price point and achieve strong financial performance by offering a premium product with advanced features.

The business case and goals of the Cybex Baby Car Seat & App project align with the market demand for innovative child safety solutions, emphasizing the company's commitment to providing parents with the best possible products and ensuring the utmost safety for their children.

ASSUMPTIONS AND RISKS

Assumptions



- **Market Demand:** The project assumes that there is a strong and sustained market demand for advanced baby car seats with integrated mobile app functionality. Market research and trends indicate a growing interest in technologically enhanced child safety products.



- **Adoption of Mobile Apps:** It is assumed that parents will readily embrace the use of mobile apps and see value in their added features and convenience. The assumption is based on the growing reliance on mobile applications for various aspects of daily life.



- **Regulatory Compliance:** The project assumes that the car seat design and features will meet or exceed all applicable safety regulations and standards. Thorough testing and compliance verification will be conducted to ensure the car seat's adherence to legal requirements.



- **Effective Distribution Channels:** It is assumed that effective partnerships with retailers and distributors will be established to ensure wide availability of the Cybex Baby Car Seat & App. The project assumes that these distribution channels will effectively reach the target market.

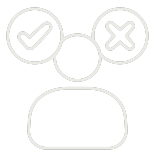
Risks



- **Technological Challenges:** integrating advanced technology into the car seat and mobile app may pose technical challenges. Potential risks include software bugs, compatibility issues, or hardware malfunctions that could impact the user experience and overall product performance.



- **Competitive Landscape:** The project faces the risk of intense competition from other established and emerging players in the baby products industry. Competitors may introduce similar products or innovative features that could affect market share and customer adoption.



- **Consumer Acceptance:** The project's success relies on customer acceptance and willingness to invest in a premium-priced car seat with integrated technology. There is a risk that some consumers may prefer traditional car seats without the added complexity of a mobile app.



- **Safety and Liability:** As the project focuses on child safety, a significant risk is associated with ensuring the car seat's effectiveness in providing optimal protection. Any safety-related issues recalls, or incidents, could harm the company's reputation, lead to legal liabilities, and financial loss.



- **Market Dynamics:** The project is subject to risks associated with changing market dynamics, economic conditions, and consumer preferences. Shifts in consumer behavior, economic downturns, or unforeseen market disruptions could impact demand and sales.

Mitigation strategies will be put in place to address these assumptions and risks, including rigorous testing and quality assurance measures, continuous monitoring of market trends and customer feedback, effective marketing and brand positioning strategies, and proactive partnerships with suppliers, retailers, and distributors.

PROJECT REQUIREMENTS

VISION STATEMENT



To revolutionize child safety and comfort by creating an innovative and intelligent travel solution that combines advanced technology, superior design, and uncompromising safety to provide parents with peace of mind and enhances the well-being of their precious little ones during every journey.

VISION OVERVIEW

The Cybex Smart Baby Car Seat envisions a future where child safety and comfort are seamlessly integrated with cutting-edge technology. This innovative product aims to redefine how parents protect and nurture their children during car journeys, offering advanced features, superior design, and uncompromising safety standards. With intelligent sensors, intuitive controls, and state-of-the-art connectivity, this car seat provides convenience, peace of mind, and ease of use. It adapts to the changing needs of growing infants, ensuring their safety at every stage of development. Beyond its technological advancements, it prioritizes exceptional comfort and ergonomic design, promoting a culture of safety and well-being for families worldwide. The Cybex Smart Baby Car Seat revolutionizes the market, empowering parents and positively impacting the lives of families globally.

VISION SKETCH(ES)



TARGET MARKET ANALYSIS

Industry/Application Segment

The Cybex Smart Baby Car Seat is designed to cater to the needs of the baby care industry, specifically focusing on the car seat segment. It aims to provide a solution that ensures the

safety and comfort of infants during car travel. By addressing the specific requirements of this industry segment, our innovation aims to significantly impact the overall child safety market.

Customer Type Segments

- **Parents and Caregivers:** The primary customer type for the Cybex Smart Baby Car Seat includes parents and caregivers responsible for the well-being of infants during car journeys. These individuals seek reliable, technologically advanced, and comfortable car seat solutions to ensure the safety and comfort of their children.
- **Retailers and Distributors:** Another important customer type comprises retailers and distributors in the baby care industry. These businesses play a crucial role in the distribution and availability of the Cybex Smart Baby Car Seat to end consumers. By targeting retailers and distributors, we aim to establish strong partnerships and ensure the widespread availability of our product.

Geographic Markets

- **Test Market:** The geographic market for the Cybex Smart Baby Car Seat would be the United States. The test market could focus on a specific city or state within the US with a high demand for innovative and technologically advanced baby products. This will allow for a targeted approach to introducing the product to a specific audience and gaining valuable feedback on its features and functionality before a wider release. Potential cities for the test market could include New York City, Los Angeles, or San Francisco, as these areas tend to have a higher concentration of tech-savvy and affluent parents who would be early adopters of such a product.
- **Rollout Target Market:** For the rollout target market, we will focus on major cities with high population density and high-income families in the United States. These cities include Boston, Chicago, Philadelphia, Miami, and Washington D.C. They are known for their high traffic congestion and long commuting times, making them ideal markets for products like the Cybex Smart Baby Car Seat. Targeting these markets can maximize our sales potential and establish a strong brand presence in the United States.

By targeting specific customer segments within the baby care industry and strategically expanding our geographic reach, we aim to capture a significant share of the market and establish the Cybex Smart Baby Car Seat as the preferred choice for parents and caregivers seeking the highest level of safety, comfort, and innovation for their infants.

