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Ossia Marketing Plan - Hearing Aid Batteries & Starkey Partnership

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Ossia Marketing Plan - Hearing Aid Batteries & Starkey Partnership

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Abstract

Using this marketing plan, Ossia, a wireless power technology company, will launch into a new market - hearing aid batteries. By partnering with Starkey Manufacturing, a United States based hearing aid manufacturer, they will be able to capitalize on Starkey's existing user base and sales team, allowing fast entry into the market.

There are four products that are the basis for this plan - a base antenna, expansion antenna, cloud-based management portal, and a wirelessly powered hearing aid battery (using Cota Powered Technology). Starting with a Total Addressable Market of just over 51,000 people (or approximately \$4.6 million in potential revenue), Ossia will use a two pronged approach for marketing their new products. One half will be focused on the hearing aid batteries and using an ingredient branding strategy as a joint marketing strategy with Starkey. The other half will look at the Cota platform as a whole, a focus on creating a community and educating potential clients about the technology.

This plan projects a positive ROI in year one, with just under a million in profit. By year five, when Ossia will be working with multiple hearing aid manufacturers, the profits are projected to surpass two million dollars.

Introduction

The goal for this marketing plan was to find a user segment where not having continuously charged devices presents a legitimate hardship and would therefore benefit from Ossia's technology. To find the right segment for Ossia to venture into, the marketing team started with twenty one different segments. Using a combination of data and interviews, they narrowed the potential field down to five segments - one of which was medical devices. This was the most appealing, because for people who have medical devices with batteries, having to change them regularly is a hassle and the risk of losing power unexpectedly can be a hardship. Hearing aid users turned out to be the perfect segment within the market. They are frequently changing their batteries, so there is a rapid cycle of charging needs, and the team had access to enough people to run user interviews and validations.

Users with some level of hearing loss is a huge industry that is only projected to continue to grow. The Hearing Loss Association of America estimates that over 20% of the United States population suffers from hearing loss [2]. Of those 48 million people, however, only 28% actually use some sort of hearing aid. As the industry continues to improve, and as hearing aids venture into the Over The Counter market, the number of potential users has the potential to rapidly expand. Being on the forefront of wirelessly charged hearing aids will allow Ossia to jump into this market and take advantage of the coming growth.

The other advantage of this market is that it allows for Ossia to set up a move into adjacent markets, such as home devices. People will begin to bring the Ossia/Cota technology into their homes, which will give the company access to data, analytics, and user information. As Cota technology begins to branch into other home devices, it will be a much easier leap since so many users will already have base antennas in their homes. If they want to start charging more devices, then they can upgrade and purchase more antennas. When friends come over and see the technology, the validation will make their conversion into a customer that much smoother. This is a future phase and won't be addressed in the marketing plan, but it did go into the decision to go after the hearing aid market.

This plan will cover the structure of the partnerships Ossia will need to enter into to achieve these goals. It will also talk about the potential market, potential issues surrounding regulations, and current and future competitors. The different types of customers, revenue and profit goals, marketing strategy, and brand management are also core elements of the plan. Finally, it will discuss the strategy for distribution and communication over the next five years, and the performance measurements and contingency plans for any issues that might arise. This plan is based in large part on publicly available data and user interviews. It also contains some assumptions, which are justified and outlined in the attached marketing log.

Company Analysis

About Ossia

Ossia is a wireless power technology company headquartered in Bellevue, Washington. Founded silently in 2008 to develop the power transfer technology throughout the next five years. Launched publicly as a private company in 2013 by Hatem Zeine, the CTO and Chief scientist as Ossia has created the means to provide wireless power technology via patented Cota technology. Ossia has raised almost \$30 million in five funding rounds (Series A, B, C) and within an eight year budget through 2016 at an estimated \$10 million in annual revenue. Currently, over 50 employees with growth daily licensing out the patented Cota platform to several partners across many industries to redefine power delivery. [1]

Vision Statement: “We envision a world in which devices are smart to better serve mankind, and that these devices are remotely powered for better content, optimal performance, and data capturing ability.” [2]

Mission Statement: “Our mission is to revolutionize the mobility and connectivity of people and industries. To do so, we empower industry leaders and service providers to create ecosystems for delivering smart wireless power and connectivity to small devices.” [2]

Cota Technology

Cota technology (Cota) allows for devices to be recharged wirelessly, without ever having to be plugged in. Cota’s safe, viable, and convenient solution delivers power through a Wi-Fi like radio technology. Much like devices have wifi as they move throughout the house, Cota charges devices within range, even if they’re on the other side of a wall. There is no contact required and no line of site limitations. Cota uses a transmitter (like a router) and a receiver chip in the device - these items pass beacon signals back and forth, to ask for and to relay power. These transmitters can simultaneously charge several devices within their radius. Cota don’t transmit any power through humans, which makes it a safe alternative to the traditional wire and pad charging.

Market Definition, Potential, & Demand

Background Information

The Hearing Loss Association of America [3] states there are more than 48 million Americans - nearly 20% of the U.S. population - that report hearing impairment. The National Institute of Deafness and Other Communication Disorders (NIDCD)'s [3] study on hearing loss shows the following items:

- 28.8 million US adults ages 20 to 69 may benefit from hearing aids.
- 3.65 million hearing aids have been distributed since 2016 (nearly 3,000 per day).
- Although hearing loss is incredibly prevalent, 16% of the 28.8 million US adults that may benefit from hearing aids have never used one.
- 70 years old is the average age of a first-time user of hearing aids.

There are five main styles of hearing aids [4]:

- 1) Behind-the-ear (BTE) - most of the parts are contained in a case behind the ear
- 2) Mini (BTE) - a new type smaller for comfort and cosmetic issues.
- 3) In-the-ear (ITE) - where most of the parts are in a shell that fill the outer ear
- 4) In-the-canal (ITC) - smaller size partly in the ear that is difficult to handle.
- 5) Completely-in-the-canal (CIC) - which are hearing aids that fit in a tiny case in the ear.

Hearing Aid Batteries

Hearing aids batteries range in size, power and performance depending on the consumer needs. The batteries with the smallest form-factor must be switched out frequently due to the smaller size, which causes lower power, performance and ultimately a higher price. The most common battery available for customers on the market is the size 1 and 312 batteries [5]. The hearing aid industry has set a standard day's use to be sixteen hours, which is how the lifespan of batteries is calculated. Based on this industry standard, the breakdown of the sizes, battery life, and cost per year is shown in Table 1 below.

Battery Type [5,7]	Lifespan [5]	Cost Per Year [7]
Size 10	3-5 Days	\$150
Size 312	6-12 Days	\$80
Size 13	8-14 Days	\$50
Size 675	14-30 Days	\$30

Table 1 - Breakdown of Battery Types, Lifespan, and Cost Per Year

These battery prices are in addition to the up front cost of the hearing aids. The average price of a digital hearing aid is about \$1500, but the higher end devices may reach \$3000 to \$5000 per hearing aid [6].

Target Market - Phase I

The Target Market for Phase I was calculated by applying increasingly specific criteria to the hearing loss population.

	Hearing Loss	Hearing Aids	Starkey Share	Age - 40-69	Innovators
% of Previous		28%	19%	57.40%	3.50%
# of People	48.0M	13.4M	2.6M	1.5M	51.3K
Low (\$30/yr)	1.4B	403.2M	76.6M	44.0M	1.5M
Avg (\$105/yr)	4.3B	1.2B	229.8M	131.9M	4.6M
High (\$150/yr)	7.2B	2.0B	383.0M	219.9M	7.7M

Table 2: Market Size Definition

Table 2 reflects the breakdown for the calculations of the Total Market. The low, average, and high calculations data in Table 2 uses the the amount consumers spend on hearing aid batteries per year as shown in Table 1. The least expensive estimate is \$30 per year, the most expensive is \$150 per year, and the average is \$105 per year. The cost estimates times the estimated number of people in each segment shows the TAM in revenue.

The Target Market calculations for Phase I starts with 48 million people in the United States with hearing loss [3]. The next step is to remove anyone who doesn't actually use hearing aids. As discussed previously, only 28% of people with hearing loss actively using hearing aids [3]. For this marketing plan, Ossia will be partnering with Starkey - the only hearing aid manufacturer in the United States [10]. Starkey's share of the hearing aid market is 19% [27], which removes another portion of the Total Addressable Market. The next step is to focus in on the preferred age range, which is hearing aid users is the age segment of 40-69 years old, or 57.4% [27]. And finally, the final filter will be for users who fall into the innovators portion of the technology adoption growth curve.

Target Market - Phase II+

Phase II of the Target Market will expand to include Early Adopters within the Target Addressable Market. These adjusted numbers are shown below in Table 3.

	Hearing Loss	Hearing Aids	Starkey Share	Age - 40-69	Early Adopters
% of Previous		28%	19%	57.40%	13.50%
# of People	48.0M	13.4M	2.6M	1.5M	197.9K
Low (\$30/yr)	1.4B	403.2M	76.6M	44.0M	5.9M
Avg (\$105/yr)	4.3B	1.2B	229.8M	131.9M	17.8M
High (\$150/yr)	7.2B	2.0B	383.0M	219.9M	29.7M

Table 3 - Market Size Definition For Phase II With Early Adopters

Future phases will consider adjacent markets such as home applications, phone chargers, cochlear implants, ear plug replacement, and ear loss prevention devices.

