Reconceptualizing Two Oceans Foundation Adult Education Program: Final Report

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1. Executive Summary

1.1. Background of Two Oceans Foundation

Since its establishment on November 13, 1995, the Two Oceans Aquarium has grown to be a premier center for marine education and conservation as well as a well-known landmark in Cape Town. In addition to becoming a popular tourist site, the Aquarium has gained recognition on a global scale for its contributions to cutting-edge environmental teaching initiatives, conservation activities, research, and animal husbandry. In the larger V&A Waterfront precinct, the Aquarium plays a significant role in raising environmental awareness, encouraging environmental action, and inspiring passion. It is a certified Diamond member of the Heritage Environmental Rating Programme.

The Foundation's programs focus on research, conservation, and educational endeavors. They had a positive impact on more than 110,000 kids in 2019 thanks to their educational initiatives, with more than 55,000 students benefiting from their outreach initiatives in underfunded schools. Through numerous presentations and collaborations on activations like beach clean-ups, their environmental awareness initiatives reached over 20,000 individuals. Additionally, its conservation and welfare teams participated in the disentanglement of more than 40 seals and saved, treated, and released more than 200 sea turtles.

1.2. The Ask

Although there is a multifaceted issue affecting the world's oceans, the Two Oceans Aquarium Foundation has identified initiatives to solve the crisis by emphasizing the crucial role that ocean education plays in enabling communities to act as change agents for the protection of our oceans. The Two Oceans Aquarium Education Foundation requires assistance in creating an adult education program that addresses important stakeholders in the V&A waterfront in order to achieve this.

The diiVe team was responsible for identifying major trends in global literacy, researching the South African market, choosing a key stakeholder, and learning how to create an educational program for that stakeholder.

1.3. Key Findings

To approach the ask in our business discovery phase, our team completed extensive research on global and local trends in ocean education, analyzed the current strengths and weaknesses of Two Ocean Foundation's current state, and conducted a preliminary stakeholder analysis to understand the target market. The following insights have been compiled for each major research category.

Ocean Education Programs: Key motivating factors driven by historical trends and shifts contribute to an increased focus in sustainable efforts today. Moreover, leading local ocean education programs prioritize sustainable welfare of their local community (human and aquatic). However, there are gaps in the use of behavioral economics.

Current State of Two Oceans Foundation: It currently offers various engaging marine science education programs for children, but could improve their long-term impact by incorporating behavioral economics.

Preliminary Stakeholder Analysis: Two Oceans Foundation should focus educational programs on fisheries because of their high impact on the ocean and the moderate difficulty of implementation.

Next Steps: Additional research and interviews are necessary to better assess how Two Oceans Foundations can build an ocean literacy adult educational program for the key stakeholder selected.

1.4 Recommendations

Our final recommendation, the Oceans Campus targeting staff at V&A boating charters, is a result of our extensive research, stakeholder interviews, and case studies. We put our ideas from ideation through a strategic impact matrix and selection criteria and subsequently selected the top three ideas that performed the best. These ideas became our three prototypes: (1) implementing a new social media strategy, (2) creating an Oceans Campus that primarily partners with not-for-profit ocean organizations, and (3) building a collaborative community amongst not-for-profit ocean organizations. After testing and iterating these prototypes, we gained valuable insights from speaking to key stakeholders, such as Ann Lamont and Craig Girdlestone from Waterfront Charters. This prompted us to shift our focus in the Oceans Campus prototype from targeting employees not-for-profit organizations to boating charters, which are low-hanging fruit at the V&A Waterfront. To ensure that our final recommendation would be as polished and feasible as possible, we did not include the social media and collaborative community prototypes. However, these ideas can still be implemented in the long-term to expedite Two Oceans Foundation's future expansion.

Although the target stakeholder for the Oceans Campus has shifted over the course of our research, the fundamental structure remained the same to ensure that Two Oceans Foundation's adult education program would complement existing ocean literacy resources with new behavioral economics insights, particularly the change champions model. We want to emphasize the importance of incorporating this behavioral change model in order to ensure that Two Oceans's education program leaves a long-term measurable impact that will shift behaviors towards more sustainable ones via the multiplier effect.

For immediate next steps, Two Oceans Foundation will first need to finalize the logistics of the Oceans Campus program including the financial model, reallocation of personnel, and securing a partnership with Waterfront Charters. Short-term actions range from three to four months and include capitalizing on the tourism season to implement the educational training program with the staff of Waterfront Charters. In the long-term, Two Oceans must reflect on the impact of the first training program completed with Waterfront Charters and make any necessary adjustments to the program in order to maximize its success with future expansion to other boating charters, South Africa Maritime Safety Authority, and any other sectors it hopes to infiltrate.

2. Methodology and Approach

2.1. Theory U

Theory U is a systems thinking framework that was developed by Prof. Otto Scharmer of Massachusetts Institute of Technology (MIT). It makes the case that linear thinking is no longer viable in complex problems. We can no longer learn by reflecting on the past because of the complexity and the pace of the advancements in the 21st century. Instead, Theory U argues that we can learn and solve problems by co-reflecting, co-visioning, and co-creating with the right stakeholder in order to drive change and innovation within any system. Throughout this consulting case, Theory U was used to deeply understand the problem, develop self-awareness, understand the potential and the vision of the stakeholder, create solutions together and find ways to test the solution quickly with prototypes.
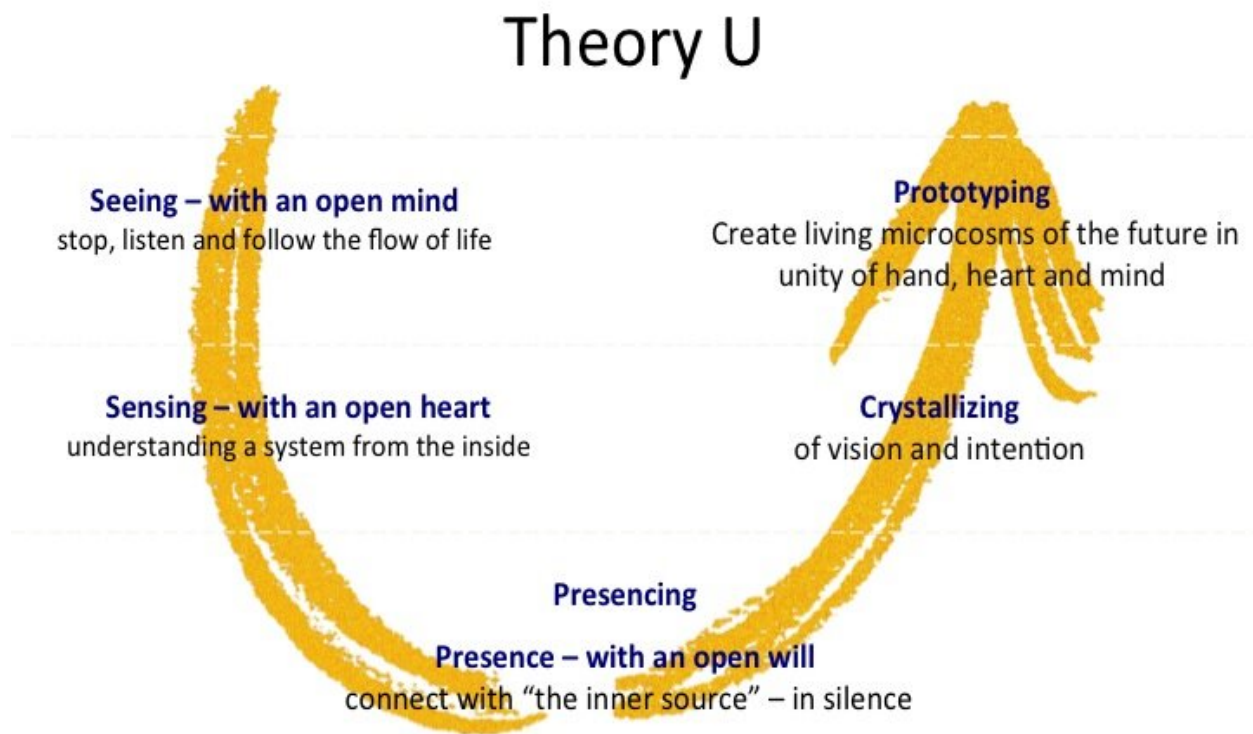
Figure 2.1 Theory U Diagram

2.1.1. Co-Reflecting

For the purposes of this consulting project, co-reflecting helped to facilitate deep understanding and awareness of Two Oceans Foundation. Co-reflecting allowed the group to understand the project brief as a whole. True understanding came from multiple meetings with the client where the team asked many questions about the problem at hand and about the Two

Oceans Foundation. These meetings helped the team understand the complexities of Two Ocean Foundation. The culmination of co-reflecting came when the team put together the discovery findings for Two Oceans Foundation.