CUSTOMER NEEDS ANALYSIS

Primary Customer Needs

To develop the Cybex Smart Baby Car Seat, it is essential to understand and address the needs of our target customers. Parents' primary needs for car seats revolve around safety, comfort, ease of use, and durability. They prioritize the safety of their children, requiring a car seat with enhanced safety features to protect them during travel. Additionally, parents seek a comfortable car seat, especially for longer journeys, that offers ergonomic design and padding. They value ease of use, wanting a car seat that is easy to install and adjust, allowing for seamless transitions between vehicles. Durability and longevity are also crucial as parents look for car seats that can withstand wear/tear and accommodate growth.

In addition to the primary needs, an essential additional primary need arises from the innovative SensorSafe capabilities of the Cybex Smart Baby Car Seat. This need is centered around advanced safety monitoring. Parents now require a car seat that surpasses conventional safety features and incorporates cutting-edge technology. With SensorSafe technology, the car seat can provide a comprehensive monitoring system to ensure the child's well-being. This includes features like temperature monitoring to prevent overheating or extreme cold, alerts to notify parents if the child is left unattended in the car, and notifications for improper harnessing or when the child unbuckles themselves. By addressing this additional primary need, the Cybex Smart Baby Car Seat sets itself apart from conventional car seats and offers parents peace of mind by providing an advanced level of safety monitoring for their child.

Secondary Customer Needs

In addition to these primary needs, customers also have secondary needs. They value car seats that have stylish designs and aesthetics, offer versatility for different growth stages, are easy to clean and maintain, are lightweight and portable, are compatible with various vehicles, and are affordable. By addressing these secondary needs, the Cybex Smart Baby Car Seat aims to provide a well-rounded solution that prioritizes safety and functionality and considers style, versatility, convenience, compatibility, and cost-effectiveness. By understanding and meeting these needs, the car seat can offer an enhanced customer experience and cater to the diverse preferences and requirements of parents seeking a reliable and user-friendly car seat for their child.

Weaknesses of Existing Solutions

Existing car seats in the market have several weaknesses that need improvement. These weaknesses include complicated installation processes, limited comfort features such as inadequate padding and adjustability, and cumbersome adjustments of harnesses and straps. Customers often face challenges in securely installing the car seat, providing optimal comfort for their infants, and making necessary adjustments as their child grows.

The Cybex Smart Baby Car Seat aims to address these customer needs and provide a superior solution in response to these weaknesses. The Cybex Smart Baby Car Seat strives to deliver a product that surpasses existing options by offering easy and secure installation, enhanced comfort features, and convenient adjustments. With a focus on safety, comfort, ease of use, durability, and versatility, the Cybex Smart Baby Car Seat aims to meet the evolving needs of parents and caregivers, providing them with peace of mind and an exceptional user experience.

Figure 1: Customer Needs Evaluation

| PRIMARY NEEDS SECONDARY NEEDS | RANK | WEAKNESSES OF EXISTING SOLUTION |
|--|------|--|
| Safety | 1 | Existing car seats may have incorrect installation leading to safety issues. We aim to develop a smart car seat that automatically detects and corrects improper installation. |
| <i>Secure Harness/ Latch System</i> | 1.1 | Harness systems may be difficult to adjust, leading to improper fit and potential safety risks. Cybex developed a harness system that can be easily adjusted for a secure fit. |
| <i>Side-Impact Protection</i> | 1.2 | Existing car seats may not provide adequate side-impact protection. So, we've incorporated advanced side-impact protection features, such as energy-absorbing materials and reinforced structures. |
| Comfort | 2 | Existing car seats may not provide adequate comfort for babies, leading to fussiness and discomfort during car rides, so we aim to create a car seat with adjustable recline, breathable materials, and soft padding for maximum comfort |
| <i>Adjustable Recline</i> | 2.1 | Current car seats may not have an adjustable recline, leading to discomfort for babies during car rides. Parents need a car seat with adjustable recline settings to accommodate the needs of babies of different ages and sizes. |
| <i>Breathable Materials</i> | 2.2 | Many car seats may have materials that trap heat and cause discomfort for babies during car rides. Babies need a car seat with breathable materials that allow for proper airflow and temperature regulation |
| <i>Soft Padding</i> | 2.3 | Existing car seats may have hard, uncomfortable padding that causes discomfort for babies during car rides. We've worked to develop a car seat with soft, cushioned padding that provides maximum comfort for babies. |
| Convenience | 3 | Existing car seats may be bulky, heavy, and difficult to install and move between vehicles. Therefore, Cybex has created a smart car seat that is lightweight, easy to install, and can be easily moved between vehicles |
| <i>Lightweight</i> | 3.1 | Existing car seats may be heavy and difficult to carry, making them inconvenient for parents. This is a lightweight car seat that can be easily carried and transported |
| <i>Easy Installation</i> | 3.2 | Existing car seats may be difficult to install, leading to safety risks. The Cybex Baby Seat comes with an easy-to-follow installation process and clear instructions |
| <i>Easy To Move Between Vehicles</i> | 3.3 | Existing car seats may be bulky and difficult to move between vehicles, leading to inconvenience for parents. So, we've tried to make a car seat with a simple, intuitive mechanism for easy installation and removal. |
| Durability | 4 | Existing car seats may wear out quickly or break down, leading to safety risks and additional expenses. We are developing a car seat with durable materials and sturdy construction to ensure long-lasting use and safety. |
| <i>Sturdy Construction</i> | 4.1 | Existing car seats may have weak points that can break down over time, leading to safety risks; therefore, there's a need for a car seat with a strong, sturdy construction that can withstand wear and tear over time |