Partnerships

Starkey - Years 1, 2, & 3

Starkey was selected to be the primary partner for Ossia in large part because they are the only American owned and operated hearing aid manufacturer [9]. Their goal to “bring people together and make lives richer by empowering individuals to reach their full potential in life [9]” is in line with the value proposition of Cota. Starkey’s vision reflects the focus and drive behind Ossia. According to their website, they “put innovation in action every day, continually seeking ways to better understand the science of hearing loss and its impact on people’s lives — so we can continually develop better technologies to improve it. [9] ” Starkey’s total market share is 19% of the total hearing aid market within the United States. While this isn’t an overwhelming market share, it will be a good initial run of this new marketing focus. It will also allow testing of the new products and sales focus before expanding into other manufacturers.

Starkey will be the key partner of Ossia in the implementation of this marketing plan. Ossia and Starkey will enter into a 3-year exclusivity agreement with Starkey. The partnership agreement will include details of the payout plan for Starkey, the incentive plan for the Starkey Sales Team, and joint marketing activities that the two companies will undertake. Furthermore, it will include details about the performance expectations and clearly defined actions of all the entities involved. The partnership agreement will be negotiated and defined by the legal team. More details about this partnership can be found in the Ingredient Branding portion of this marketing plan.

Contract Manufacturer - Years 1 and beyond

So far, Ossia has been a licensing and technology development company. It is Ossia's first step into the world of manufacturing and distribution of a product. Ossia has no experience or expertise in the field of manufacturing. Therefore, Ossia would partner with a contract manufacturer to manufacture the batteries and other product hardware. This partnership agreement will be negotiated and defined by the legal team. The partnership with the contract manufacturer would continue for all five years and likely even beyond. This partnership will allow Ossia to keep ownership and control of its technology, without the need to build out an entire manufacturing process. Partnering with contract manufacturer will allow for flexibility and agility of product offerings, in the future. More information on the details of this arrangement can be found in the Distribution Management section of this marketing plan.

Other OEMs - Years 4 and 5

After the Ossia/Starkey exclusivity agreement expires in year four, Ossia will be open to partnering with other hearing aid manufacturers. The partnership agreement will include details of the payout plan for the OEM, the incentive plan for the OEM's Sales Team, and joint marketing activities that the two companies will undertake. It will also include details about the performance expectations and clearly defined actions of all the entities involved. The partnership agreement will be negotiated and defined by the legal team. More information on this partnership can be found in the Ingredient Branding portion of this marketing plan.

Regulations (Current and Future)

Existing Regulations

According to the FDA, most hearing aids are low risk (Class I), which means that they are not required to obtain clearance or premarket review [16]. They are required to meet the requirements for safety and effectiveness, but the amount of approvals they need to go through before they are sent to market are considerably less than other medical devices.

Newly Passed Regulations

There have been several changes of note in regulations in the hearing aid industry over the last few years. In December 2016, a bill was passed to remove the requirement for medical evaluation by a licensed physician [11]. Since 1970, the FDA required patients seeking hearing aids to first see a physician to obtain a waiver before going to an audiologist. The US government has been working to reduce the number of barriers for people to get hearing aids.

Now anyone over the age of 18 can go directly to an audiologist if they believe they have hearing loss and want to get fitted for hearing aids. This change in regulation is one of the first in an effort to streamline the process for patients. It is also a required step for another change in regulations - Over The Counter (OTC) hearing aids.

The following year, in August, 2017, a bill was passed that allows the sale of hearing aids OTC, as opposed as through an audiologist or doctor [C-2, C-3]. These hearing aids will be aimed at people with mild to moderate hearing loss. The requirements for fitting and adjusting hearing aids for users with a more extreme level of hearing loss isn't something that can be provided without an expert. The FDA has up to three years to develop a new set of regulations for what these hearing aids will look like and what regulations must be followed. They'll provide hearing aid manufacturers with a set of guidelines for what the hearing aid will have to do and the standards that will need to be met. The deadline for these regulations is August, 2020. The FDA did not include these changes in their list of proposed regulations for 2019, so they aren't expected to complete their regulation updates much in advance of the deadline [14]. While the addition of OTC hearing aids will create major changes to patients with hearing loss, the Office of Management and Budget (OMB) has classified this policy as "not major", which means that it will have less than a \$100 million effect on the economy [14].

Although these regulations have not been implemented, companies are already starting to take strides in creating products that will eventually be sold Over The Counter. Bose recently received FDA approval for their self fitting hearing aids [15]. These self fitting hearing aids will allow users to adjust the sound profile to a level that they find the most comfortable and accurate. While they won't be able to sell these over the counter yet, it will set them up to be able to quickly enter the market and beat the rest of the competition.

There is a bill that has been introduced to expand the number of services that will be reimbursed by Medicare [12]. Currently, an audiologist can get reimbursed for diagnosing hearing loss, but not for actually treating it. This causes a large barrier to getting hearing aids for low income patients. The bill would allow all treatment of hearing loss to be reimbursed by both Medicare and by private insurers. Those services would allow fitting for hearing aids, the actual hearing aids, batteries, and also ear wax removal services.

Implications

The newly passed regulations will likely have large effects on the industry - exactly how large will remain to be seen. Ossia will need to have plans for integration with the over the counter market. If it makes hearing aids as accessible as intended, then the number of people using hearing aids should increase dramatically. These people will not go through audiologists or doctors for their hearing solution, so they will need to have knowledge of the Cota-powered batteries on their own.

Competitor Analysis - Tyler

For this marketing plan, Ossia’s list of competitors includes any source of alternative power to charge hearing aids. These types of competitors can be broken into three different segments - disposable batteries, rechargeable batteries, and companies that are currently developing wireless power transfer technology. Table 4 shows an overview of the competitive field, broken down by cost and level of technology.

	Low Cost	High Cost
Disposable Batteries (Low Tech)	Energizer Duracell	
Rechargeable Batteries (Medium Tech)		Sonova Phonak
Wireless Power (High Tech)		Energous Witricity Ubeam

Table 4: Competitor Matrix

Disposable Batteries

Energizer and Duracell are the market leaders [20] of the disposable battery segment. Rayovac is another popular brand of disposable batteries, but they are also owned by Energizer Holdings, so only Energizer is listed in the competitors. Duracell was recently purchased by Berkshire Hathaway [21]. The lifespan of these disposable hearing aid batteries can range from 61-130 hours depending on the type of hearing aid and how many features they provide. Some features that can caused increased battery drain are features such as bluetooth, health tracking, and streaming capabilities. The cost of disposable batteries range from thirty cents to a dollar when broken down individually, but most of the time are bought in packs of twelve all the way up to sixty.

Rechargeable Batteries

Rechargeable batteries is another segment of our competition. Although fairly new to the hearing aid industry, they provide additional convenience when compared to traditional, disposable batteries. The top products are from Phonak and Signia, and are produced from Sonova and Sivantos respectively. All major hearing aid manufacturers currently offer a rechargeable battery option in their product portfolio. The pricing for rechargeable batteries is

fairly standard, with most selling from \$2,400-\$2800 per ear. The batteries usually last one day on a charge (16 hours, per what industry has set for the number of hours in a day [23]). To charge these types of batteries, they must be placed in a pod or some type of case, and cannot be used while charging which takes approximately seven hours for most to be fully charged [30]. One of the major drawbacks to this technology is that the user is forced to remove their hearing aids for the entire charge time they're charging. If the battery dies during a visit or event, there is no option to quickly recharge and continue receiving hearing assistance.

Wireless Power Transfer Technology

While not directly in the hearing aid battery market, companies that can provide the wireless power transfer technology are still considered competitors to Ossia within this plan. Energous, Witricity, and Ubeam are companies that would have very little barriers to entry if they decided to move into the same market. Energous recently released a statement saying that they have partnered with a new hearing aid manufacturer to incorporate their technology, which will allow charging hearing aids via bluetooth to up to fifteen feet away [24]. They received FCC approval and now are currently focused on obtaining regulatory acceptance from the marketplace [23]. Witricity has been focused in the automotive industry and incorporating their technology into vehicles [24]. Ubeam, the smallest (in terms of funding), is interested in licensing their tech out to whoever believes that it will provide value for them [25]. It will be key to keep an eye on the technology, regulations, and acceptance these wireless power companies are experiencing.

Customer Analysis

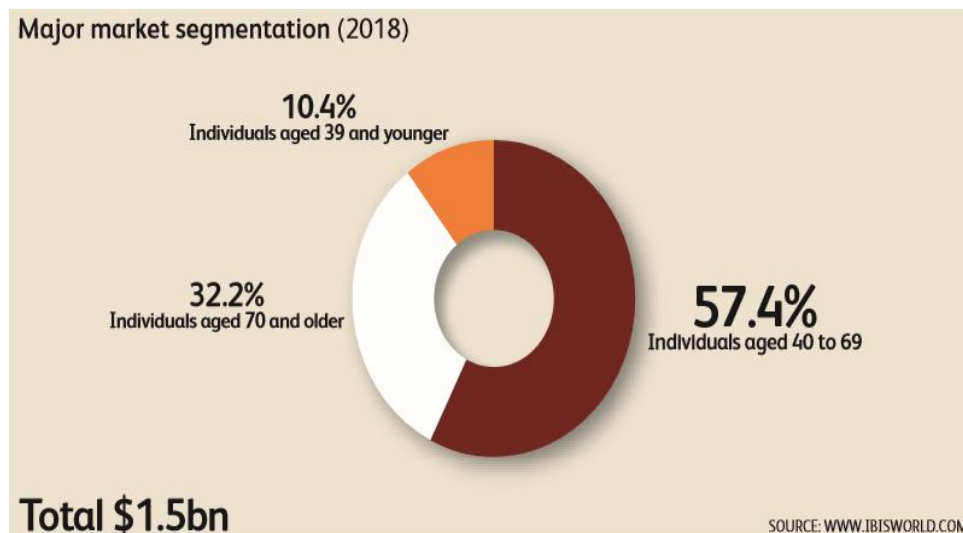


Figure A: Market Segmentation [27]

Hearing aid users fall into three large age groups as seen above in Figure A. After deciding to focus on the largest age group (40-69), it was concluded that there are actually two customer personas that could be targeted within this age range.