2.1.2. Co-Visioning

Before moving into the solution, the team had to work to understand the potential and the vision of Two Oceans Foundation. The purpose of co-visioning is to use the collective purpose to create a forward-looking vision with the team and client. The team accomplished co-visioning by completing a visioning exercise with the client in order to understand the long-term vision for Two Oceans Foundation. In turn, the team was able to come up with an actionable solution that was a step closer to the overarching vision.

2.1.3. Co-Creating

Co-creating builds off the work done in co-visioning. The team used our understanding of the vision to come up with prototypes that aligned with the vision and also solved the problem at hand for Two Oceans Foundation. Once the prototypes had been created, stakeholder interviews were held in order to test the solution and iterate based on responses.

3. Ocean Education Programs

3.1. Historical Ocean Education Trends

Historical trends in ocean sustainability have drastically shaped the increased efforts on sustainability today. These trends include sustainability not being the norm, a low number of sustainable products sold by companies, a lack of public awareness of sustainability, and many businesses that set goals to reach sustainable measures not being met.

As time advanced, many shifts towards more sustainable efforts occurred. For example, many businesses started to realize that by developing sustainable products, their business growth would, in turn, increase. Additionally, with the rise of technology, social media started to become essential in marketing sustainable products and efforts businesses were making around the world. Therefore, many customers started to buy sustainable products after they became aware how much of a difference sustainability in a product makes. Further shifts include many ocean education programs incorporating hands-on experiences, and businesses started to uphold sustainable practices set forth, meeting their standards set in putting forth sustainable efforts.

3.1.1. Key Motivating Factors

Key motivating factors contributing to this increased shift of sustainable efforts over the past ten years include a call to action, the COVID-19 pandemic, enhanced urgency, and greater public awareness.

A call to action was made through The United Nations Environment Program Sustainable Development segment by naming 2020 the "Decade of Action," persuading many people around the world to practice more sustainable efforts in order to save the environment at a critical time. The COVID-19 pandemic acted as a key motivating factor as it was a wake-up call to the public for a majority of different significant issues, one being protecting our environment during the rise of global warming. With many crucial environmental issues taking place around the world with limited time to make a change, enhanced urgency has become a critical motivating factor, pushing the population to take action. Lastly, due to the rise of social media, the public has a greater awareness of sustainability and how to take action to make a change for the better.

3.1.2. Sustainability Focus

As a result of the historical trends, shifts, and key motivating factors for a greater focus to put forth sustainable efforts, many aquariums, corporations, and ocean education programs are incorporating sustainable practices into their business strategy.

The Aquarium of the Pacific and the Georgia Aquarium are both examples of how aquariums are contributing to sustainable practices today. The Aquarium of the Pacific uses guest speakers, virtual programs, festivals, films, and art events to educate their community on sustainability. The Georgia Aquarium uses recycled exhibit water in order to partake in similar efforts. Patagonia is an example of a leading corporation that is taking action in sustainable efforts by having been regularly donating to environmental programs since 1985. Additionally, ocean education programs are now starting to incorporate behavioral economics into their

programs, especially those programs that are leading ocean education programs around the world.

3.2. Leading Global Ocean Education Programs

In 2022, the United Nations has specified the goal of global ocean literacy education and conservation as the following: protection of the marine environment, green marine shipping and reduce pollution, and protection of inhospitable waters surrounding the two poles from ship operations.

By 2025, the UN intends to prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution, shifting from previous years' focuses on sustainable development of marine-based industries to decreasing pollution on a global scale. This shows the urgency of the popularization of ocean literacy education and the method of changing people's behavior. In response to the call of the UN, many leading ocean education organizations have emerged throughout the world.

3.2.1. UNESCO

UNESCO, also known as the United Nations Educational, Scientific, and Cultural Organization is a leading organization in Southeast Europe. Their goal is to create an ocean-literate society through the use of behavioral change methods and by adopting a systematic approach.

3.2.2. OCEANA

OCEANA is a leading organization in California. Their vision is to make the oceans as rich, healthy, and abundant as they once were,similarly aligning with many other leading global and local ocean education programs.

3.2.3. Ocean Conservation Trust

Ocean Conservation Trust is a leading organization in the UK. They motivate people to connect with the Ocean through individual physical and emotional experiences, large-scale awareness campaigns, and education initiatives.

Two of the programs at the Ocean Conservation Trust are good examples of implementation of behavioral economics. In the Behind the Scene Tour, the Ocean Conservation Trust invites tourists to key areas hidden from public view and allows tourists to have first-hand experience of keeping over 6 million liters of water clean and feeding over four thousand animals. The Ocean Conservation Trust had 150 thousand people visit their aquarium, and conducted an ocean literacy survey with 8,440 people in 2021.

Additionally, the Ocean Clean-up experience program invites people to pick up plastics on the beach, which is open to the public. People can learn ocean literacy and talk to marine experts through these experiences. Looking back in 2021, The Ocean Conservation Trust and its participants have cleaned up over 22 kilometers of coast and collected a total of 352 kilograms of plastics.

3.2.4. AMEA(Asia Marine Educator Association)

AMEA (Asia Marine Educator Association) is a leading organization in Asia. Their main objectives are to Create a network of Asia marine educators, promote Asian ocean literacy, and encourage cooperation between governments, policy makers, stakeholders, scientists, educators, and the public.

3.2.5. Lareto[1]

Lareto is a leading organization in South America. Their goal is to build a network that strengthens, makes visible, and professionalizes marine education to promote ocean literacy/culture in Latin America and the Caribbean.

3.3. Leading Local Ocean Education Programs

Our team did research on different ocean education programs that had varying strengths, approaches, and target audiences. Some common themes we noticed was that most organizations lacked a behavioral change aspect in their multifaceted approach and targeted youth and/or under-resourced communities.

3.3.1. Veld and Sea[2]

Veld and Sea was founded by Roushanna Gray and aims to educate and inspire South Africans on the importance of sustainability through preserving food from nature. They do this through immersive experiences such as foraging workshops.

3.3.2. Oceans Research South Africa[3]

They provide researchers with education and training on SA oceans and wildlife. What interested us the most about them was their different sources of revenue such as:
- Media exposure
- Brand advertising
- Membership
- Research experiences
- Personal satisfaction
- Professional conduct

3.3.3. Freyja[4]

Founded in 2018, the Freyja Foundation coaches the next generation of ocean guardians by providing transformational educational experiences through physical interactions with the sea and wildlife. In Cape Town, Freyja is working with I Am Water to design a project management plan and proposal to implement an ocean literacy program in the South African public school system.

3.3.4. I Am Water[1]

Founded in 2010, the I Am Water Foundation's goal is to foster a community of conservationists in low-income coastal communities in South Africa through transformative human ocean experiences. They have numerous initiatives to accomplish this goal, such as ocean conservation workshops, a school speaking series, physical interactions with sea &

wildlife, safe spaces to overcome fears, beach clean ups, accessible online content, and creating the Oceans For All Alliance that teaches startups how to create their ocean literacy. They also have a change champion model where they employ and train community ocean leaders, an approach we ended up imitating.

3.3.5. Fisheries and Aquaculture Development Institute (FADI)[2]

FADI creates a basis for sustainable fisheries management by teaching small-scale fishers in under-resourced communities, particularly Kenton-on-Sea, Saldanha Bay, and Ocean View. They teach alternative livelihoods, such as net-making, brick-paving, and tourism.

3.3.6. Save Our Seas[3]

The Save Our Seas Foundation was founded in 2008 and they connect the public to the ocean through experiential education programmes that focuses on sharks and local marine ecosystems in order to nurture, encourage environmentally responsible actions and develop a healthy respect for sharks. Some programmes include school visits, environmental camps, external visits, holiday clubs, surfing, and snorkeling around False Bay.