| | | |
|---|-----|---|
| <i>Durable Materials</i> | 4.2 | Existing car seats may use low-quality materials that wear out quickly, leading to safety risks and additional expenses. We use high-quality, durable materials to construct the car seat to ensure long-lasting use and safety. |
| Advanced Safety Monitoring | 5 | Parents require a car seat that incorporates advanced safety monitoring features, such as SensorSafe technology, which can alert them to potential hazards and ensure the well-being of their child. |
| <i>Real-time Alerts</i> | 5.1 | Parents value receiving real-time alerts and notifications on their mobile devices or through integrated systems when potential safety risks are detected, such as if the child's seatbelt becomes unbuckled during the journey. |
| <i>Crash Detection and Emergency Response</i> | 5.2 | Parents seek a car seat to detect and respond to accidents or collisions by automatically notifying emergency services or designated contacts for immediate assistance. |
| <i>GPS Tracking</i> | 5.3 | Parents appreciate car seats with built-in GPS tracking capabilities, allowing them to monitor the location of the car seat and their child in real-time, providing an extra layer of security and peace of mind. |
| <i>Integrated Parental Controls</i> | 5.4 | Parents desire a car seat with integrated parental control features, allowing them to remotely adjust settings, monitor the child's safety status, and customize alerts based on their preferences. |
| <i>Data Analysis and Insights</i> | 5.5 | Parents value the ability to access and analyze data collected by the car seat's monitoring system, providing insights into their child's safety behavior and journey patterns for continuous improvement and informed decision-making. |




COMPETITOR ANALYSIS

By analyzing our competitors, we can identify their strengths and weaknesses. This analysis helps us emphasize the unique selling points of the Cybex Smart Baby Car Seat, such as its lightweight design, extensive adjustability, superior side-impact protection, and competitive pricing. We aim to position our product as a top choice for customers seeking a safe, comfortable, and user-friendly baby car seat option.

Figure 2: Competitive Product/Service Summary

| COMPETITOR | PRODUCT | PRICE | STRENGTHS | WEAKNESSES |
|------------------|------------------------|----------|--|--|
| Chicco | KeyFit 30 - Calla | \$229.99 | Easy to install and use, good safety ratings, affordable price point | Limited weight and height limits, bulky design, difficult to clean |
| Graco | SnugRide® SnugLock® 35 | \$179.99 | Lightweight design, affordable price point, easy to use | Limited weight and height limits, difficult to install, lower safety ratings |
| Britax | B-Safe 35 | \$239.99 | High safety ratings, easy to install and use, sleek design | <i>B-Safe car infant seats were recalled because the car seat handle can crack and break, causing the seat to fall unexpectedly and posing a risk of injury to the infant!</i> |
| Maxi-Cosi | Mico Max 30 | \$249.99 | Good safety ratings, stylish design, easy to clean | Higher price point, limited color options, limited weight and height |

Figure 3: Competitive Product/Service Feature and Specification Comparison

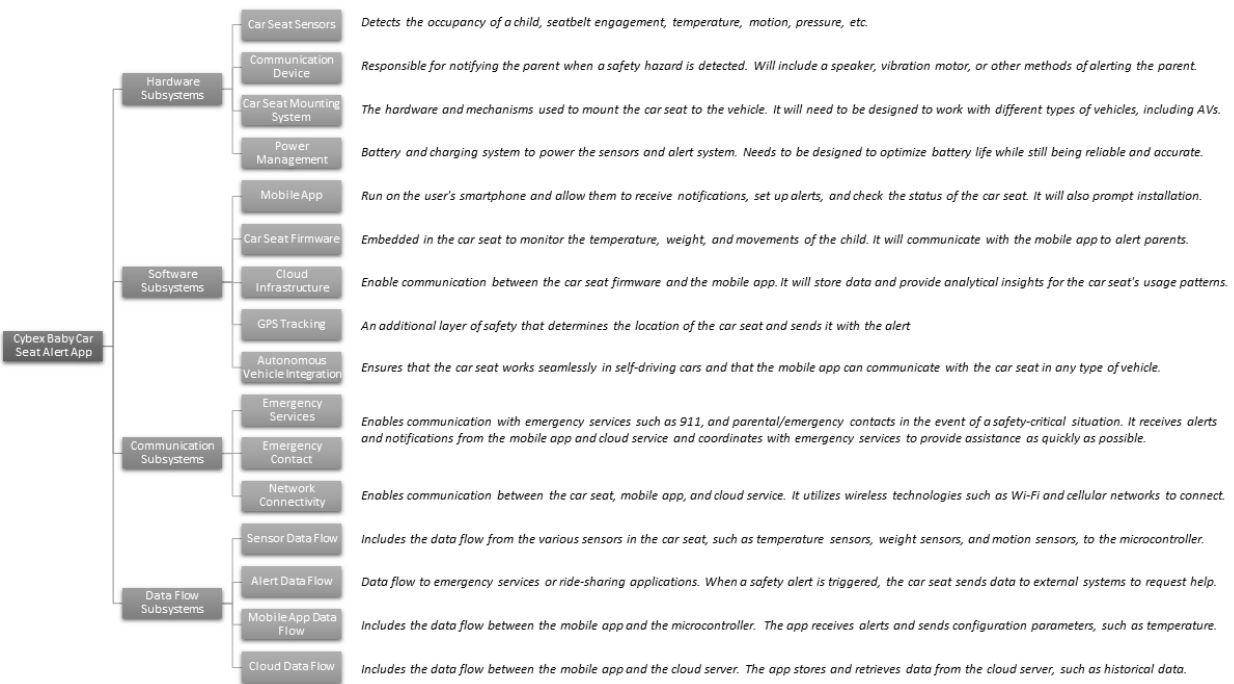
| FEATURE/SPEC | MEAS. | CHICCO KEYFIT 30 | GRACO SNUGRIDE CLICK CONNECT 35 | BRITAX B-SAFE 35 |
|-----------------------|----------------------|---|--|---|
| Product Image | |  |  |  |
| Weight Range | <i>Pounds</i> | 4-30 | 4-35 | 4-35 |
| Height Range | <i>Inches</i> | Up to 30" | Up to 32" | Up to 32" |
| Harness | <i>Points</i> | 5-Point | 5-Point | 5-Point |
| Installation | <i>Type</i> | Base installation | Base installation | Base installation |
| | <i>Method</i> | SuperCinch | LATCH system | LATCH system |
| | <i>Indicators</i> | One-pull tightening system | Click sound for proper installation | Built-in level |
| Safety | <i>Features</i> | EPS energy-absorbing foam | EPS foam | Side-impact protection |
| | <i>Standards</i> | JPMA, Meets FMVSS 213 | Meets FMVSS 213 and 225 | Meets FMVSS 213 and 225 |
| Smartphone App | <i>Compatibility</i> | iOS and Android | iOS and Android | iOS and Android |
| | <i>Features</i> | Real-time monitoring of seat temperature and position | Audio and visual reminders for installation | Detailed installation guide |