The End User

The End User is your typical demographic of someone who would be using hearing aids. “This segment contains individuals from three different generations: baby boomers, generation X and older millennials. These generations, especially generation Y, are less likely to pay heed to social stigmas and are more likely to seek help in case of a physical disability” [27].

The End User persona is someone who values convenience over costs and is frustrated with the constant attention they have to pay to the status of their hearing aid batteries. They spend a significant amount of time changing, shopping, and disposing of the batteries they consume. These people will be for the most part technologically savvy, and will suffer from a higher degree of hearing loss. This increased hearing loss means that running out of power presents a significant hardship for them.

The Caregiver

People within the targeted age range (40-69) could also have a child or a parent who uses hearing aids, making them caregivers. The Caregiver persona is someone who cares for someone that deals with hearing aids on a daily basis. This person will most likely have extreme responsibility to ensure the person they are taking care of has hearing aids that function correctly and are charged. This person will also be the one who does the shopping and changing of the batteries. The main value Ossia can provide to this type of person is a decrease in the burden constantly changing batteries can bring. It also brings them peace of mind that if they need to be away, their loved one won't be at risk of a dead hearing aid.

SWOT Analysis - Caitlin

STRENGTHS	OPPORTUNITIES
Patented technology Awards & publicity No line of sight required Setting global standards Large market share First device of this type	Future tech advancements Cloud management Over The Counter hearing aids Expansion of wireless electricity into homes Increasing population of hearing aid users
WEAKNESSES	THREATS
Small corporate footprint No manufacturing experience Requires integration Requires external power source Lack of focus (many product lines)	Not leading market by that much Very crowded space Other companies have full integrations

Table 5: SWOT

Marketing Objectives & Goals Overview

Phase I

During Phase I of this plan, the focus will be on four items:

- Incentivizing Starkey salespeople,
- Creating brand awareness with audiologists & other influencers,
- Educating consumers about brand, and
- Alleviating safety concerns

Phase II +

In future phases, there are three areas that could provide opportunities for focus.

- OTC
- Other manufacturers
- Direct to consumer

Revenue Goals

	Year 1	Year 2	Year 3	Year 4	Year 5
Packages Sold	9,000	9,900	10,890	11,979	13,177
Price Per Package	\$750	\$750	\$750	\$750	\$750
Starkey Share	10%	10%	10%	10%	10%
Sales Incentive	10%	10%	10%	10%	10%
Retrofit Packages	0	500	550	605	666
Price Per Package	\$750	\$750	\$750	\$750	\$750
Revenue	\$5,400,000	\$6,315,000	\$6,946,500	\$7,641,150	\$8,405,700

Table 6: Revenue Projections

Table 6 above represents the 5 year projected revenue growth of the Cota-powered hearing aid batteries. The growth is projected as a conservative 10% year over year, based on the Target Market of ~51,000. Over the five years there will be more people entering into the Target Market, so the total packages sold is slightly larger than the current Target Market. “Packages Sold” is based on projected sales through the partnership with Starkey and the sales their salesforce will make. The percentage of revenue that will be set aside for Starkey’s share and the incentive to their sales people are each 10% and are taken out of the overall revenue. The “Retrofit Packages” section refers to the packages that will be sold on Ossia’s platform. As there will be a one year delay of these sales, there is a projection of 0 for the first year. These sales are also conservatively projected at growth of 10% year over year. As knowledge of this product increases, it is possible that the growth will begin to compound. If Ossia decides to go after the Over The Counter market, the projections after 2020 could also change dramatically. Since the FDA hasn’t released the requirements for the OTC devices, this plan doesn’t account for the possible revenue that this segment would bring in.

Profit Projections

The company’s projected 5-year profits can be seen below in Table 7. These numbers assume the company has not achieved critical mass to move to third-party distribution and that profit margins will improve to 30% by year 3.

	Year 1	Year 2	Year 3	Year 4	Year 5
Revenue	\$5,400,000	\$6,315,000	\$6,946,500	\$7,641,150	\$8,405,700
Marketing	-\$625,000	-\$325,000	-\$325,000	-\$325,000	-\$325,000
Communication	-\$133,788	-\$260,477	-\$273,500	-\$287,175	-\$301,533
Distribution (\$10/unit)	\$0	-\$5,000	-\$5,500	-\$6,050	-\$6,660
Profit Margin	20%	25%	30%	30%	30%
Profit	\$928,242	\$1,431,131	\$1,902,750	\$2,106,878	\$2,331,752

Table 7: 5-year Profit Projection

As seen in Table 7, the company projects to be profitable at the end of year one and has an average 5-year profitability growth rate of approximately 27% year over year. More information about the plans for marketing, communication, and distribution will be discussed in upcoming sections.

Marketing Strategy

The marketing strategy for Ossia's hearing aid battery system is divided into two distinct strategies. These strategies are as follows:

- 1) Traditional ingredient marketing to doctors, audiologists and prescribers of hearing aids through a joint venture with Starkey.
- 2) An education campaign directly to the end customers and prescribers to educate them on the Cota platform.

Through the use of these two strategies, Ossia can achieve the greatest level of success. Each of these strategies focuses on a specific point in the demand chain and provides Ossia with a high level of exposure and visibility within the target markets, with a focus on controlling overall costs.

Traditional Marketing Strategy

Ossia's traditional marketing strategy will primarily focus on integration with Starkey's sales team. Rather than hiring an entirely dedicated sales force, leveraging the sales team at Starkey and its pre-existing network will allow better control of costs and overhead. The key to this strategy is close, coordinated messaging from Starkey and its sales team to the prescribers.

The Starkey sales team will be provided with training, educational materials and prescriber focused pamphlets and media that will push the ingredient branding message of

“Cota Powered”. The materials, branding, and messaging will all be used to promote the advantages the Cota product brings to the overall system and what the customers have to gain from using it.

With training and materials in hand, Ossia will then incentivize the sales team to recommend the Cota products through monetary incentives. Ossia has decided to set this incentive at 10% of the overall sales. While this will have a negative impact on profits, the expectation is that it will be offset by the reduction in marketing costs and the buildout of a sales network. Since the sales teams are regionally based and prescriber information is tracked, it will be possible to provide bonuses to the specific sales representatives/teams that sell our products based on a true volume basis.

Educational Marketing Strategy

The second strategy is focused on market education of the Cota platform. This will involve educating the prescribers and the users.

Prescriber Education

The primary focus for this education strategy will be focused on expanding and strengthening the prescriber and medical professional base. This effort will supplement the traditional marketing strategy previously described. This will take 2 forms - a promotional campaign and a medical education program. The promotional campaign will provide additional documentation to the professionals in the form of emails and direct mail to reinforces the sales representative’s message delivered in office. The information provided will be used to further educate the professionals on the benefits of the system as well as the safety profile of Cota products. The professional education program will include seminars and speaking engagements at tradeshow and healthcare conferences. Like the promotional campaign, the message here will be to underpin the safety profile and life changing benefits of the Cota system. The costs of these efforts are accounted for in the communication section of this report.

End-User Education

End-User education will be the next area of focus and will be focused specifically on the Cota Powered brand. With the educated prescribers and professional base being supported by the Starkey sales team, it is necessary to also educate the end-users as well. Since Ossia is small and new to the space, it is important to get the branding and company name into the marketplace in order to start building brand recognition and a solid reputation. To do this, educational materials will be provided on the Ossia website and an in-person, hands on experience will be created.

The in-person experience will consist of a mobile education campaign. This campaign will allow potential users and the general public to get hands on, practical experience with the Cota Platform. The experience will consist of a mobile showroom, “The Cota Power Truck”, where the Cota platform is fully implemented. Common household items and products will be on show for the customers to use and interact with. These products will be branded as “Cota Powered” and will have safety and other pertinent information presented on them. This will allow users to try out the products in a controlled environment, that showcases the capabilities of the system and explains how it could change their lives. This direct to consumer education approach is designed to accelerate adoption and activate new potential customers to take action. The overall goal will be to increase awareness of the Cota Powered brand, its capabilities and to educate the marketplace on the safety and value propositions.

The end-user campaign also sets the groundwork for future products. While the platform will currently only be used for hearing aids, there are plans for future expansion into other products. The brand awareness gained through this mobile campaign is designed to help increase the awareness and adoption of those future products.

Marketing Strategy Costs

The costs for the marketing effort are broken down by their individual section:

- Traditional Marketing: The pamphlets and training materials are estimated to cost approximately \$100,000 to setup and the maintenance costs should be minimal as they will only be focused on the printing of that material and assumed to be approximately \$25,000 per year.
- Educational Marketing: The mobile platform is a simple and cost-effective method to reaching the end-users. The cost of the vehicle and its outfit will be approximately \$200,000. This vehicle will be supported by a driver and 2 dedicated sales people at an additional \$300,000 per year. These sales people will also support the company’s trade show efforts and promotions.