3.3.7. AfriOceans Conservation Alliance[4]

AfriOceans is an NGO that was founded in 2003 and is known for their campaign work, research projects, and for speaking up for those who cannot. They also have education and awareness initiatives targeted at the youth such as AfriOceans Warriors, Kelp Forest Classroom, and school presentations. The Kelp Forest Classroom particularly interested us when looking for NGOs to partner with because it is a living laboratory that allows learners to immerse themselves into a very diverse ecosystem. In addition, they have also previously partnered with Two Oceans in one of their awareness initiatives.

3.3.8. Shark Spotters[5]

Shark Spotters was founded in 2004 dedicated to reducing interactions and conflict between recreational water users and white sharks, becoming a pioneering shark safety and research organization. Some of their initiatives include reducing the risk of a shark bite by reducing the spatial overlap between people and sharks, providing emergency response in the event of a shark incident, conducting research on shark behaviour and ecology, raising awareness about shark safety and conservation issues, and providing employment opportunities and skills development for shark spotters. They also have outreach activities such as public presentations and educational community events, as well as a community hub called the Info Centre. As for funding,they receive sponsors, 85% of it coming form City of CPT and Save Our Seas, so they do not charge for their services.

4. Two Oceans Foundation Key Findings

4.1. Current Education Programmes and Practices

In addition to their marine wildlife conservation efforts and research initiatives, Two Oceans Foundation has offered numerous sustainability and ocean-oriented educational programs. Previous programs primarily targeted youth audiences within the classroom setting and employed a variety of teaching methods in order to engage children. The overarching goal of these programmes is to nurture an ocean-loving and ocean-literate community for the future wellbeing of all.

4.1.1. School Programs

Two Oceans Foundation's school programs deliver phase-specific lesson options for students in Grades 1 through 12 via the following teaching models: "We can visit your school, your school can visit us, or we can offer online lessons for those further afield". The first model enables schools within Cape Town to receive a guest lesson from a Foundation teacher on a grade-appropriated marine science topic. Additionally, the Foundation offers COVID-friendly, mobile puppet shows that teaches students in Grades R to 3 about nature and our impact. The second model leverages the Two Ocean Aquarium as an educational space for school groups in which schools can book a lesson for R87.00 per learner in one of their Discovery Centers or a puppet show for younger children. The third model offers a virtual option where teachers can live stream lessons via Zoom to the classroom. All school programs are specifically designed to align with the partnering schools' curriculum or goals for marine science education.

4.1.2. Outreach Programs

Two Oceans Foundation also facilitates outreach programs to bring ocean education to children in under-resourced schools and communities. There are two dedicated outreach teachers that visit schools every day during the school term. Oceans in Motion is a programme that teaches marine science lessons in Grades 4 through 6 by bringing a living aquarium to schools. Smart Living is another programme that delivers lessons about sustainable living to students in Grades 6 and 7, which covers topics such as biodiversity, energy, water, and waste. Both programmes are delivered to schools via a distinct, colorful mobile van that is easily recognizable on Cape Town streets. These lessons are free of charge to schools or are offered for a small fee for those with the capacity to pay.

4.1.3. Marine Sciences FET

Two Oceans Foundation has partnered with the Department of Basic Education to develop a marine sciences curriculum. This formal subject is comprised of eighty-five topics within four pillars: Marine Biology, Oceanography, Ocean Ecosystems, and Humans and the Oceans. The curriculum was approved to be offered for students in Grade 10 through12 and has been implemented in numerous node schools since January 2020. Various teaching resources are provided to support participating schools with the aim of using online content instead of textbooks. The Two Oceans Aquarium Education Foundation believes that this curriculum can be utilized to offer the most value and make the greatest contribution to supporting South African and international education.

In addition to school programs, Two Oceans Foundation also offers online and in-person course options for learners of varying ages. The Foundation offers a three-year online Marine Sciences curriculum course for students in Grades 10-12. Its format consists of online teaching via Zoom and their own e-learning platform as well as a time commitment of four hours a week. This course is also available to adults and older students who have the option of receiving a certificate upon successful completion of assessments. The cost of this online course is R7 350 for 2023, with a slight increase per year. Moreover, the Foundation offers a Marine Science Explorer course at the Aquarium for students in Grade 9. This course builds on school curriculum and provides enrichment for learners interested in marine life with content ranging from basic oceanography to marine sciences careers. The Marine Science Explorer Course costs R800 per learner and there are sponsored placements available for a select number of applicants.

4.1.5. Key Takeaways

After conducting an analysis of these existing programs situated within global and local ocean education trends, we were able to conclude three key strengths and weaknesses regarding their implementation.

The biggest drivers of these programs' success are:
1. High level of interaction that make learning exciting for young audiences
2. Accessible rates and financial support for those without the capacity to pay for ocean education
3. Flexible, COVID-friendly teaching models that allowed the Foundation to continue its work during the pandemic.

On the other hand, key gaps in this implementation include:
1. Unclear measured impact on behavioral change over time
2. The lack of behavioral economics incorporated into the curriculum
3. Limited advertising online and at the V&A Waterfront.

Understanding these key strengths and weaknesses are crucial to consider when creating a strategy to maximize long-term behavioral change impact for the new adult education program.

4.2. SWOT

We carried out a SWOT analysis of Two Oceans Foundation's current state in order to evaluate the strengths, weaknesses, opportunities, and threats to consider when launching a new adult education program.

Strengths	Weaknesses	Threats	Opportunities
• Unique selling points for engagement: live animals & live people • Reputation for delivering quality enrichment courses • Leverage Marine Sciences Curriculum for content • Accessibility: 　○ 3 teaching models: we visit you, you visit us, online • Location near V&A Waterfront → heavy foot traffic; beautiful setting 　○ Proximity to key stakeholders that impact the oceans • Strategic partnerships (i.e. WWF, Shark Spotters)	• Limited funding & personnel • Does not incorporate behavioral economics into their education programs 　○ Same with indigenous knowledge → key component of leading models (i.e. Canada) • Have not leveraged strategic partnerships to target key adult stakeholders • Lack of digital advertising 　○ Limited testimonials & recent performance Statistics • No method to measure or monitor impact of programs	• Lack of diversity: adults involved in water recreation are predominantly white making outreach to other communities difficult • Cost-sensitivity: participating in these programs has a negative financial impact 　○ Poverty & unemployment in the community makes time and money scarce • Low priority compared to issues of load shedding, recovering from COVID-19 pandemic etc.	• Utilize behavioral economics to increase long-term influence on behavior change • Spark interest by incorporating local history & indigenous knowledge • Implement new digital marketing strategy on social media & updated website • Expand online programs to increase convenience & accessibility for users • Leverage strategic partnerships at Waterfront 　○ Increase advertising by using digital screens • Funding: apply for grants, secure investors

Figure 4.1 Two Oceans Foundation SWOT Analysis

4.2.1. Key Takeaways

1. The Foundation's unique selling points for engagement and abundance of teaching materials within the marine sciences curriculum are key strengths to leverage when creating the adult education program. This is further bolstered by its reputation and access to the Aquarium at the V&A Waterfront.
2. To ensure that the Foundation's investment in educational programmes reaps the benefits of initiating long-term sustainable behavioral change, it must incorporate behavioral economics when teaching lessons and measuring their impact.
3. Given the quantity of uncontrollable external factors and limited resources within the Foundation, the launch of the adult education program should be targeted towards a stakeholder that would be easily accessible to the Foundation in its current state and still have a sizable positive impact on the ocean.

5. Stakeholder Analysis

In this section, we will discuss our research and findings on the variety of stakeholders that could potentially be target audiences for Two Oceans' new adult education program.

5.1. V&A Waterfront Stakeholders

Within the V&A Waterfront, we have separated the stakeholders into different groups: visitors, staff, work, play, and stay. Please see this link for our team's stakeholder map. Here, you will find relevant stakeholders we have reached out to that should be contacted as the adult education program becomes more established.

5.1.1. Visitors

The first group we examined were visitors to the V&A Waterfront. Up until the COVID-19 pandemic, the V&A Waterfront would receive visits from more tourists than locals on average. It is one of Africa's leading tourist destinations with 24 million visitors per year. However, with the pandemic severely impacting travel, the balance tipped in the favor of the locals and now locals make up more than half of V&A Waterfront visitors, but not by much. That being said, most of the locals belong to the upper class because the Waterfront's brand is one of luxury, which influences its prices. We decided not to focus on visitors because they are in Cape Town for a temporary amount of time.