PRODUCT/SERVICE SCOPE AND FEATURES

System Architecture Definition

The System Architecture of the Cybex Smart Baby Car Seat showcases its key components and interactions. It has a seat base, seat shell, harness system, and SensorSafe technology. The seat base provides stability and attachment points for installation, while the seat shell offers a comfortable seating environment. The harness system ensures proper restraint and adaptability for the child's growth. SensorSafe technology integrates advanced safety monitoring features like temperature monitoring and alert notifications for improper harnessing or unbuckling. This architecture emphasizes safety, comfort, and advanced monitoring capabilities, resulting in a reliable and innovative car seat solution.

Figure 4: System Architecture Illustration



PRODUCT/SERVICE CONTENT

LIST OF MUST-HAVES

- **SensorSafe Technology:** Incorporate advanced safety monitoring features such as temperature monitoring, harnessing alerts, and child presence detection.
- **Enhanced Safety Features:** Ensure superior safety standards through impact-absorbing materials, side-impact protection, and adjustable headrests.
- **Ergonomic Design:** Provide a comfortable seating experience with ample padding, adjustable recline positions, and proper head and body support.
- **Easy Installation:** Design a user-friendly installation process with clear instructions, secure attachment mechanisms, and compatibility with various vehicle models.
- **Durability and Longevity:** Construct the car seat with high-quality materials that withstand wear and tear, and accommodate the child's growth from infancy to toddlerhood.
- **User-Friendly Adjustments:** Enable quick and hassle-free adjustments of the harness system to accommodate the child's changing size and ensure a secure fit.
- **Compliance with Safety Standards:** Adhere to industry safety regulations and certifications to guarantee the highest level of product safety.

LIST OF NICE-TO-HAVES

- **Smart Connectivity:** Integrate wireless connectivity features for seamless communication with mobile devices and parental control options.

- **Adjustable Recline Positions:** Offer multiple recline angles to enhance comfort for napping or long journeys.
- **Breathable and Hypoallergenic Materials:** Use fabrics and materials that promote airflow and minimize allergic reactions.
- **Customizable Design Options:** Provide a range of color choices and fabric patterns to suit individual preferences.
- **Travel Accessories Compatibility:** Ensure compatibility with travel system adapters, strollers, and other accessories for added convenience.
- **Easy Maintenance Features:** Include removable, machine-washable seat covers and stain-resistant materials for effortless cleaning

LIST OF MUST-NOT-TOUCH

- **Safety Standards Compliance:** Retain the necessary safety features and certifications to meet industry standards.
- **Ease of Use:** Maintain the user-friendly nature of the installation process and harness adjustments.
- **Enhanced Safety Monitoring:** Preserve the advanced safety monitoring capabilities of SensorSafe technology.
- **Durability and Longevity:** Retain the long-lasting construction and ability to accommodate the child's growth.

STATEMENT OF IS/IS-NOT

The Cybex Smart Baby Car Seat is an innovative and technologically advanced solution that prioritizes the safety and comfort of children during car rides. It is designed to provide real-time safety monitoring through SensorSafe technology while maintaining compliance with industry safety standards. The car seat offers user-friendly features for easy installation, adjustments, and long-term usability. It is not just a traditional car seat but a reliable and cutting-edge product that ensures peace of mind for parents and caregivers. The focus is on delivering an exceptional car seat experience by incorporating essential safety features, advanced monitoring capabilities, and convenience without compromising on quality and durability. The Cybex Smart Baby Car Seat is designed to be a market-leading product, providing unmatched safety, comfort, and ease of use to meet the evolving needs of parents and caregivers.

TARGETS AND RANGES

Economic Targets

- ★ **Price:** The target price for the Cybex Smart Baby Car Seat is set to be competitive within the market to gain a significant market share. The pricing strategy will consider factors such as production costs, competitor pricing, and customer-perceived value.

- ★ **Gross Margin:** The gross margin is the variable profit per unit after deducting the variable costs from the price. A higher gross margin percentage is desirable to ensure profitability and cover fixed costs. The target gross margin will be determined based on the cost structure, market conditions, and desired profitability.
- ★ **Cost Target:** The cost target is set to achieve a competitive price while maintaining a reasonable gross margin. It takes into account the target price, expected sales volume, and desired profitability. Cost optimization efforts will be made throughout the development process, including efficient sourcing of materials, streamlined manufacturing processes, and effective cost management.
- ★ **Unit Cost:** The unit cost of the Cybex Smart Baby Car Seat is a crucial development objective. It includes the cost of materials, manufacturing, assembly, and other associated costs. The aim is to achieve a cost-effective production process without compromising product quality, safety, and functionality.

The economic targets for the Cybex Smart Baby Car Seat will ensure that the product is competitively priced, offers a reasonable gross margin, and achieves cost efficiency to maximize profitability while delivering value to customers.