Value Proposition

Ossia’s value proposition is that “Cota ensures you are always on and you are always connected -- without concern for battery life or charging stations.” This statement stresses the convenience that Ossia’s new technology provided for customers. With ordinary Energizer or Duracell hearing aid batteries, customers can find themselves changing them every 2-4 days, which can produce a huge burden on a person. Imagine being in a conversation and everything goes silent. Ossia hopes to put confidence in people and eliminate the uncertainty that comes with potentially losing the ability to hear.

Product Offerings

Base Antenna

The Base Antenna is the main transmitter that sends out a power signal, similar to how a WiFi sends a signal for data. The base antenna size is similar to that of a common WiFi router. The base antenna can continuously deliver power to multiple devices up to 50 feet/15 meters in all directions. It doesn't lose connections even if the items being charged pass behind walls or objects such as furniture. What's more, Cota will track and deliver power to devices in motion, even as they are moving at speeds greater than 1 meter per second, without the need for a complex tracking algorithm. Unlike most other wireless power solutions, line of sight is not required [2].

Battery Replacement Device

The hearing aid battery replacement device is a battery that is the same size as current hearing aid batteries on the market. These batteries are embedded with a silicon chip that will act as the receiver, receiving the power signal transmitted by the base antenna. This battery will replace the traditional battery in the hearing aid device. The battery continuously charges when in range of transmitter and can last for a full day when out of charging range. Figure B shows how the antenna and batteries will interact.

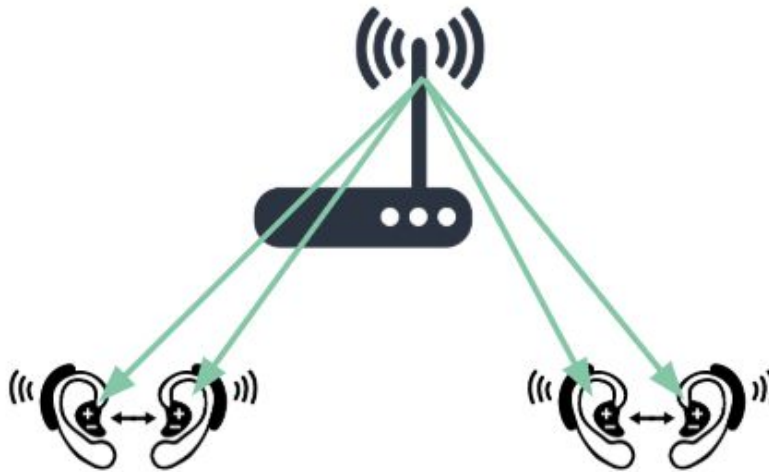


Figure B - Product Diagram

Expansion Antenna

It is important for users of Cota Powered hearing aid batteries to know that they never need to worry about power, even when they're traveling or at work. The expansion antenna is a smaller version of the base antenna which is suitable for use during travel or office use. It can continuously deliver power up to 30 feet/9 meters in all directions. The size of an expansion antenna is similar to that of a common mobile phone charger. Other than the active charging radius, all other portions of the product function like that of the base antenna.

Cloud Portal

Cota Cloud is a cloud-based software that helps manage connected devices to give the user total mobility, visibility, and flexibility when using the technology. It allows remote access for caretakers to monitor the device that is charging or needs to be charged. It can be accessed via computer or phone apps.

Brand Management

The focus of the Brand Management portion will be to avoid limiting the Ossia brand to “Wirelessly Powered Hearing Aid Devices”. The brand management strategy is directed towards the larger goal of educating the customers about Ossia and Cota Powered products and the possibilities that this technology will give them. Ingredient Branding strategy will be an important part of the Brand management efforts.

Brand Elements

Logo

One of the most important brand elements for Ossia is the Cota Powered logo. The logo will be featured on the packaging of Starkey Hearing Aid devices. As seen in Figure C, the term “Cota Powered” clearly communicates that the device is reliant on an underlying technology and the further detailing reflects the WiFi like technology, which is an important feature of Cota.



Figure C - Cota Powered Logo

Name

Another important brand element is a new name for the Starkey line of devices which will embed the Cota technology. Under the product offerings by Starkey, this series of wirelessly powered hearing aid devices will be named the “Cota Powered” series. This will clearly distinguish the Cota powered devices from the other Starkey product offerings. In addition, it will be clearly communicated that the underlying ingredient is the Cota technology by Ossia.

Branding the Platform

This strategy is designed around branding the Cota technology platform rather than branding the hearing aid battery devices or simply branding the company Ossia. The idea of branding the platform is more durable for long term effectiveness. This also makes the long term marketing of the platform more cost-efficient. Since Cota has the potential to expand and and

integrate into countless other applications, it works in the interest of Ossia to brand Cota as a platform. This will help create an identity give customers a way to identify with everything provided under the Cota umbrella.

Brand Image

The brand image will play a vital role in keeping the brand relevant to the target markets and consistent with the product offerings. Ossia will strive to build an image of a high tech brand that offers immense convenience through safe and reliable technology. This will help address any concerns and questions around the safety of using such a technology. It will also help in communicating that the value is in the convenience you are buying.

Brand Awareness

The high levels of brand awareness will help Ossia establish a strong presence in market. The marketing, positioning, and communications strategy are all aligned to create a high brand awareness. The educational marketing campaigns (covered in the Educational Marketing Strategy section) will be essential to creating brand awareness. The focus of the Brand Awareness program will be to educate the market about Ossia's Cota technology and about the benefits of wireless power transfer technology. The aim of the awareness program is to make the market aware of the potential of wireless power transfer through Cota technology. It will not focus on the role of Cota in Starkey's line of hearing aids, because making sure that potential consumers understand the brand as an emerging and exciting technology will be essential to the long term success of Ossia.

Ingredient Branding

Performance of Starkey Cota powered Hearing Aid devices is internally related to the embedded Ossia's Cota technology, Ossia relies on an ingredient branding strategy. This strategy is designed to mutually benefit Ossia and Starkey in the first three years, and all the other partner OEMs thereafter. This ingredient branding program will have two distinct phases.

Phase 1 - Ossia-Starkey Market Development Program

Years 1, 2, and 3 of this plan will be focused on the partnership between Ossia and Starkey. To facilitate this partnership, there will be many different elements at play, including an exclusivity agreement, a payout plan for Starkey, joint marketing activities, and an incentive plan for the Starkey salesforce.

Exclusivity Agreement

Ossia will enter into an exclusivity agreement with Starkey that will last for the first three years of this plan. In accordance with this agreement, Ossia will exclusively partner with Starkey

to sell the Cota technology with the Starkey Hearing Aid Devices. No other hearing aid manufacturers (OEMs) will have access to the Cota Powered hearing aid batteries. Even though Ossia will launch their own marketplace in year two, Starkey would still remain the only OEM to have the sell Cota Powered hearing aid batteries with their devices.

Payout Plan for Starkey

While the exclusivity agreement is active, Starkey will be entitled to a payout comprising 10% of the earnings from all sales that funnel through Starkey. Starkey will use the funds from this payout plan to finance the joint marketing activities and related marketing efforts.

Joint Marketing Activities

Ossia and Starkey will work together to create marketing activities that will benefit both companies. The focus of these marketing efforts will be on the prescribers of hearing aids (audiologists and physicians). The joint activities will be designed together, but implemented by the Starkey Sales force. Appropriate use of logo and the name will be done wherever essential. An important outcome of these activities will be the increased visibility of the embedded Cota Technology that will come from partnering with an established manufacturer of hearing aids.

Incentive Plan for Starkey Sales Team

Ossia will leverage the sales team at Starkey and its pre-existing network, which will allow better control of costs and overhead. The role of close, coordinated messaging from Starkey sales team to the prescribers is going to be one of the most important ways to reach out to the right audience and increase the market share. To ensure there is a focus on selling the Cota products, Ossia will incentivize the Starkey Sales team. During Phase I, all salespeople will be paid 10% of the total revenue of sales that they make of Cota products. This portion is entirely funded by Ossia and on top of the 10% share that will be paid to Starkey.

Phase 2 - Cota Integration Membership Program

Cota Integration Members

In year four, the exclusivity agreement with Starkey will expire, opening up Ossia to partner with other OEMs in addition to Starkey. All other OEMs will have the opportunity to include the Cota products and sell alongside their hearing aids. These OEMs would also have the ability to begin developing next generation hearing aids that have Cota technology embedded within them. OEMs that wish to participate in the Cota Integration Membership Program will need to enter into a partnership agreement, which will outline the expectations and incentives offered.

Payout Plan for Partner OEMs

During the time of partnership agreement, the partner OEM will be entitled to a payout comprising of 10% of all sales that funnel through that OEM. The OEM can use the funds from this payout plan to finance the joint marketing activities and related marketing efforts.

Joint Marketing Activities

Ossia and the partner OEMs will work together on creating marketing activities that will benefit both companies. These joint activities will further strengthen the awareness about and the image of the Cota platform.