5.1.2. Staff

The second group we looked at was staff. The V&A Waterfront has many sustainability initiatives. So, its staff contributes to these initiatives just by being employees, since they are required to abide by the guidelines put in place. Since there are so many different kinds of businesses in this area (i.e., retail, tourist attractions, boating companies, etc.), the staff's impact on the ocean becomes very large, as there are 23,000 employees at the V&A Waterfront all following the same sustainability initiatives.

5.1.3. "Play"

The V&A Waterfront, because of its central location on the waterfront, is home to many leisure activity businesses that are used by both tourists and locals. These include boat charters, kayak rentals, diving experiences, etc. From our research, we learned that boats cause the most harm in the marine environment because they create noise pollution that is hurtful to sea life. When researching, we decided to focus on boat charters in the waterfront because they had the most impact of all the activities. Furthermore, there is a large gap in training for the staff. In our interview with Craig Girdlestone (see Appendix), we found that skippers and crew members of Waterfront Charters (a boat charter company in the V&A Waterfront) are required to undergo training, however, only in matters such as firefighting and medical awareness. Girdlestone had also previously reached out to Two Oceans for guidance in educating their staff on ocean literacy. Our team thought it would then make sense to partner with Waterfront Charters, as they have demonstrated interest in the program. We also found our vision for Two Oceans as well as their key strengths would align well with Waterfront Charter's needs. First, Waterfront Charters is in close proximity to Two Oceans and will have access to

the aquarium and other facilities. Additionally, Two Oceans can make an indirect impact on Waterfront Charter's customers through educating the staff. The education program will also be self-financing because of the charter's profitability. Finally, we believe that Waterfront Charters will be a great starting point for Two Oceans' adult education program that we can build a scalable model off of for other stakeholders in the future.

5.1.4. "Stay"

The stakeholders in the "Stay" group included people who reside in the V&A Waterfront area. There are an estimated 1,500 residents here. Because this could be a broad group of people with different age groups, occupations, etc., our team decided to focus on another group with more specific needs.

5.1.5. "Work"

Within the "Work" group, we focused on the Marina and Harbor because they were associated with the ocean the most. We learned that different sectors operated out of these locations, including fisheries, oil, and gas. Additionally, we learned that fisheries are separated into recreational, small scale, and commercial fisheries. With this context, we were only to get information on commercial fishing at the V&A Waterfront. After interviewing Steph Johnson, ex-CEO of I&J (see Appendix), we believe that Two Oceans did not have as much potential for impact as other stakeholder groups due to our existing resources and feasibility.

5.2. Stakeholders Outside the V&A Waterfront

There are also key stakeholders outside of the V&A Waterfront that we took into consideration. We examined formal activities groups, other like-minded ocean education organizations, and fisheries. We chose to look outside of the V&A Waterfront because we know that Two Oceans has a broad reach around Cape Town that reaches beyond the waterfront.

5.2.1. Formal Activities

The formal activities stakeholders included groups such as recreational ocean swimming, paddleboarders, surfboarders, divers, etc. One group that we got significant insight from was the Cape Town Long Distance Swimming Association (CLDSA). The Cape Town Long Distance Swimming Association (CLDSA) is a formal club of around 200 swimmers. We interviewed Kerry Kopke (see Appendix), a chairperson of the CLDSA, to find out the level of ocean knowledge that the members possessed. She explained that formal activities (such as CDLSA) will be receptive to ocean education if there are topics that are relevant to their interests and that they will listen to recommendations made by Two Oceans employees. People in formal activities are usually conscious of issues surrounding the ocean, however, some take action for improvement and some do not. Another important point Kopke brought up was that formal activities in the ocean are predominately white-centric, and are working to become more inclusive of all, which our team made sure to take under consideration for our final deliverable.

We were also able to interview a representative from Shark Spotters, an ocean education organization. Shark Spotters is one of the only adult education programs in Cape Town. It is composed of 30 "shark spotters", or employees that watch the sea for sharks, and 10

net crew personnel. Tayrn Van Neel, a marine educator at Shark Spotters, provided us with key insights for the stakeholder group of ocean educators (see Appendix). She explained that in South Africa, different marine educators in Cape Town are not seen as "competitors" and they often work together. In terms of partnership, Two Oceans has done adult education programs for Shark Spotters' staff. However, in Cape Town, there is not much interest from our target market for adult education programs. Despite this, adults respond well to capacity building activities and projects where they get to learn more hands on with the ocean (ex: at the ocean/aquarium, running, swimming, etc.). Additionally, when teaching to the public, it is more effective to use terms they are familiar with. If marine biology terminology is used, they will become a lot less interested. One obstacle in teaching adults she warned us about was that it is so hard to teach adults new things because they already have their opinions formed in their head. This is something that we have taken into consideration for our final prototype.

5.2.2. Fisheries

Out of the three sectors of fisheries (recreational, small-scale, and commercial), we decided to research deeper into small-scale fisheries because we believed they had a larger impact on the local ocean environment while still being within Two Oceans' reach. To model what Two Oceans' adult education program would look like, we researched Abalobi, an impact organization targeting small-scale fisheries. We learned that small-scale fisheries face many challenges in this business. 74% of SA small-scale fishers do not belong to a formal association. Some of the primary obstacles that small-scale fishers face include poor market prices, difficult fishing conditions, and lack of access to formal capital. In terms of main marine issues, they also face overfishing by industrial fishers, climate change, and weak management. Around 33% of these fisher households don't have another source of income. Only around 66% of fishermen own smartphones. Based on these notions, we found a need in this stakeholder group. We also looked into the Responsible Fisheries Alliance, a group that united fisheries in South Africa, such as WWF South Africa and the Oceana Group, through commitments to sustainable practices. Training was their most expensive project at R1,850,000. One tactic they used was humor, which ended up reaching the fisheries and was successful in making an impact. Finally, during our interview with Taryn Van Neel, we learned that fishers are highly connected with the ocean. She spoke about how sharks sometimes get caught in their nets. However, there is a lack of education customized to the fishermen. Even though they depend on the ocean, they are not very ocean literate. However, one challenge she mentioned was that fishermen are very closed-minded and not very open to change in the industry.

5.3. Multiple Stakeholder Comparison

After researching different groups on our stakeholder map, our team switched from multiple target stakeholders. These included formal activities, fisheries, ocean education organizations, and finally, leisure activities in the V&A Waterfront.

Table showing comparisons of all stakeholders using the different criteria part 1.

	Population Size (Yearly)	Impact on the Ocean	Gap in Their Training	Openness to Learn	Ease of Implementation
Divers	UNKNOWN	LOW	LOW	MODERATE	MODERATE
Open Water Swimmers	~400	LOW	LOW	MODERATE	MODERATE
Kayak Polo	~100	LOW	LOW	MODERATE	MODERATE
Yacht Community	UNKNOWN	MODERATE	MODERATE	UNKNOWN	UNKNOWN
Local Attractions	UNKNOWN	LOW	LOW	HIGH	MODERATE

1   2   3   **4**   5

Table showing comparisons of all stakeholders using the different criteria part 2.

	Population Size (Yearly)	Impact on the Ocean	Gap in Their Training	Openness to Learn	Ease of Implementation
Fisheries	~27,000	HIGH	HIGH	MODERATE	MODERATE
Oil	UNKNOWN	HIGH	UNKNOWN	UNKNOWN	MODERATE
Gas	UNKNOWN	HIGH	UNKNOWN	UNKNOWN	MODERATE
Retail	~27,000	MODERATE	LOW	MODERATE	MODERATE
Government Agency	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
Hotels and Apartments	~1,500	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN

1   2   3   **4**   5

Figure 5.1 Business Discovery Stakeholder Comparison

5.3.1. Formal Activities

Our team first decided on the formal activities group. There were many positives to targeting this stakeholder group. First, the members of formal activities already had interest in the ocean, seeing as they are part of their club. Second, the clubs they were in were "formal",

meaning that Two Oceans could easily contact them to partner. The adult education program would also be relatively easy to implement for this reason.

However, after meeting with Elspeth Boynton, a Cape Town consultant with many years of experience, we were reminded that we want to choose a stakeholder group to target that would have a high impact. Through our research, we found that the formal groups' impact on the ocean is relatively low. The impact comes through things like possible debris being left in the ocean or non-biodegradable sunscreen that swimmers use ([SUP Magazine](#)). We believed that Two Oceans could make a greater impact overall through the adult ocean education program, so we decided to switch directions with our stakeholder group.