Figure 5: Economic Target

| ECONOMIC TARGET | BEST CASE | WORST CASE |
|--------------------------------|-----------|------------|
| Unit Price | \$199.99 | \$249.99 |
| Gross Margin Percent | 40% | 35% |
| Cost = [(1 - Margin%) x Price] | \$119.99 | \$162.49 |

Figure 6: Feature Matrix

| SUB-SYSTEM | INNOVATION FEATURE OR SPEC. | UNIT | BEST CASE | WORST CASE |
|------------|--|------------------|-------------------------------------|------------------------------|
| Car Seat | <i>Weight Range</i> | Pounds | 61 | 30 |
| | <i>Rotation</i> | Degrees | 360 | 90 |
| | <i>Adjustable recline positions</i> | Positions | 12 | 5 |
| | <i>Side-impact protection</i> | Type | Linear Side Impact Protection (LSP) | Side Impact Protection (SIP) |
| | <i>Car Seat Weight</i> | Pounds | 30 | 40 |
| | <i>Easy installation</i> | Speed | Quick | Moderate |
| | <i>Removable and washable covers</i> | Method | Machine | Hand |
| App | <i>Real-time monitoring</i> | Data Points/Hour | 60 | 30 |
| | <i>Temperature alerts (outside range of)</i> | Degrees (F) | 96.8 - 100.3 | 95 - 102 |

| | | | | |
|--|------------------------------------|----------|---------------|-----|
| | Geolocation tracking (accuracy) | Feet | 10 | 25 |
| | Crash detection and alerts (delay) | Seconds | 10 | 30 |
| | Compatibility with devices | Platform | IOS & Android | IOS |

PROJECT MANAGEMENT AND KEY MILESTONES

Summary Milestone Schedule


Start Date: April 3, 2023

End Date: February 1st, 2024

Key Milestones:

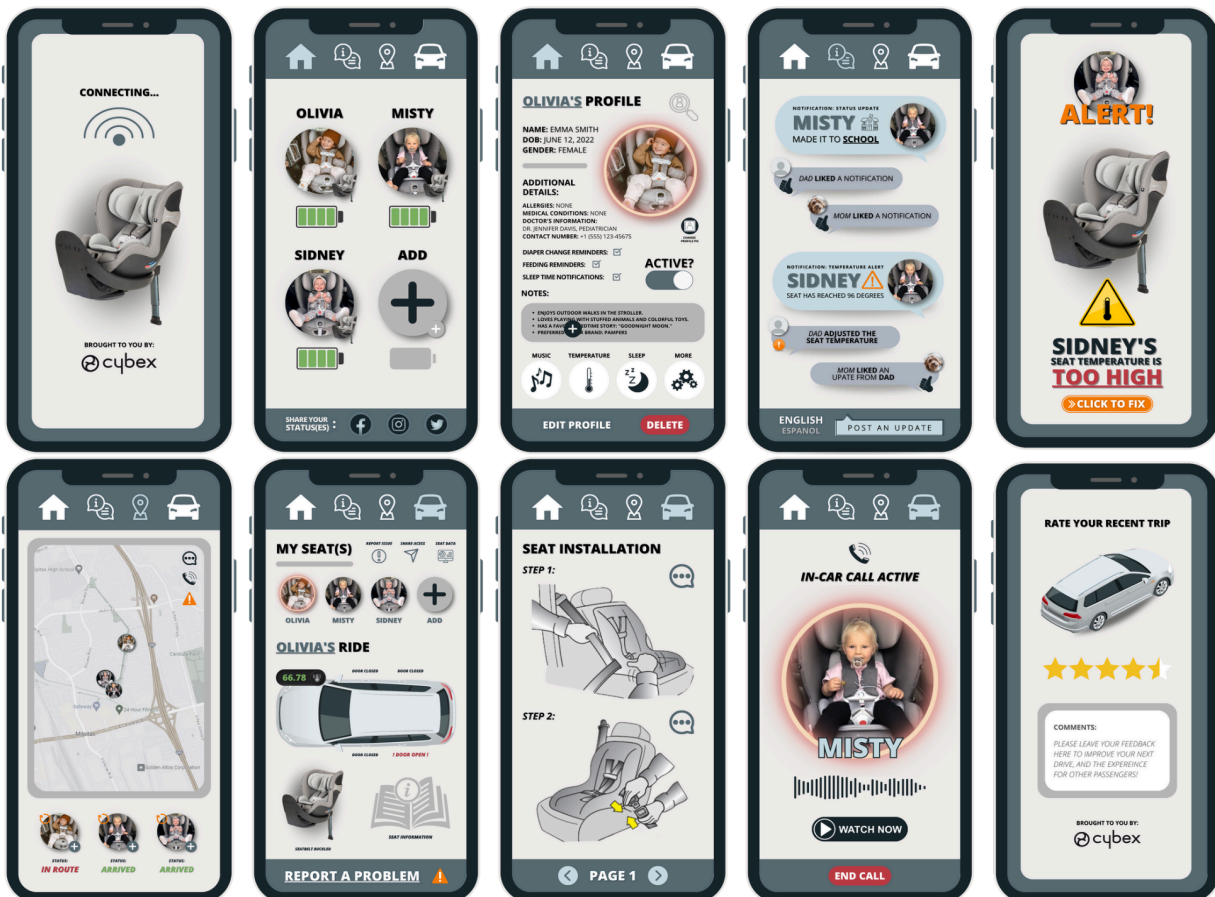
- Project Kickoff:** *April 3, 2023*
 Officially launch the project and align the team on goals and objectives.
- Concept Development:** *April 3 - May 5, 2023*
 Conduct research, ideation, and concept generation to develop the core ideas and features of the Cybex Smart Baby Car Seat.
- Design and Engineering:** *May 6 - June 30, 2023*
 Translate the concept into detailed designs, engineering specifications, and prototypes for testing and validation.
- Prototype Testing:** *July 1 - August 15, 2023*
 Conduct rigorous testing and evaluation of the prototypes to ensure they meet safety, comfort, and functionality requirements.
- Integration and Refinement:** *August 16 - September 30, 2023*
 Integrate all components and subsystems, refine the design based on feedback and test results, and ensure seamless functionality.
- Manufacturing Preparation:** *October 1 - November 15, 2023*
 Prepare for mass production by finalizing manufacturing processes, selecting suppliers, and optimizing production efficiency.
- Production Ramp-up:** *November 16, 2023 - January 31, 2024*
 Gradually increase production volume to meet market demand and ensure consistent quality control.
- Launch and Market Entry:** *February 1, 2024*
 Officially introduce the Cybex Smart Baby Car Seat to the market, execute marketing and distribution strategies, and begin sales.