Incentive plan for Partner OEM Sales Team

Ossia will leverage the sales team of the partner OEMs and their pre-existing network, which will allow better control of costs and overhead. The role of close, coordinated messaging from partner OEMs' sales teams to the prescribers will continue to be an important way to reach out to the right audience and further increase the market share. Hence, it is very important to incentivize these partner OEMs Sales team. During Phase II, all salespeople will be paid 10% of the total revenue of sales that they make of Cota products. This portion is entirely funded by Ossia and on top of the 10% share that will be paid to the partner OEM.

Pricing management

The value proposition for the Cota powered hearing aid batteries is focused on the increase in convenience and reliability that the user will get. The value proposition is not focused on being a cost savings. This is an important distinction, as it was the basis for determining the pricing of the products. The products will be sold as a package - two hearing aids, a base antenna, an expansion antenna, and access to the cloud portal. The first step in determining the price for this package was calculating the average yearly spend on disposable batteries. As shown in Table I, the price per year for replacement batteries is \$30 to \$150. Over the typical five year lifespan of a hearing aid [17], a user can expect to spend \$150 to \$750 on batteries alone. Since the end-user is buying increased convenience, and not trying to save money, the price for the package was set on the top end of the five year battery spend. The pricing breaks down as follows:

- Antenna - \$300
- Expansion Antenna - \$150
- Hearing Aid Batteries - \$150 each
- Cloud Management Portal - Free

It is expected that users will want to purchase multiple expansion antennas, so the pricing of that item was kept at a lower, more affordable price. There will be an option to only include one hearing aid, for those users with hearing loss in only one ear. The cloud-based Cota platform subscription is free with the purchase of the package. This cloud platform will be used for setting up devices so the base antenna knows which ones to track and charge. It will allow remote monitoring for caregivers, and will allow Ossia to gather pertinent data for market analysis and development. A five year guarantee on all hearing aid batteries and a one year full manufacturers warranty on antennas will be included with every purchase.

Distribution Management

Based on the product definition, there is a need for a set of distribution channels that can support two different product offerings - those that are used by the manufactures of the end products (OEMs) and those that are used directly by the end-users. Therefore, distribution will be broken into two groups based the product offering. This idea is supported by the work done by Chopra in 2016 [19], that describes how “a hybrid combination of a physical channel and an online channel serves customer needs more effectively than using a single channel.” The physical channel will be provided by Starkey (OEM) and the online channel will be provided by Ossia’s internal distribution team.

Contract Manufacturing

Since Ossia does not have manufacturing capabilities of its own, the will use a contract manufacturing firm to produce its products. This will allow Ossia to keep ownership and control of its technology, without the need to build out an entire manufacturing process. This will keep costs down but will impact overall margins. However, with the future goal of expanding into other markets the use of contract manufacturing will allow for flexibility and agility of product offerings.

Direct-to-Supplier Strategy

Cota technology can be added to many different end devices, in this case a hearing aid. No matter what device it is integrated into, it will require a broadcast antenna to provide the power. Because of this, the main strategy for distribution to Starkey will need to support both sets of components.

In partnering with Starkey, Ossia will distribute the main products through their distribution channels. This partnership will give Ossia access to a large distribution network at a lower risk and cost to our initial business. In this case, Ossia will act as a Tier 2 supplier for all of Starkey’s wireless power needs. Our production ordering systems will be optimized to work directly with Starkey’s ordering systems to allow for coordinated integration and streamlined product distribution to their manufacturing and fulfillment centers. This strategy will require Ossia

to maintain an order processing system and inventory that aligns with Starkey's needs and is capable of handling variations in product flows. This may also mean that there will be a need for warehousing or other means of storage to help with ebbs and flows in demand. This will be beneficial to both parties as supplies will be semi-constant and product availability concerns should be minimized.

The products will be boxed at our contract manufacturing facilities per our agreement with Starkey and supplied in their final packaging. This will streamline Starkey's manufacturing and packaging processes by providing them with finished and ready to ship product. This means our products will also be packaged and bundled at the contracted facilities, assuring they are shipped in a manner Ossia deems to be correct and safe for our products, both to Starkey and to the end user. This packaging strategy will also be leveraged in our direct-to-consumer strategy.

Direct-to-Consumer Strategy

While the primary distribution is being done through the OEM side of the business, there is still a need for a supplemental distribution channel. This channel will be direct-to-consumer and will support the replacement and expansion needs of Ossia's customers. While this is not a primary path for the company currently, it will be a critical support task to the overall business [19].

The direct-to-consumer strategy is broken into two phases: the initial phase and the volume phase. There will be an online presence through the existing website in both phases, as well as an additional retail outlet through the use of an online marketplace.

Initial Distribution Phase

For the initial direct-to-consumer phase, retailing will be done directly through the Ossia website. During this phase, all shipping and inventory management will be handled internally. This process will keep all controls and support inside the company. The downside to this plan, is that it will have an increased per part cost associated with management and shipping. However, the benefits of owning the controls and support for this initial phase outweigh the increased cost of overhead. This storage and shipping cost is estimated to be approximately \$10 per unit.

Growth Distribution Phase

After sales increase to a rate that can no longer be handled internally, storage, distribution, and shipping will be handed over to a third-party management system, such as the Amazon Marketplace. This will mark the beginning of the mass growth distribution phase. This switch will allow for substantial growth with minimal impact to the base business. This will allow customers to browse Cota products either on Amazon's marketplace, Starkey's website and/or Ossia's website and then make a purchase decision. It is critical that the three websites are linked to each other for seamless customer use and information gathering [18]. While this will

provide the customer with a seamless, clean shopping experience, it will also allow in keeping costs low and large-scale investments to a minimum.

The use of the Amazon fulfillment ecosystem will allow for easy customer use and purchase activities as it supports warehousing, shipping, returns and customer service. While there will be a cost associated to the maintenance and shipping of the products distributed through this method [19], the customer experience is the paramount objective. Costs are estimated to be approximately \$2.60 per unit to use this service, as compared to an estimated cost of around \$10 per unit to manage and ship units ourselves during the initial phase.

Direct-to-Consumer Expansion

The use of the online distribution channel will allow Ossia to expand its footprint beyond the packages that will be sold with the Starkey hearing aids in Phase I. The hearing aid kit supplied by Starkey will come with a single antenna, capable of covering a large living room, one or two batteries and a single expansion antenna. If the customer wants to have charging functionality in more rooms, the online store will allow them to purchase additional antennas for their bedroom and/or other areas of their home or workplace. This will increase the overall footprint of the wireless coverage, enabling future product expansion, and introduction of an additional, supplemental revenue stream.

The use of the online store will also be for replacement and aftermarket retrofits. While the primary goal is to focus on distribution and integration through the OEM partnership with Starkey, Ossia will offer retrofit kits that will allow customers to “self-install” the batteries. The use of this channel will also allow for user data collection for use in future product expansions.

Distribution Map

To help illustrate how the products will be shipped, Figure D is provided as a distribution map.

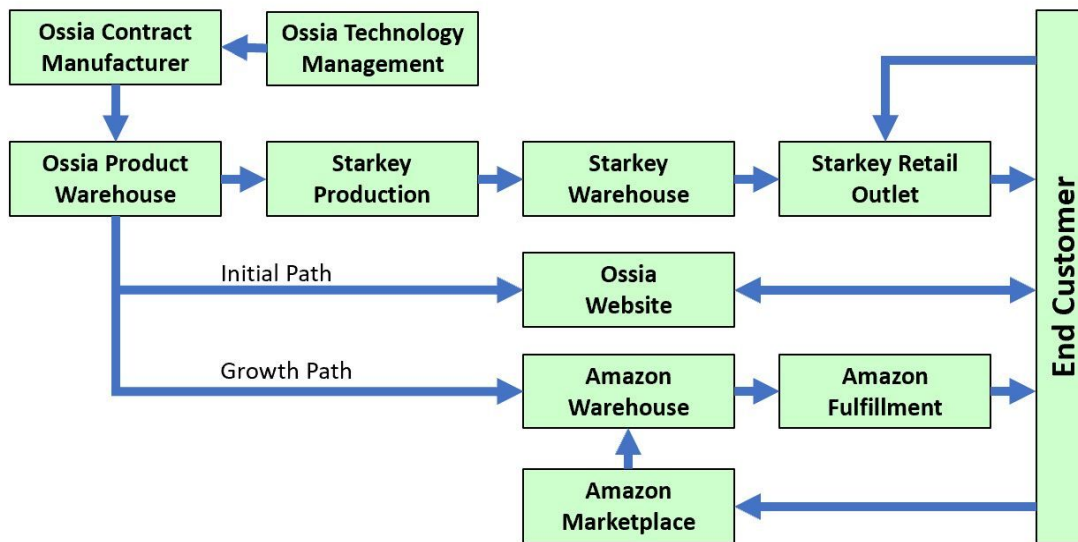


Figure D: Ossia Product Distribution Map

Communication Management

The communication management strategy is designed to be effective and cost efficient at the same time. The channels that will be focused on take into account the target audience, budget constraints, desired outreach, the short-term and long-term goals for growth. Table 8 shows a breakdown of the goals of this communication management strategy by year. Every channel will be used for a specific purpose, audience and impact in order to achieve these goals.

Year 1	Years 2 & 3	Years 4 & 5
Brand Awareness Promoting Technology Create Positive Image Visibility alongside Industry Leader in Hearing Aid Market	Shaping Ossia Identity Taking steps towards building new partnerships	Growth of Ossia Partnering with new OEMs

Table 8: Communication Strategy - Focus By Year

Public Relations

Public Relations activities are very important in years 1-3. The education campaigns focused on the prescribers and end-users are an integral part of the efforts to build a strong and positive image of the company. The emphasis on this portion is communicating the level of safety that can be expected when using Cota products. The PR efforts will be instrumental in shaping the overall image of Wireless Power Transfer technology, Cota technology and its game changing potential in the field of high-tech products.