5.3.2. Fisheries

In order to have a larger impact, our team decided to focus on fisheries as our target stakeholder. In an interview with Calley Chateau-Cyster, we found that fisheries in Cape Town have a high impact on the ocean. Types of illegal fishing in South Africa include fishing in restricted areas as well as poaching certain species of fish like abalone. Although South Africa has laws for illegal fishing, the punishment for breaking the laws is very minimal. Therefore, fishermen are not incentivized to follow the law. Furthermore, Shark Spotters educator Taryn Van Neel informed us that often sharks and other marine life get unintentionally caught in fishermen's nets, which can be very harmful to the animal. Our team wanted to educate the stakeholder group of fisheries to avoid practices such as these and promote more sustainable ones.

However, after our business discovery presentation with the client, we realized that targeting fisheries would not be feasible for Two Oceans. Two Oceans has been working on making an impact on fisheries in Cape Town for 25 years and have not come up with an effective solution. One issue was that many fisheries did not believe that Two Oceans had the reputation to teach them about ocean sustainability. Furthermore, fisheries do not have any incentive to promote more sustainable practices since they are making money off of the volume of fish that they catch. It would also be very challenging to reach the upper levels of the companies to change their ideals. For these reasons, our team decided once again to pivot the direction we were taking with our target stakeholders.

5.3.3. Ocean Education Organizations

After talking with the client, we understood that it would be more feasible to target other like-minded ocean education organizations. Specifically, because these organizations do not utilize behavioral economics in their programmes, we would target their staff and educate them on behavioral economics tactics. Because ocean literacy institutions often partner with each other already, we thought that we could continue these partnerships through the Two Oceans adult education program for the staff. Additionally, we would be able to make an indirect impact on the audiences of other organizations that we would not otherwise have reached.

However, once we started researching organizations to partner with, we saw that most of them targeted children in their education programs. Our ask from the client wanted to increase ocean sustainability in adults, so we decided that going with other ocean education organizations would not be the best route.

5.3.4. Leisure Activities in the V&A Waterfront

The stakeholder we decided to focus on for our final prototype was leisure activities groups in the V&A Waterfront. Specifically, we chose to focus on boat charters since they have the highest impact on the ocean compared to other leisure activities. For example, boats create a significant amount of noise pollution that can be harmful to marine life (Chateau-Cyster, 2022). Additionally, the boat charter, Waterfront Charters, at the V&A Waterfront, has already reached out to Two Oceans, so there is already interest in an adult ocean education program for these companies. We will go further into our decision in the next section (5.4 Target Stakeholder).

5.4 Target Stakeholder

Based on our research and analysis, we ultimately decided to target boat charter businesses located at the V&A Waterfront. The elaboration and justification is as follows:

- **Size:** There are 13 boat charter companies at the V&A Waterfront, with a total of approximately 750 employees (Waterfront Charters has 50-65 employees)
- **Impact:** Boat charter employees spend prolonged periods of time in the ocean every day while interacting with their 5.7M customers per year, on average (Waterfront Charters has approximately 438,000 customers annually)
- **Ocean Literacy Gap:** Despite being heavily involved with the ocean, boat charter employees know very little about the ocean
- **Openness to Learn:** Due to the gap between their interaction with the ocean and their knowledge about it, boat charter employees are curious about the ocean and keen to know more. This will also allow them to improve at their job by educating their customers
- **Feasibility:** It is very feasible to target boat charter employees since the Two Oceans Aquarium is located next to the V&A Waterfront, which hosts many boat charter companies, so the resources required to educate them is low

6. Solution Development

6.1. Visioning Workshop

In order to better prepare ourselves for the ideation and prototyping phase, our team conducted a visioning workshop with the client. Here, we solidified our aspirations for Two Oceans Foundation and potential steps to take to get there. By doing so, we recognized our strengths and possible stakeholders to target for the adult ocean literacy program.

First, we started off by watching a video about team visioning in order to get ourselves prepared for the exercise. We then took 15 minutes to complete the fill-in-the-blanks for the newspaper exercise individually. After completing the exercise, our team entered into discussion about our answers, leading us to some key takeaways for Two Oceans Foundations. See Appendix for newspaper exercise shared responses.

Figure 6.1 Visioning Newspaper Exercise

6.1.1. Vision

Each of the members on our team had a similar vision for Two Oceans Foundation in the long run. In summary, our combined vision statement was, "To build, educate, and mobilize a community that cares about the ocean and practices sustainable behaviors."

6.1.2. Strengths

Our team also identified key strengths Two Oceans possessed that we wanted to leverage in our adult education program. First, we want to take advantage of Two Oceans' prime location on the V&A Waterfront. This is a prime location for a variety of industries of which

we hope to make an impact on in current and future expansions. Second, we want to utilize Two Ocean's strong reputation as ocean sustainability experts as well as youth ocean educators. We believe this reputation will help us succeed in our adult education programs because of the already positive image that Two Oceans has built itself. Finally, we want to make sure of its facilities, which guarantees seeing a diverse ocean ecosystem. Two Oceans also has a plethora of training materials already in place, which we would like to utilize for the adult education program.

6.1.3. Stakeholders

Our team also looked at a variety of stakeholders we wanted to target with our adult education program.

One stakeholder we examined was the V&A Sustainability Committee. During an interview with Petro Myburgh (see Appendix), our team discovered that the V&A Waterfront had consulted with Two Oceans to create their practices for the Sustainability Committee. However, because Two Oceans has already worked with this group, we thought we could make a bigger impact elsewhere.

Another stakeholder group we looked at was formal activities. This includes groups like the CLDSA and other ocean activities clubs. As previously determined, we chose not to work with this stakeholder group because although they would be receptive to ocean education, they do not have a relatively large impact on the ocean.

Our final group of stakeholders that we examined at this point in time was other like-minded ocean institutions. Stakeholders in this group included their staff who are targeting either adults, underprivileged communities, plastics and oil companies, the tourism industry, or other ocean enthusiasts. From the visioning exercise, we decided to focus on this stakeholder group, the staff of other ocean education programs (such as I Am Water), to target underprivileged communities. We wanted to train their staff utilizing existing resources from the aquarium (its marine sciences curriculum) and new behavioral economics models so that they can deliver the highest quality of ocean literacy education to the most in need groups.

We knew that this was a pivot from targeting stakeholders with large direct impacts on the ocean such as fisheries, but we believed this focus would leverage two ocean foundations key strengths and existing resources more effectively and realistically given the time and monetary constraints. We believed that this approach will have had a significant impact on the target audience given that their current level of exposure to ocean literacy is low. Our vision for the long-term future is that Two Oceans Foundation can build upon this model of partnering with other organizations and providing more resources to deliver higher quality ocean education to their respective audiences.

6.2. Ideation Workshop

At this point, we had all the knowledge necessary to devise possible solutions. We understood our client, their business, their challenge, the context in which they operate in, and their goal. We just needed a formal but creative process to generate ideas effectively, so we researched ideation techniques to create and undergo an ideation workshop via Zoom and Miro,

where a presentation was used to help facilitate the workshop. The goal was to leave the workshop with 1 to 3 multi-faceted ideas.

6.2.1. Guidelines

The facilitators of the workshop began by outlining the guidelines of the workshop, which clarified what was expected from the participants. The workshop's environment is supposed to be free of judgment that encourages boundless ideation from all participants. We wanted to avoid any team members shooting down their own or others' ideas because they disagreed, doubted its feasibility, or any other reason. These guidelines were also posted on Miro (Figure 6.2), where the team was going to collaborate for most of the workshop, so they could view them at any point.
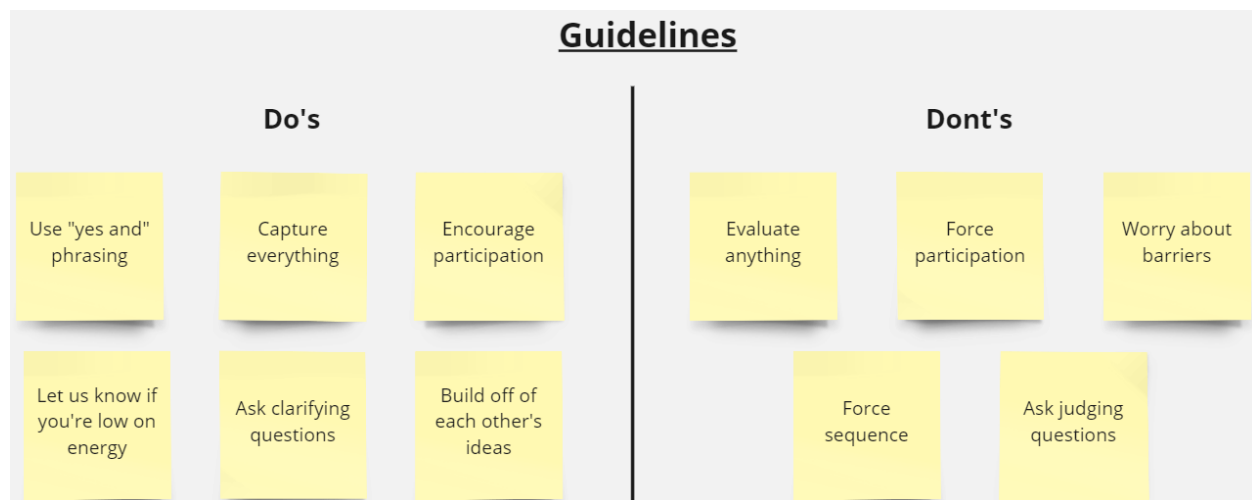
Figure 6.2 Ideation Workshop Guidelines