Figure 7: Technology Persona

| EMILY TECH-SAVVY | | | Early 30's | Silicon Valley, CA, USA | |
|---|---|--|-----------------|---|--|
| | Background | | | Goals | Needs |
|  | Emily is a tech-savvy mom of one who works as a software engineer at a leading technology company. She is highly knowledgeable about the latest technological advancements and actively keeps up with emerging trends. She is an early adopter of new gadgets and enjoys exploring innovative technologies that she can share online. | | | 1. Cutting-edge Technology 2. Seamless Integration 3. Customization and Control 4. User-Friendly Interface | <ul style="list-style-type: none">● Compatibility and interoperability with existing devices and ecosystem● Consistent performance and reliability● Robust security measures/privacy |
| | Quality-Driven | Innovative | Detail-Oriented | | |
| | Curious | Forward-Thinking | Adaptable | | |
| | Usage Scenario | Emily enjoys using technology to enhance her daily life and streamline her activities. She utilizes various smart devices and applications to simplify tasks and stay connected. For example, she uses voice-controlled assistants to control her smart home devices, wearables to track her health and fitness, and mobile apps to manage her personal and professional schedules. Emily also engages in online forums to share her tech experiences and seek recommendations for new and exciting gadgets. | | | |

PROTOTYPING

Figure 8: Mobile App Prototype Layout



PRODUCT COSTING

Figure 9: Costed BOM Worksheet

| ASSEMBLY STRUCTURE | | | UNIT OF MEASURE | QTY | MATERIAL COSTS | | PROCESS COSTS (LABOR OR MACHINE) | | | FIXED COSTS (TOOLING, FIXTURES, ETC.) | | | | TOTAL M.P.&F COST / UNIT | CALCULATION NOTES |
|----------------------|--------------------|-------------------|------------------|---------------|--------------------|------------------------|----------------------------------|--------------------|-----------------------|---------------------------------------|-------------------------|-------------------|---------------------|--------------------------|---------------------------|
| LEVEL 1 | LEVEL 2 | LEVEL 3 | | | UNIT MATERIAL COST | EXTENDED MATERIAL COST | UNIT PROCESS COST/MIN | PROCESS TIME (MIN) | EXTENDED PROCESS COST | FIXED COST | LIFETIME UNITS PRODUCED | FIXED COST / UNIT | EXTENDED FIXED COST | | |
| | | | | | | | | | | | | | | | |
| Cybex Baby Car Seat | | | ASSY | 1 | | \$ - | 0.15 | 0.5 | \$0.08 | | | \$ - | \$ - | \$0.08 | Final assembly labor |
| | Car Seat Frame | | EACH | 1 | \$10.00 | \$10.00 | 1 | 5 | \$5.00 | \$200,000.00 | 500,000 | \$0.40 | \$0.40 | \$15.40 | Plastic injection molding |
| | Fabric Cover | | EACH | 1 | \$10.00 | \$10.00 | 0.5 | 10 | \$5.00 | \$150,000.00 | 400,000 | \$0.38 | \$0.38 | \$15.38 | Fabrication and stitching |
| | Seat Belt Assembly | | EACH | 1 | \$5.00 | \$5.00 | 1.2 | 2 | \$2.40 | \$100,000.00 | 300,000 | \$0.33 | \$0.33 | \$7.73 | Seat belt installation |
| | Cushion | | PACK | 1 | \$8.00 | \$8.00 | 0.3 | 15 | \$4.50 | \$120,000.00 | 350,000 | \$0.34 | \$0.34 | \$12.84 | Foam cushion production |
| | | Safety Harness | EACH | 1 | \$3.00 | \$3.00 | 0 | 0 | \$ - | \$50,000.00 | 200,000 | \$0.25 | \$0.25 | \$3.25 | Purchased from supplier |
| | | Buckle Assembly | EACH | 1 | \$2.00 | \$2.00 | 0 | 0 | \$ - | \$40,000.00 | 150,000 | \$0.27 | \$0.27 | \$2.27 | Purchased from supplier |
| | | Headrest Assembly | EACH | 1 | \$4.00 | \$4.00 | 0.5 | 5 | \$2.50 | \$80,000.00 | 300,000 | \$0.27 | \$0.27 | \$6.77 | Headrest attachment |
| | | Armrest Assembly | EACH | 2 | \$2.50 | \$5.00 | 0.4 | 3 | \$1.20 | \$60,000.00 | 250,000 | \$0.24 | \$0.48 | \$6.44 | Armrest attachment |
| Mobile App | | | ASSY | 1 | | \$ - | 2 | 0.5 | \$1.00 | | | \$ - | \$ - | \$1.00 | |
| | App Design | | EACH | 1 | \$20.00 | \$20.00 | 0 | 0 | \$ - | \$1,000.00 | 10,000 | \$0.10 | \$0.10 | \$20.10 | |
| | App Programming | | EACH | 1 | \$30.00 | \$30.00 | 0 | 0 | \$ - | \$1,000.00 | 10,000 | \$0.10 | \$0.10 | \$30.10 | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | Total Material and Process Costs: | | | \$121.35 | | |
| Overhead Calculation | | | Overhead Method: | Process Costs | | | | Overhead Rate: | 15.00% | | Overhead Cost: | | \$18.20 | Process Costs Only | |
| | | | | | | | | | | | Total Cost/Unit: | | \$139.55 | | |