Trade Shows

Trade shows will be an important medium to network and gain visibility in the high-tech products market. During the first three years, the platform of trade shows will be mainly used to network and create connections. In the following two years, the trade shows will have the additional benefit of being a medium to announce new products or new advancements in the technology. After building relationships and a strong image for three years within this network, announcements should have a more eager market that already has knowledge of the technology and is excited to learn of advancements.

Social Media

Social Media platforms like Facebook and YouTube will be used to interact with end-users and establish a direct communication medium for all five years. These platforms will be effective in engaging the users through content related to wireless power transfer technology put out by Ossia and super users or influencers within the market. This has the additional benefit of reaching out to a large number of users at once.

Website

Ossia's website will be a very fundamental source of all the information about the company, the Cota platform, and product news for all the five years. It will be designed to facilitate a meaningful interaction with the visitor and educate the visitor about the Cota technology. Case studies and white papers will also be available on website for anyone who wants to read about the research and testing that has been done on Cota technology. Beginning in year two, following the launch of the Ossia Online Store, the website will also be an integral part of facilitating a smooth purchase process.

Online Newsletter

Marketing efforts will focus on collecting information and emails from people who have interacted with the Cota products, whether through the website, the Cota Truck, or at trade shows. This information will be leveraged by creating an online newsletter, which will comprise of engaging content related to the Wireless Power Transfer technology and updates on Ossia's ongoing and upcoming interesting developments. These online newsletters will encourage subscribers to build a relationship with our brand, which will ultimately drive sales and user growth. Having a base of people who receive product announcements will also aid in growth to adjacent markets.

Other Collateral Material

The deck of materials will also include brochures communicating the product benefits, whitepapers and case studies about the Cota technology and its uses. These will be an important medium to communicate and inform the prescribers, audiologists, doctors, new partners and everyone interested in the Cota technology. These materials will be available both in print and in digital form, so that there will be no barriers to accessing these documents.

Internet Advertising

Starting in year two, Google AdWords will be used as a medium for internet advertising. The main purpose of using this channel will be to reach out to the relevant audience that is interested in the technology and products offered. Using Google AdWords, with the PPC (Pay per Click) metrics that it is equipped with, it will be easier to measure the effectiveness of the

advertising. Google AdWords also offers flexibility to design the campaign in a way that it suits the different needs at different points in time. An additional benefit is that A/B tests around the pricing, wording, and imaging can be done using data from these campaigns.

Performance Measurement & Contingency Actions

Regular assessment of the feedback received from the different processes, key activities, stakeholders involved and improvement actions following it, are important ways to ensure that Ossia is on the right path towards being a successful venture.

Metrics for Performance Measurement

Market Share

The assessment of market share at regular intervals, evaluated against the set goals will be an important measure of performance. If the performance fails to meet the expectations, an analysis will be done to identify the possible causes or mistakes. After identification, a necessary corrective action plan will be implemented.

Revenue Goals

The assessment of Annual Revenue and Net Business Income, evaluated against the set goals, will be another important measure of performance. If the performance fails to meet the expectations, an analysis will be done to identify the possible causes or mistakes. After identification, a necessary corrective action plan will be implemented.

Education Campaign Effectiveness

The end-user education campaign (using the Cota Power Truck), is expected to reach a significant number of potential customers. These campaigns will be tracked closely to monitor the number of people who have been reached, specifically how many people have gotten onto and interacted with the Cota Power Truck. While these campaigns will be focused on facilitating long term growth, the effectiveness of these campaigns can also be measured by evaluating whether the impact of the interactions is translating into sales by monitoring growth. If it is found that the campaigns are effective, steps should be taken to see that the effective implementation is continued or further enhanced. If it is found that these campaigns are failing to have the desired impact, a decision can be made on how to alter the education campaign strategy.

Customer Satisfaction

Ossia will routinely survey the end users in order to determine the Net Promoter Score (NPS), to gauge the overall satisfaction and the their loyalty to the brand. Although, during initial

phases, the first customers will come through partner OEMs, Ossia will have contact information due to the Cloud Management Portal. A framework will be created to ask for the ratings and to analyze these findings in order to identify places for improvement and any customers at risk of churning.

Contingency Actions

Provision to Revise Incentive Plan

If the performance measurement metrics show that the Starkey Sales force is not achieving their targets, a provision will be activated that will allow Ossia to investigate and analyze the potential causes for the team not meeting their goals. If necessary, the Ossia team will revise the previously agreed incentive plan for Starkey Sales Force.

Provision to Terminate Contract

If the partnership with Stakey doesn't meet the expectations and fails to achieve the set goals, there will be a provision that enables the Ossia team to terminate the exclusivity agreement with Starkey. Before terminating the partnership, there will be extensive efforts to diagnose the problems and improve the situation. If these efforts fail, however, Ossia will remove themselves from the partnership and enact the action plan described below.

Action Plan for Early Launch of Store

If the Ossia/Starkey exclusivity contract gets terminated before year two, there will be a plan in place for the early launch of the Ossia store. This milestone is currently planned for year two, so an early launch will require focus to shift on setting up the website and operational foundation to launch as quickly as possible. Under this emergency action plan, the marketing, communication, branding strategies will all be aligned to fit the early launch.

Conclusion

In conclusion, if Ossia can successfully partner with Starkey where both are providing value and competitive advantages for one another then it will give Ossia the capability to hit the revenue goals that have been set. It will be key for Ossia to help lead and/or develop the regulations going forward, addressing safety concerns and adoption of Over The Counter hearing aids. With Ossia's experience in this technology, sound manufacturing supplier relationships, and setting global standards there should be no reason to not have a step up on the competition. By executing the two step marketing strategy and creating focus around the Ossia brand image it is inevitable that Ossia will create returns for its investors and customers.

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Introduction

This marketing log is intended to be used as a supplement to the “Ossia Marketing Plan - Hearing Aid Batteries & Starkey Partnership”. This marketing log represents the teams assumptions and decision making processes and is intended to give insight into the group’s thinking, overall planning, processes and decision making.

Why Hearing Aids?

We chose “Wireless Power Transfer” technology in the high-technology space. Our next step was identifying Ossia and the Cota Technology. The Cota technology found its application into a vast array of applications. Before narrowing down on a particular market, we set a goal that we wanted our plan to achieve.

Goal: Find a user segment where not having continuously charged devices presents a legitimate hardship and would therefore benefit from Ossia’s technology.

Our team did a comprehensive research looking into 21 potential markets and eventually narrowed down to 5.

The 5 potential markets for our second round of shortlist were-

- Home Users
- Retailers
- Medical
- IoT
- Automotive

On further research we found that in the Medical Market, there was an opportunity space as there were several devices where, battery replacement was a regular affair and it wasn’t easy. It was also in line with our goal, in the sense that not having continuously charged device could result into several hardships and potentially dangerous situations. Thus, choosing some segment in this market, would also enable us to solve a problem for the larger good.

	A	B	C	D	E	F	G	H	I	J	K	L
1												
2	Industry	Home users	Airplanes / Airports	Office Spaces and Industrial Units	Retailers	Medical / Healthcare	Schools	Internet of Things				
3	Segments	Cell phones				RFID tags		Hearing Aids			Security Bots	
4		Livingroom Gadgets						Pace-Maker			Fulfillment Robots	
5		TV						Cochlear Implants				
6	End User	Homeowners	Developers	Travelers	Employees, Workers, Visitors	Shoppers	Retailers	Diners	Medical Equipment Manufacturers, Doctors, Patients	Students Teachers Staff	Tech companies Supply companies	Car Drivers
7												
8	Application	Consumer electronic products, appliances,	Reduce amount of wiring needed in housing	Passengers and users powered with no wires at all times	Continuous charging of devices, machinery with no cluttered wires and in highly volatile environment	Charging of small hand held devices for customer convenience	Charging of price tags and product signage	Charging of small hand held devices for customer convenience	Wireless Powering of Human Implant Devices, Wearable Diagnostic Devices, Wearable Monitoring Devices	Power small devices and laptops, power school provided computers and equipment	Allow IoT devices to remain in use 24/7 without needing to be docked. Security robots, devices in warehouses (amazon)	Charging of small hand held devices for customer convenience
9												
10	Benefits	Convenience, constant power source	Reduction in overall housing costs/ less maintenance, easier to upgrade	Continuous access to power, convenience, productivity	Convenience, improved efficiency of manufacturing units, increased safety	Customer satisfaction and access to store information	Streamlined operations, less material and labor waste	Customer satisfaction and access to store information	De-clutter hospitals, convenience, improved safety, improvement in quality of life, greater freedom and mobility, greater patient acceptance, and reduction in infection.	Reduce the amount of power infrastructure that would need to be provided. Allow students to remain charged throughout the day without having to stay by outlets.	Allow company to run their devices 24/7 without needing them to be charged. Right now, warehouses would have to have double devices to run constantly, but if they were powered wirelessly, they could cut back on the required infrastructure.	Customer satisfaction and comfort
11												

Figure 1. Research for Potential Markets and Segments

We further shortlisted three market segments under the medical market.