6.2.2. Ice Breaker

In order to get everyone in a brainstorming mindset without restraints, the first activity was an ice breaker. First, the two facilitators would take turns saying a random word. After each word, everyone had a couple of seconds to send in the Zoom chat what the first word that came to their mind was when the random word was said, regardless of how much sense it made. This was successful in not only reducing overthinking, but also in creating a fun, judgment-free environment.

6.2.3. Empathy Exercise

Another aspect of the ideation mindset we were striving for was to think from different perspectives, particularly our target stakeholder's, so we designed and participated in an exercise to do just that. The exercise began with a facilitator reading a series of questions designed specifically to practice putting ourselves in our stakeholder's shoes. After each question, everyone had a minute and a half to individually answer and write down whatever comes to mind, just like in the ice breaker. Once all the questions had been read and answered, the group discussion portion began. The facilitator went question by question and at least half

the group had to share their answers for each question, but discussions were also encouraged. The questions were as follows:

1. What qualities would make Two Oceans Foundation a reliable potential organization to partner with?
2. What would incentivize you (as a key potential partnering organization to Two Oceans) to invest in Two Oceans' adult education program?
3. On the other hand, what may hold you back from investing in Two Oceans' adult education program?
4. Would you be able to gain anything from Two Oceans' new adult education program that you haven't been exposed to before?
5. What would be your ideal "what's in it for me" as a potential partnering program to Two Oceans Foundation and their new adult education program?

6.2.4. Brainstorm

Now that the team was in the proper ideating mindset, one of empathy and open-mindedness, it was time to brainstorm for only 15 minutes. On Miro, everyone was assigned a color they liked and provided with 12 blank cards in that color, separated by columns, to save time. When the 15 minutes began, the facilitator read the first prompt: "What should this adult ocean literacy program for our target stakeholder include?" and everyone started distributing their ideas into the blank cards, adding more if necessary. To prevent anyone getting stuck or running out of ideas, after the first 5 minutes, the facilitator provided seven possible categories that an idea could fall under (Figure 6.4) and after 10 minutes, the facilitator reminded the participants to leverage their unique strengths and backgrounds. The initial setup and the provided categories are shown below:

Figure 6.3 Brainstorming Set Up
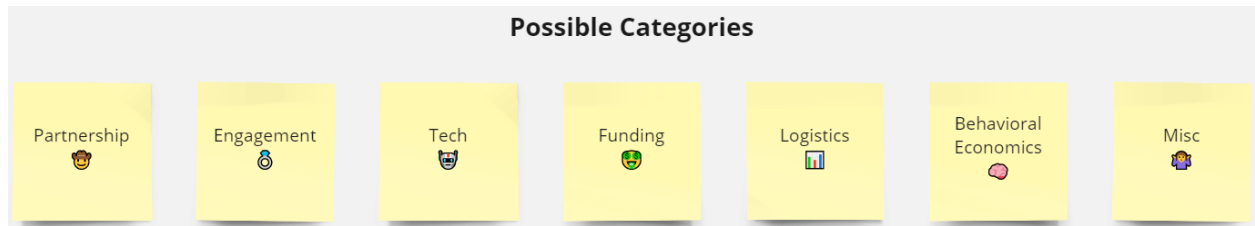
Figure 6.4 Brainstorming Categories

6.2.5. Categorize & Condense

The goal of this part was to remove overlap, build off each other's ideas, and facilitate the rest of the workshop by combining everyone's ideas as much as possible. We started by stacking any identical ideas on top of each other and keeping only one. Then, we began grouping ideas that had a common theme. Next, we named each group a different category and created columns for each category. Once the table was made, the facilitator assigned people to different categories, where they were to stack ideas that could be paired to form a better idea. The last step was to rewrite the stacked ideas into one card that efficiently and effectively combined all the ideas of that group. The final result is depicted below:
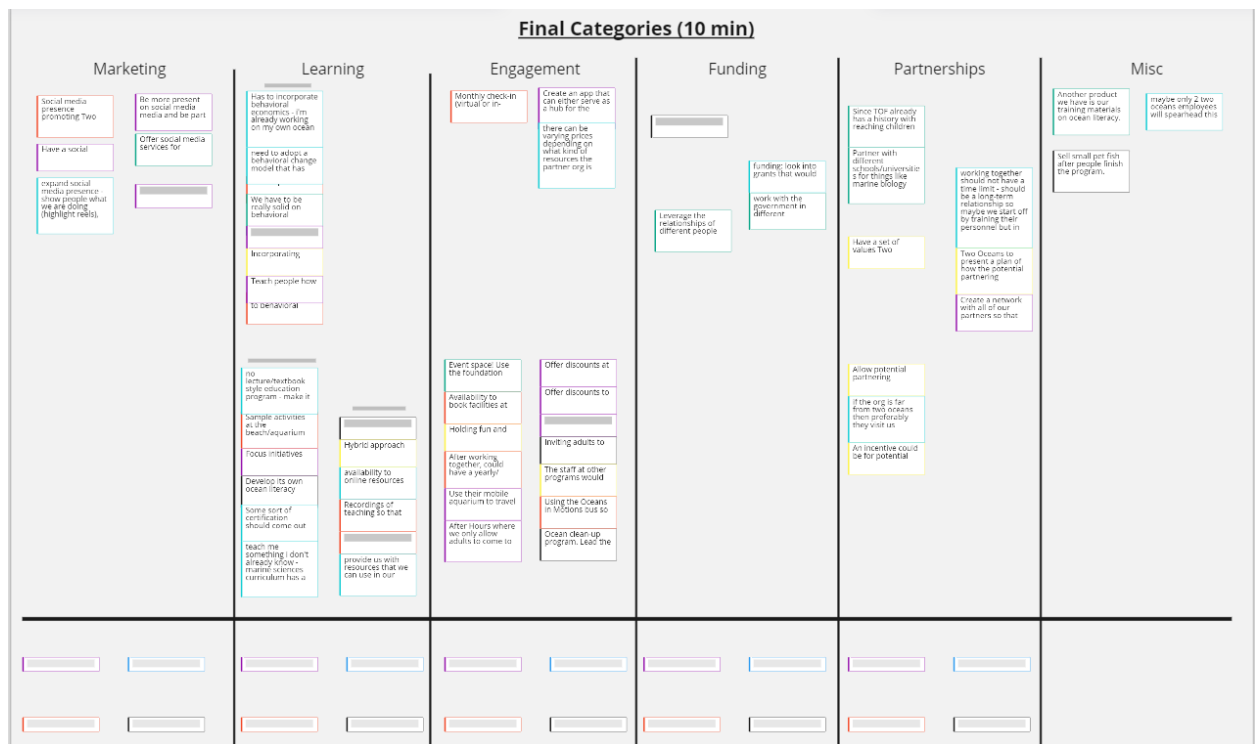
Figure 6.5 Condensing Ideas