MARKETING PLAN

Figure 10: Marketing Communications Plan

| ITEM | UNIT COST | UNIT OF MEASURE | # OF UNITS | ANNUAL SPEND | RATIONALE |
|---------------------------|-----------|------------------|------------|--------------|---|
| Social Media Advertising | \$3,000 | Month | 6 | \$18,000 | Increase brand visibility and reach |
| Influencer Collaborations | \$5,000 | Campaign | 3 | \$15,000 | Leverage influencers' audience and trust |
| Online Display Ads | \$250 | Impression | 24 | \$6,000 | Drive website traffic and conversions |
| Content Creation | \$4,000 | Piece | 10 | \$40,000 | Develop engaging and informative content |
| Email Marketing | \$1,500 | Campaign | 4 | \$6,000 | Nurture leads and promote special offers |
| Public Relations | \$6,500 | Month | 6 | \$39,000 | Generate positive media coverage |
| Trade Shows and Events | \$8,000 | Event | 2 | \$16,000 | Showcase product and connect with customers |
| Print Advertising | \$3,500 | Issue (Magazine) | 4 | \$14,000 | Target specific print publications |
| Online Video Campaign | \$7,000 | Campaign | 2 | \$14,000 | Engage and educate through video content |
| Total : | | | | \$168,000 | |

In addition to the Marketing Communications Plan, we will implement a specific strategy to build customer awareness. Our strategy includes:

- **Influencer Engagement:** We will actively collaborate with industry influencers with a strong following and credibility. Through sponsored content, product reviews, and endorsements, we aim to leverage their reach and influence to create awareness and drive interest in our innovation.
- **User-Generated Content Campaign:** We will encourage customers to share their experiences and testimonials with our innovation on social media platforms. By incentivizing and amplifying user-generated content, we can create a buzz and foster a sense of community around our product.
- **Targeted Digital Advertising:** We will employ advanced targeting techniques, including demographic, geographic, and interest-based targeting, to ensure our digital advertising efforts reach the right audience segments. This approach will maximize the impact of our ad spend and increase the chances of capturing the attention of potential customers.
- **Educational Content Strategy:** We will develop a content strategy that focuses on educating the target audience about our innovation's benefits, features, and unique aspects. This will include blog posts, how-to guides, video tutorials, and informative resources that position us as industry experts and help build trust and credibility among potential customers.

By implementing these additional strategies, we aim to create a differentiated and impactful marketing campaign that raises awareness and engages and resonates with our target audience.

POSITIONING STATEMENT

"At Cybex, we are dedicated to revolutionizing child safety and comfort through our innovative products. With cutting-edge technology, superior design, and unwavering commitment to safety, we redefine the standards for car seats and beyond. Our Cybex Smart Baby Car Seat offers a seamless integration of advanced features, customizable options, and reliable performance, ensuring the utmost protection for infants during car journeys. By prioritizing user-friendly interfaces, future-proofing capabilities, and uncompromising security and privacy, we empower parents with the peace of mind they deserve. Cybex: Redefining child safety for the modern world."

ECONOMIC ANALYSIS

Figure 11: Economic Analysis by Discounted Cash Flows (DCF)

| Economic Analysis Inputs | | | | | | | | | | | | |
|--|--------------------|-------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Period Basis: | Years | 1 | periods per year | | | | | | | | | |
| Discount Rate per Year: | 12.00% | 12.0000% | per Period | | | | | | | | | |
| Period | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Project Investment and On-going Expenses | | | | | | | | | | | | |
| Design and Development (engineering, etc.) | \$100,000.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$25,000.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| Prototyping and Testing | \$50,000.00 | \$10,000.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$25,000.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| Equipment and Production Development Costs | \$200,000.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| Marketing Communication Material Costs | \$18,000.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| Marketing Communication Program Costs | \$25,000.00 | \$10,000.00 | \$10,000.00 | \$8,000.00 | \$6,000.00 | \$6,000.00 | \$6,000.00 | \$6,000.00 | \$6,000.00 | \$6,000.00 | \$6,000.00 | \$6,000.00 |
| Legal and Professional Fees (Other Expense) | \$10,000.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| Research and Development (R&D) (Other Expense) | \$0.00 | \$0.00 | \$5,000.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| Total Cash Outflows | \$403,000 | \$20,000 | \$15,000 | \$8,000 | \$6,000 | \$6,000 | \$56,000 | \$6,000 | \$6,000 | \$6,000 | \$6,000 | \$6,000 |
| Revenue (Cash Inflows) | | | | | | | | | | | | |
| Innovation Units (projected unit sales) | 0 | 2570 | 2780 | 3016 | 3278 | 3566 | 3881 | 4221 | 4584 | 4967 | 5366 | 5776 |
| Innovation Growth Rate per Period | #DIV/0! | 8.2% | 8.5% | 8.7% | 8.8% | 8.8% | 8.8% | 8.8% | 8.6% | 8.4% | 8.0% | 7.6% |
| Innovation Unit Sales Price | \$150.00 | \$150.00 | \$150.00 | \$150.00 | \$150.00 | \$150.00 | \$150.00 | \$150.00 | \$150.00 | \$150.00 | \$150.00 | \$150.00 |
| Innovation Revenue | \$0 | \$385,500 | \$417,000 | \$452,400 | \$491,700 | \$534,900 | \$582,150 | \$633,150 | \$687,600 | \$745,050 | \$804,900 | \$866,400 |
| Innovation Unit Gross Margin Percent | 40.0% | 40.0% | 40.0% | 40.0% | 40.0% | 40.0% | 40.0% | 40.0% | 40.0% | 40.0% | 40.0% | 40.0% |
| Innovation Marginal Costs | \$0 | \$231,300 | \$250,200 | \$271,440 | \$295,020 | \$320,940 | \$349,290 | \$379,890 | \$412,560 | \$447,030 | \$482,940 | \$519,840 |
| Innovation Gross Margin Dollars (Inflow) | \$0 | \$154,200 | \$166,800 | \$180,960 | \$196,680 | \$213,960 | \$232,860 | \$253,260 | \$275,040 | \$298,020 | \$321,960 | \$346,560 |
| Technology Development Grant (Other Cash Inflow) | \$150,000.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$50,000.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| Licensing Agreement (Other Cash Inflow) | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| Total Cash Inflows | \$150,000 | \$154,200 | \$166,800 | \$180,960 | \$196,680 | \$213,960 | \$282,860 | \$253,260 | \$275,040 | \$298,020 | \$321,960 | \$346,560 |
| Net Cash Flow for Period | -\$253,000 | \$134,200 | \$151,800 | \$172,960 | \$190,680 | \$207,960 | \$226,860 | \$247,260 | \$269,040 | \$292,020 | \$315,960 | \$340,560 |
| Discounted Cash Flow for Period | -\$225,893 | \$106,983 | \$108,048 | \$109,919 | \$108,197 | \$105,359 | \$102,620 | \$99,864 | \$97,019 | \$94,023 | \$90,831 | \$87,413 |
| Cumulative Discounted Cash Flow (payback) | -\$225,893 | -\$118,909 | -\$10,861 | \$99,058 | \$207,255 | \$312,614 | \$415,234 | \$515,098 | \$612,117 | \$706,139 | \$796,970 | \$884,383 |
| Payback Period | 4 | | | | | | | | | | | |
| Project Net Present Value | \$1,616,981 | | | | | | | | | | | |
| DCF Rate of Return (IRR) | 64.59% | | | | | | | | | | | |
| Cost of Capital | 12.00% | | | | | | | | | | | |
| Net Rate of Return | 52.59% | | | | | | | | | | | |