- Cochlear Implants
- Hearing Aids
- Implantables (Pacemakers)

In case of the Cochlear Implants segment, it was quite difficult to access users and thereby limiting our means to understand the customer and the market for our primary research. In case of the Implantables (Pacemakers) segment, the replacement window was too large (about 5-6 years) thereby limiting our growth prospects.

We finally zeroed in on the Hearing Aids segment in the medical market, considering the fact that the users replace battery often enough. This also justified existence of a need for an upgrade like that of a Wirelessly Powered Hearing Aid Device, which can eliminate the hassle of replacing the batteries often, and provide more convenient alternative.

Market Validation

Why Starkey

When looking at who would be the best partner in the hearing aid space, we looked at 3 criteria.

1. Is the company domestic or international? There was an overall goal of focusing on the US market due to the supporting data that we were able to collect.
2. Does the company have a large enough footprint to allow for a meaningful partnership?
3. Is the company known for having a technology focus?

Based on our research, Starkey was determined to be in the top 5 hearing aid suppliers in the world, at approximately 19% of the overall market. They are also US based and distribute primarily in the US market. We then reviewed their overall technology footprint and found that they promote higher-end offerings and technology packages. While the other top 5 players in the space also meet the footprint and technology requirements, none of them are US based and have a primarily US distribution network and they are all major international players making Starkey the best choice. [1]

Technology

The group initially looked at several different wireless technology companies. This list consisted of 8 potential candidates, with different approaches and different technology bases, including one that we came up with on our own:

- <https://ubeam.com/>
- <https://www.powercastco.com/>
 - Behaving like Wi-Fi where enabled devices automatically charge when within range of a transmitter, Powercast's contactless charging technology provides over-the-air power at a distance to multiple devices – no wires, charging mats or direct line of sight needed. A transmitter sends RF energy to Powercast's Powerharvester® receiver embedded in a device, which converts it to direct current (DC) to directly power that device or recharge its batteries. Operating across a wide RF power (as low as -17 dBm) and frequency (10MHz to 6GHz) range, the Powerharvester receivers are designed to convert RF to DC with up to 80 percent efficiency.
 - Primary focus is on RFID tags for retail
- <https://energous.com/>
 - In simple terms, a WattUp transmitter sends contained energy via radio waves to paired devices containing complementary WattUp receivers. The receivers convert those radio waves into DC power, which in turn charges the receiver's battery.
 - Just presented at CES so there should be data around that effort.
 - Publicly traded company so financial information is a little easier to get.

- <http://www.ossia.com/>
 - Cota works very similarly to WiFi, except instead of sending data, we send power. The Cota Power Receiver, embedded into any device initiates the ‘conversation’ by sending a beacon signal (see diagram below) to find a Cota Power Transmitter. The transmitter then sends power back in the same exact paths. This ‘conversation’ between device and transmitter happens 100x/second, to send power safely to devices at a distance while in motion. All your Cota-enabled devices will receive power simultaneously. (Bret)
 - Focused on smaller, consumer products
- <http://witricity.com/>
 - Automotive - charging pads with no hookups
 - Industrial - power robots and electromechanical devices
 - Medical - charging for implantable devices/equipment in the hospital
- Newly founded/created company
 - Installs this new wireless power transfer into houses replacing regular electricity wiring.
- <http://www.humavox.com/>
 - Start-up from Israel
 - Wireless charging solutions for wearable consumer & fitness electronic devices, healthcare electronic devices, enterprise/professional markets
- <https://powerlighttech.com/>
 - PowerLight optical power beaming technology converts kilowatts of electricity into high-intensity light. It then shapes, directs and beams this light to a specialized solar cell receiver that converts the light back to DC power.
 - <http://powerlighttech.com/initial-applications/> explaining the possibilities of reach across applications. They also have some use case studies posted.

Ossia's Cota

Ossia's Cota technology delivers wireless power without plugs and pads. It is safe, convenient and invisible just like Wifi providing data instead Cota will provide power. Cota technology can charge several devices within a 30-50 foot radius with a maximum of two transmitters. Currently, WiFi technology to access the internet allows non-line-of-sight signal transfer, this technology also allows non-line-of-sight charging.

The WiFi hub is placed in any location for charging as a you do not need to sit in front of a Wifi transmitter to receive a data signal. This technology allows the delivery of power to

several devices within the radius passing through objects like furniture providing power to devices in motion providing a significant advantage to consumers as shown below. [2]



Figure 2: Cota Transmission[2]

Ossia does not manufacture a separate portable expansion antenna. We assumed that our product offering will comprise a portable expansion antenna unit for travel or office use. As that fit well in agreement with our thought that, we are selling an entire ecosystem as a product.

Demographics

The market size was chosen from several sources on hearing loss in the United States that all are closely related in numbers of the hearing loss, the use of hearing aids in the population, and the growing number of hearing loss. The starting point is 48 million Americans with hearing loss and 28% use hearing aids which accounts for over 70% of people with hearing loss that do not address this issue. [3] Our total addressable market (TAM) is 48 million people with hearing loss leading to our partnership with Starkey and their 19% market share. The introduction of our innovative product to our target age segment ages 40-69 defined our market at 57.4% reaching a market size of over 51K making our product an advantage to our targeted age segment.

Global Expansion

We chose not to include global expansion in our analysis due to the lack of data and keeping the project within a manageable size of scope for the class. On top of existing marketing topics we would have had to include specifying specific countries, complex and specialized data collection, different sales channels, and a much more lengthy description of our logistics plan for handling sales out of the country [4]. For these reasons our marketing plan is only launching in the United States.

Partnerships

Ossia does not sell their products directly but licenses out their technology to partners such as Spigen a leading case maker that also provides mobile accessories, BOE is a world leader in semiconductors providing intelligent interface products and display/sensor products are widely used in many applications, Molex another partner providing electronic solutions in various industries, and SES-Imagotag a world leader in smart digital labels and pricing automation has developed a comprehensive IoT and digital platform that delivers a complete set of services to retailers.

Other partners are Displaydata a leader in electronic shelf labels enabling retailers to maximize revenues and margins by improving the customer experience at the shelf edge, Xirgo Technologies, LLC provides a comprehensive in-house development of innovative, full-featured, application-specific wireless IoT communication devices, and Motherson Innovations whose main objective is entering new and attractive market segments with innovative products providing the business with cutting edge technologies for their new products. Motherson-Ossia is a new joint venture of the companies established in 2018 to bring the patented Cota real wireless power to vehicles worldwide allowing market penetration in various industries.

Company Adjustment

According to Ossia's website, they are a licensing and technology development company. The company currently does not have any manufacturing beyond simple prototyping and proof of concept modeling. For the purposes of our project, this company strategy would not have allowed us to complete our project in a meaningful way. Therefore, we adjusted the company's structure to include manufacturing and distribution. This change allowed our team to create an internal distribution structure and the ability to manage/produce its own products. By making this adjustments it allowed us to simplify the supply chain to a point that was manageable within the scope of the class time.

Sizes

There are five main hearing aid sizes that are color coded for ease ranging from the smallest to the largest and they are: size 5 batteries-red label, size 10 batteries-yellow label, size 312 batteries-brown label, size 13 batteries-orange label, and size 675 batteries-blue label.

[5]

Pricing

Pricing was reviewed for each product individually products with a focus on overall cost as a target. After reviewing the cost of the hearing aids themselves and the cost of our closest comparison, rechargeable hearing aids, we came up with an overall price target of \$700-\$800. We used this number to frame the rest of the individual item reviews.

We then moved onto the batteries, as these are the main focus of our product. We decided to price the batteries individually based on the future expansion idea of replacements and individual product sales. We then discussed how much of the cost should be associated to the batteries themselves. Since these are a substantial part of the system, we started with close to half of the value, but had to leave room for the expansion antenna. Therefore, we took a 40/40/20 split to start with. Using a \$750 median target, this gave us a \$300/\$300/\$150 split. This number resulted in an individual battery cost of \$150 (2 per set). We then compared that cost back to the cost for the rechargeables and the standard high cost batteries, the \$150 per battery seemed to be a reasonable number.

This also gave us a \$300 price target for the base antenna. Using standard routers as a baseline for a similar product, a \$300 price point is about 3x the cost of a standard high-end WiFi router. While this might be expensive, we also view our technology as having a significant worth and decided that a \$300 price was still reasonable and should carry the same weight as our batteries as you can't have one without the other.

The last thing we reviewed was the expansion antenna. While this is also included in the standard kit we sell, it is also intended to be our proliferation medium into the household and user's everyday life. Therefore, a lower price point seemed to make more sense. Using the \$150 value from the previous breakdown for this component therefore made sense. While it is still more expensive than a standard router, our base comp, it still represents a component premium to give us a solid return on our investment.

We then took an overall look at our package with a \$750 total cost. We then weighed that against the overall cost of the high-end hearing aids themselves and the overall cost of the 5 year battery use of the high-end throw away batteries to see if we could build a value proposition based on cost, even though it is not our primary focus. Using the high-end hearing aids as a baseline, \$2500-\$3500 per ear, means the Cota platform would account for approximately 9.5% to 13% of the total purchase price of the product. While this is a large ingredient cost, it was deemed to be an acceptable cut of the profit based on what the system brings to the table. The second review was based on throw away batteries. With the most expensive batteries costing \$150 per year, the Cota system is a cost equivalent. Since our goal is to price with the high-end product, we deemed this to be the best comp. Therefore, while we are not cheaper than the throw away method, but we do offer a comparable cost profile.