6.2.6. Prioritize

At this point, we had almost 20 ideas, most of them being the product of several ideas, and we needed to narrow it down to maximum 3 ideas. Therefore, we prioritized the ideas that were the most feasible and would have the highest impact, using the Strategic Impact Matrix (Figure 6.6). Some aspects of feasibility included money, staff, and time required while impact

dealt more with reach and quality. Everyone was in charge of dragging the ideas from the category they were responsible for into one of the four quadrants. However, once everyone was done, we did a second round where we were allowed to move any ideas that we strongly disagreed with how they were classified and discuss any further disagreement. The ideas that moved on to the final step were the "Immediate" ideas in the upper-right quadrant.
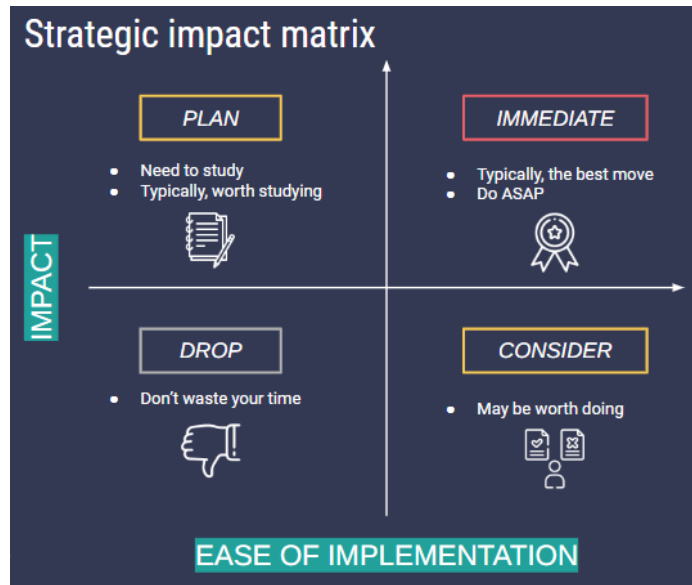
Figure 6.6 Strategic Impact Matrix

6.2.7. Selection

For our last step in the ideation workshop, we moved the aforementioned "Immediate" ideas into a premade fish shape, designed to represent our client. Then, everyone had to rank their top three ideas and write their rank on the Card description (Figure 6.7), 3 being their favorite one. The scores were then added up and the 3 ideas with the highest sum were moved to the head of the fish (Figure 6.8), officially becoming our prototypes.
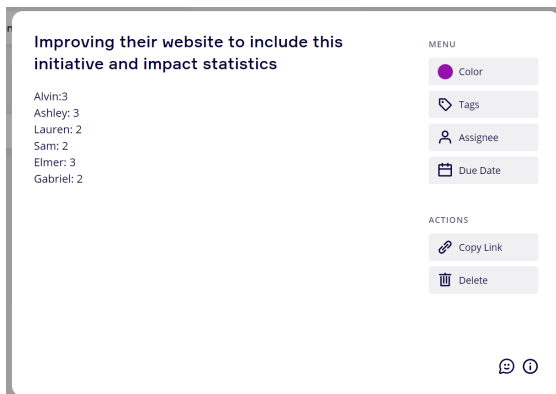
Figure 6.7 Scoring Method
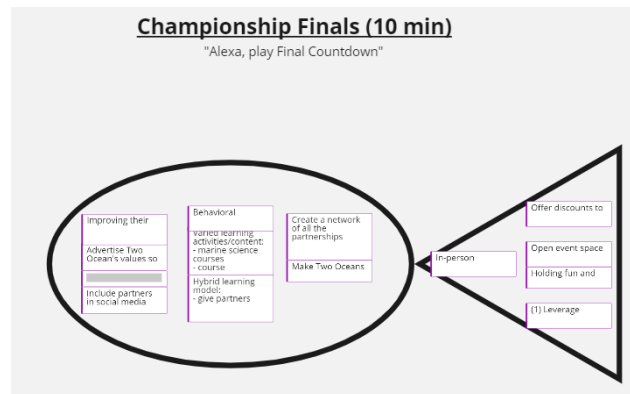
Figure 6.8 Final Idea Selection

6.3. Prototyping

6.3.1. Oceans Campus

In this prototype, the Two Oceans Foundation will launch an adult education program that combines their existing ocean literacy lessons with behavioral economics in a hybrid learning model.

6.3.1.1. The "What"

The Foundation already has experience with both in-person and online teaching, so this prototype will expand upon this capacity in order to make the program more convenient and accessible to their partner organizations. The online aspect enables them to partner with organizations that may be located further away, while the in-person aspect still leverages unique engagement with live animals at the aquarium and its proximity to heavy foot traffic at the V&A waterfront. Moreover, the Foundation is already an intellectual hub with its unique marine sciences curriculum that will complement the staff training at ocean conservation groups. Incorporating behavioral economics into their existing curriculum will further differentiate this from other ocean education programs as it will provide partners with a means of promoting and measuring long-term behavioral change resulting from their sustainability initiatives.

6.3.1.2. The "Why"

This prototype is to fulfill the "ask" that came from Two Oceans Foundation. Two Oceans Foundation wants to move into adult ocean literacy education programs and this prototype provides a feasible way to move into that target market. The implementation of this protyple is considered in the following:

- Cost: **Low** → given that Two Oceans has already run both in-person and online programs in the past, there will be low additional costs to implement this prototype. They can leverage existing resources, such as the mobile vans used in their "we visit you" outreach programs and their online marine sciences courses, and complement them with new behavioral economics lessons. In the long term, these costs may increase in order to expand on the prototype and add new branches that will reach different partners, but that is up to the discretion of the Foundation following the impact of its initial launch. There is a slight possibility that the Foundation will need to hire another personnel to aid this expansion in the long run, but given the existing resources there is not much of a need to hire more employees in the short run.
  - Estimated Revenue: (based on previous programs' rates)
    - Training classes at the aquarium: R87.00 per learner
    - Online Marine Sciences Curriculum Course: R7350 per organization
      - Price can be negotiated depending on how much content the organization wants to have access to for their staff
    - Online Lesson: R500 per lesson, duration: 1 hour
      - Lesson is derived from Marine Sciences Curriculum & Behavioral Economics Model, partners can choose which lessons they want to receive
      - Duration is subject to change depending on partner's needs
    - Visit to Your Organization: R45 per learner, duration: 1 hour
      - Lesson is derived from Marine Sciences Curriculum & Behavioral Economics Model, partners can choose which lessons they want

to receive
- Duration is subject to change depending on partner's needs
- Resources: **Medium Barrier** → The Foundation already has an extensive database of ocean literacy resources to utilize, and adding behavioral economics content will not be too difficult as we have identified the most effective behavioral change approaches. However, the Foundation has limited personnel and will have to reallocate one or two employees from their current children's education programs in order to lead and implement this prototype. By updating its website and implementing a new social media marketing strategy, securing partnerships will be more attainable.
- Feasibility: **Medium** → Two Oceans Foundation has the hybrid facilities and ocean literacy content needed to create this program. However, it is a relatively new educational foundation that has primarily taught children in the past. This may weaken its credibility and make it difficult to secure partners, which is what this prototype heavily relies on. However, this can be mitigated by leveraging its key strengths and implementing a new digital advertising strategy that gets its name out.
- Culture: **Low difficulty** → Staff at potential partner organizations will already have a deep interest in protecting the ocean, thus they are likely to be receptive to learning more about it in a way that will upskill their ability to shift the behaviors of their target audience towards more sustainable practices.
- Timeframes: **Short-term** → This prototype for the education program will be executed in the short-term when training the staff at partner organizations. The duration of the training can be personalized to each partner organization's needs. However, the impacts of this program on the way their partners' approach their target audiences will be observed in the long-term.

Impact on client -
- This prototype will allow Two Oceans Foundation to achieve their vision of launching an adult education program and build their name as a reputable intellectual hub in the surrounding ocean community.
- Targeting the staff of partner organizations with similar ocean conservation objectives will allow Two Oceans Foundation to expand their current network and have an indirect yet high impact on their partners' target audiences, given that their current level of exposure to ocean literacy is low.
  - Securing these partnerships will effectively enable Two Oceans to educate adults about ocean literacy (the staff of partner organizations) and initiate behavioral change in a multiplier effect (staff of each partner organization → target audience of each partner organization)
    - Education + Behavioral Change = Better future for our oceans
- In the long-term, Two Oceans Foundation can expand this partnership model and provide more resources to deliver higher quality ocean education to their respective audiences.
- Impact on Partner Organizations: The content delivered in this hybrid adult education model will be tailored to the needs of the partner organization. Two Oceans Foundation has a huge ocean literacy database consolidated in its Marine Sciences Curriculum and the partner can choose which aspects of the curriculum they want to incorporate into staff training. Moreover, even if the staff are already ocean literate, Two Oceans Foundation can still offer the behavioral economics segment to help the organization encourage and measure behavioral change. The in-person benefits of this prototype (i.e.: partners can host events at the aquarium) will be available regardless of the staff's current level of ocean literacy.