| Period | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|--|------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Project Investment and On-going Expenses | | | | | | | | | | | | |
| Design and Development (engineering, etc.) | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| Prototyping and Testing | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| Equipment and Production Development Costs | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| Marketing Communication Material Costs | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| Marketing Communication Program Costs | \$6,000.00 | \$6,000.00 | \$14,000.00 | \$8,000.00 | \$8,000.00 | \$8,000.00 | \$8,000.00 | \$8,000.00 | \$8,000.00 | \$8,000.00 | \$8,000.00 | \$8,000.00 |
| Legal and Professional Fees (Other Expense) | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| Research and Development (R&D) (Other Expense) | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| Total Cash Outflows | \$6,000 | \$6,000 | \$14,000 | \$8,000 | \$8,000 | \$8,000 | \$8,000 | \$8,000 | \$8,000 | \$8,000 | \$8,000 | \$8,000 |
| Revenue (Cash Inflows) | | | | | | | | | | | | |
| Innovation Units (projected unit sales) | 6192 | 6608 | 7018 | 7417 | 7800 | 8163 | 8503 | 8818 | 9106 | 9368 | 9604 | 9814 |
| Innovation Growth Rate per Period | 7.2% | 6.7% | 6.2% | 5.7% | 5.2% | 4.7% | 4.2% | 3.7% | 3.3% | 2.9% | 2.5% | 2.2% |
| Innovation Unit Sales Price | \$150.00 | \$150.00 | \$150.00 | \$150.00 | \$150.00 | \$150.00 | \$150.00 | \$150.00 | \$150.00 | \$150.00 | \$150.00 | \$150.00 |
| Innovation Revenue | \$928,800 | \$991,200 | \$1,052,700 | \$1,112,550 | \$1,170,000 | \$1,224,450 | \$1,275,450 | \$1,322,700 | \$1,365,900 | \$1,405,200 | \$1,440,600 | \$1,472,100 |
| Innovation Unit Gross Margin Percent | 40.0% | 40.0% | 40.0% | 40.0% | 40.0% | 40.0% | 40.0% | 40.0% | 40.0% | 40.0% | 40.0% | 40.0% |
| Innovation Marginal Costs | \$557,280 | \$594,720 | \$631,620 | \$667,530 | \$702,000 | \$734,670 | \$765,270 | \$793,620 | \$819,540 | \$843,120 | \$864,360 | \$883,260 |
| Innovation Gross Margin Dollars (Inflow) | \$371,520 | \$396,480 | \$421,080 | \$445,020 | \$468,000 | \$489,780 | \$510,180 | \$529,080 | \$546,360 | \$562,080 | \$576,240 | \$588,840 |
| Technology Development Grant (Other Cash Inflow) | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| Licensing Agreement (Other Cash Inflow) | \$0.00 | \$0.00 | \$30,000.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| Total Cash Inflows | \$371,520 | \$396,480 | \$451,080 | \$445,020 | \$468,000 | \$489,780 | \$510,180 | \$529,080 | \$546,360 | \$562,080 | \$576,240 | \$588,840 |
| Net Cash Flow for Period | \$365,520 | \$390,480 | \$437,080 | \$437,020 | \$460,000 | \$481,780 | \$502,180 | \$521,080 | \$538,360 | \$554,080 | \$568,240 | \$580,840 |
| Discounted Cash Flow for Period | \$83,768 | \$79,900 | \$79,853 | \$71,287 | \$66,996 | \$62,650 | \$58,307 | \$54,019 | \$49,830 | \$45,791 | \$41,929 | \$38,267 |
| Cumulative Discounted Cash Flow (payback) | \$968,151 | \$1,048,051 | \$1,127,904 | \$1,199,191 | \$1,266,188 | \$1,328,838 | \$1,387,145 | \$1,441,164 | \$1,490,994 | \$1,536,784 | \$1,578,714 | \$1,616,981 |

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