After we reviewed the overall costs, we reviewed the impact to the business as well. The reason for this review was to make sure we could still make a profit at these price levels. Since we are only achieving a conservative (20-30%) margin, we wanted to make sure the values associated to the products would still meet our goal of being immediately profitable. We also

had to make sure the prices were something that we could support on an individual basis as we would need to price them the same as our partner(s). By pricing the content the same we will eliminate the intra-product competition. This strategy will mean that we make less money on the Starkey sales, but will have a consistent message and price to the customer.

Distribution Management

Distribution was broken into multiple sections to help balance out the impacts of each product strategy. Originally our plan was to only sell through Starkey and eliminate the direct-to-customer path. However, after several discussions with the team, it was determined that a multi-pronged approach would serve the business better.

Once the secondary distribution stream was created, it was optimized around using a third party such as Amazon Fulfillment. The use of Amazon Fulfillment, as a way to manage distribution, was used for simplicity of the project. However, after reviewing the service terms on the Amazon website, it was determined that we would need to break the process yet again into two paths. While the Amazon route has many perks like customer service, warehousing and shipping, it also added, what we felt to be, unnecessary costs for a fledgling company. Therefore, we went with an internal distribution strategy to start with. With that being said, if the actual company wanted to manage distribution, this choice would need to be reviewed in significantly more depth. The costs of the service and pros and cons of its use would need to be reviewed at the company level to review its overall impact to the company and its performance. The reason this is recommended is that the volume projections used for this project are fairly conservative. If a more aggressive strategy is used, it might make more sense to skip right to the third party system and skip the internal distribution step.

Marketing Strategy

The marketing strategy assumes that Starkey is willing to allow us to leverage their sales force and incentivize them. While the team realizes the risk of this not being a realistic expectation, for the purposes of the class we assumed it was possible and agreed to. The 10% incentive was also agreed to by the team as something we thought to be a reasonable number based on what was being asked of the sales team. Since selling our product is over and above their normal jobs, we decided that 10% was a large enough number that most people would be enticed into wanting to sell the product. The cost of the templates and pamphlets was an estimate based on past personal work experience.

The mobile experience costs are estimated to be \$200,000 for the truck and is broken down into the following parts: \$100,000 for the base truck chassis, \$25,000 for the truck body and \$75,000 for products and branding efforts on the vehicle. We are then also planning to have 2 people work the truck and a driver. We estimated the cost of this to be about \$300,000 per year based on a \$30,000 operating cost for the truck and a \$90,000 fully burdened cost per employee.

Profit Assumptions

The profit section has four base assumptions made in it:

- 1) The revenue value projections are correct. While the math is sound, we assumed certain volume take rates and growth rates. If any of those are off the values shown will change accordingly.
- 2) We assumed that all costs are fixed and will not increase with time. While we know this is unrealistic, we didn't know what growth factor to apply to wages, maintenance costs, etc.
- 3) The direct-to-consumer product volumes would be small and not require the use of the third-party distribution strategy. We did not set a cutoff point for when the switch would happen, but we did assume that anything less than 5 packages per day direct-to-customer was something that we could handle internally. The cost of this distribution was also assumed based on a 1ft cube shipped through standard mail.
- 4) The margins would expand from 20% to 30% over the first 3 years through efficiency gains and process improvements. We did not define what those improvements would be or how they would be achieved.

Overall, we do feel the projections are fairly conservative and well within the realm of possibility. These results also show that the the company will be profitable in year 1, which was a little surprising since we are working in a high tech field. With that being said, we did not account for any of the company's current costs, technology development costs or general overhead.

Communication Management

We chose to exclude the traditional mass-media channels like newspapers, magazines, radio, television for communication in the Phase I of this Marketing plan. One of the reasons, to do this was the budget constraints and other reasons include, lack of precise targeting capabilities of these channels. Thus, even if we chose to spend a huge amount on these channels, it would still fail to translate that into market share growth by driving the sales. Also the target audience for the Phase-1 of this plan is well served by the other channels that we chose.

During Phase-2, we may likely consider the the mass-media channels, possibly newspapers &/ or Television.

Ingredient Branding

“Ossia-Starkey Market Development Program” (Year 1,2,3):

Under the “ Payout Plan for Starkey” Starkey is entitled to the payout comprising 10% of overall sales every year. Since, we these are the initial years of getting into the market we assume that, for Year 1, 2, and 3 respectively, the figure of 10% would remain constant.

Under the “ Incentive Plan “ for Starkey Sales team, the Sales team is entitled to an incentive comprising 10% of overall sales every year. We assume this figure of 10% to remain constant for simplicity.

“Integrate Cota” Membership program (For Year 4,5):

For reasons of simplicity, we assume that similar to previous 3 years, we will continue with the 10% payout plan to partner OEMs and 10% incentive plan to the sales team of the new partner OEMs.

Competition Matrix

The competition matrix that is described in our paper summarizes the relationship that our competition has in terms of both costs and the level of technology that each of the companies products provide. For disposable batteries, the cost of \$1 per battery on the high end is relatively inexpensive compared to a rechargeable battery that costs approximately \$16 per battery [6]. Not taking into account the required charging case that comes along with having a rechargeable device. Prices on just the case was hard to find without consulting an audiologist. The hearing aids that can bought that are rechargeable capable range in prices from \$2400-\$3400 per ear [7]. Wireless power transfer products are too new to have any associated cost that could be found. With Energous being the only company actively in this market segment we were very limited in comparing products with this type of technology.

The technology aspect was separated into low, medium, and high groupings. Disposable batteries for the most part hasn't changed since it's perception. The major changes have come in the materials used to manufacture these batteries and working to consistently improve their efficiencies. Medium tech represents the rechargeable companies as improvement in being able store energy within a battery and control it in a fashion that disposable cannot. Then of course, high technology are those devices that can charge without contact such as over the air, wi-fi like, or using near field technology.

	Low Cost	High Cost
Low Tech	Energizer, Duracell	
Medium Tech		Sonova, Phonak
High Tech		Energous, Witricity, Ubeam

Table A: Competition Matrix

Interviews

Our group interviewed some users of hearing aids to gain insight into what they liked, disliked, and other general information. From the interviews we were able to create two personas (the End User & the Caregiver) as shown in the image below.

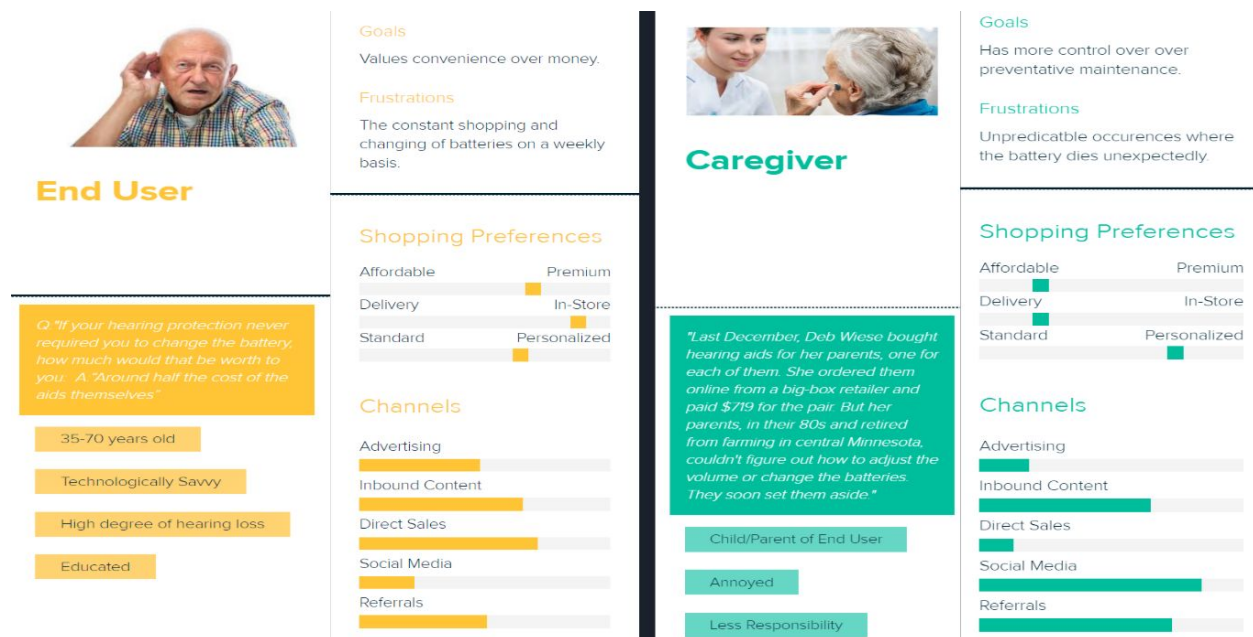


Figure 3: Personas

All of the interviewees mentioned the pain and attention that replacing batteries had on their everyday lives. Not only was the time it took to change the batteries a burden but financially through the life of the hearing aid the costs add up. Most of the people were consistent in purchasing their batteries while grocery shopping and only relying on over the internet in special occasions. These users used either Phonak or Oticon devices, each being manufactured by one of the top four hearing aid manufacturers in the world. It was also agreed upon that if they were to transition to a new technology like this that the battery lasting 16 hours would be a must. Everybody was open to trying a new device with this incorporated technology.

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