Moreover, Two Oceans Foundations has different strengths that will allow for the success of the oceans campus prototype. First, their reputation in education programs. Although previously focused on children, their success in their educational programs will allow them to use some of the same tools with other organizations. Second, their locations. Two Oceans Foundation can use their proximity to V&A Waterfront to hold in person lessons. Lastly, Two Oceans Foundations can leverage its access to the aquarium and the ability for people to interact with diverse animals. The aquarium will make the lessons more interesting and dynamic. Furthermore, different organizations can use the aquarium for events.

6.3.1.3. The "How"

The time frame for this prototype is divided into different elements. There are immediate next steps, a 1-2 month plan and a 2-6 month plan:
- Immediate next step: summarize the most effective parts in online and offline programs, and investigate how to combine the strength of both. Consider which aspects of behavioral economics can be applied to this new program.
- 1-2 months: marketing for the program. Observe how participants react to the program. Refine the program accordingly.
- 2-6 months: keep marketing for the program. Leverage this new program for more fundings and partnerships. Conduct surveys on participants and record their behavior changing patents. Promote engagement and reach out to more like-minded institutions.

6.3.2. Social Media Marketing

Our second prototype focused on actions that Two Oceans should take concerning their social media. This prototype included improving Two Oceans' website and all of their social media platforms, from their Instagram, to their Twitter, and Facebook. In the process of improving Two Oceans' website, we aim for the website to connect with other like-minded institutions as well as display statistics on behavioral economics. By renovating their website and social media platforms, Two Oceans' values would be advertised so that other institutions will be inclined to partner with them. Additionally, we plan to increase Two Oceans' website and social media presence in order to grow exposure, credibility, and awareness.

6.3.2.1. The "What"

In order to expand Two Oceans' online presence, we want to increase Engagement on TOF's website, Instagram, Twitter, as well as Facebook will be one of the key determining factors on measuring the impact TOF's social media is having on organizations' likelihood of partnering with TOF. Through our research, we found some effective formulas Two Oceans should utilize to measure engagement on their social media platforms:
- Instagram - "to calculate instagram engagement rate for a post, divide the total number of likes and comments by your follower count, and then multiply by 100 to give you a percentage…"
- Twitter - "engagement is measured based upon the number of favorites, retweets, and mentions your tweets are generating…"

- [Facebook](#) - "adding up all the likes, shares, and comments on a post, dividing that number by the number of facebook followers, then multiplying by 100…"
- [Website](#) - Some website engagement metrics include page views, average time spent on page, repeat and new visitor count, exit rate, and traffic sources to name a few.

6.3.2.2. The "Why"

The main reason we wanted to implement this prototype for Two Oceans was because of the relative ease of implementation. It is important that we act swiftly on revamping Two Oceans Foundation's website and social media platforms because the cost is moderate-low, there are many available resources, the implementation and feasibility are relatively easy, Two Oceans Foundation's culture would be able to reach a greater audience, and the time to implement these changes would be in the short-term future.

- Costs: Moderate - Low (prices range depending on varying costs of services)
  - Social media - costs would potentially include investing in instagram sponsored ads, influencer marketing (paying ocean sustainability influencers to advertise Two Oceans Foundation) on all social media platforms.
  - Website - costs would include potentially investing in website designers to revamp the website and include Two Oceans Foundation ideal features for a website.
- Resources: High
  - There are many available resources to help renovate Two Oceans Foundation's website and social media platforms such as instagram sponsored ads, influencers, website designers, data analysts (to analyze the engagement), knowing the audience, and looking into current popular trends. Additionally, leveraging Devon Bowen, who is the digital manager.
- Feasibility: High
  - Implementing these renovations on Two Oceans Foundation's website and social media platforms would be relatively practical considering the costs, ability and ease of implementation.
- Culture: Positive Impact
  - Local culture of social media in Cape Town is very popular and widely recognized, so it would be easy to have locals interact with Two Oceans Foundation's social media platforms and become involved in the program.
- Timeframes: Short-Term (for implementation), Long-Term (for impact)
  - The timeframe for implementation would be short (estimating 1-2 months). The time it will take to see results and impact from this implementation would be more long-term as it takes time to see the effectiveness of these changes, because engagement and post quality and content go hand in hand which build up to programs interested in partnering with Two Oceans Foundation.
  - Long-Term: Based on the results of Two Oceans Foundation's increased social media presence, keep improving digital practices to promote collaboration between like-minded institutions.

Furthermore, we believe that increasing Two Ocean's digital presence will have a large positive impact on the organization. By implementing aforementioned changes across all social

media platforms and websites, Two Oceans Foundation's values will be advertised, and other organizations will be more likely to partner with Two Oceans Foundation and participate in their adult education program. Additionally, these changes that will be made in Two Oceans Foundation social media platforms and website directly align with Two Oceans Foundation vision and strategy to become an effective leading program promoting sustainable behavior.

In the visioning exercise, our team agreed that we wanted to leverage some of Two Ocean's strengths: reputation, location, and pre-existing resources. We want to advertise Two Ocean's values and standards on their website and social media platforms. We also want to utilize Two Oceans' prime location, as many social media and website users would be drawn to the beautiful photographs capturing South Africa marine life and ocean scenery. We felt that Two Oceans can really leverage their scenic location to capture the attention of many social media users.

6.3.2.3. The "How"

Our team also took into consideration what steps Two Oceans could take to reach their social media marketing goals. First, we took into account costs. Financial costs identified would include labor costs for the Digital Manager at Two Oceans, and possibly an external social media manager if needed. Social media managers typically charge from $20-$50 per hour depending on skill level and reviews. As for the website, the costs of renovation also vary. Doing it on your own would cost about $0-$300. With a freelancer, it would be around $500-$5,000. Using a web design agency would be $3,000-$10,000.

We have also come up with a flexible time frame Two Oceans can follow. Some immediate next steps would be to outline shared values and other aspects of Two Oceans Foundation with the organization's employees to be agreed upon. Devon Bowen (the current Digital Manager) would then update the website with values. We also want to create an Instagram/Facebook/Twitter post highlighting Two Oceans' values. In the next 1-2 months, research must be done into Two Oceans' employees' possible connections with any celebrities or highly respected members of the ocean sustainability community and reach out. Additionally, any old footage/content of previous programs and events that would be relevant should be posted for the purpose of reaching out to other like-minded institutions organizations. Two Oceans should also follow key stakeholders on social media to increase following and engagement. Within two to three months, the first session with the staff of Two Ocean's new partners should happen. Here, we would have an employee take pictures/document the session to post online or on social media. We would also make sure to record the session so that the staff can look back on it.

6.3.3. Collaboration Community

Our third prototype focused on building off of the first and second prototype and leveraging the relationships made with other organizations to create a network that champions ocean sustainability. By being part of the network, the different organizations would experience many benefits from collaboration and fundraising to using their size to have a stronger lobbying arm in the government.

6.3.3.1. The "What"

By leveraging Two Oceans Foundation's relationships with different organizations and creating a network, the whole collaborative community could experience these benefits:

- **Monthly Check-Ins** - Members of the network will update each other on what they have accomplished in the last month, and any large, upcoming events or initiatives. This will bolster and motivate the local ocean sustainability community, knowing that they are all contributing to the difference being made.
- **Complementation** - Organizations will have the option to share their data, strengths, and weaknesses with Two Oceans Foundation, which will then act as a "matchmaker" and partner them with another organization that complements them so they can support each other.
- **Collaboration** - Multiple organizations can coordinate to leverage the collective power of the community in order to focus on one specific issue for a certain amount of time. This unified effort is particularly helpful with issues that have a low conversion rate or large area of impact.
- **Joint Events** - Similar to collaboration, several organizations can come together to host an event. This can range from an ocean literacy workshop at the Two Oceans Aquarium to a fundraiser banquet at one of Two Oceans Foundation's venues, such as AVENUE or I&J Ocean Exhibit, to beach clean up competitions.
- **Reputation -** Being a member of this alliance will signify that your organization prioritizes impact over profit by viewing competitors as partners. This will show locals that your organization stays true to its values and will improve its reputation.

6.3.3.2. The "Why"

The prototype of a network came out of the realization that Two Oceans Foundations has different strengths and weaknesses. Some of their strengths they could offer to other organizations. At the same time, their weaknesses would be covered by collaborating with other organizations.

- Ease of Implementation: Moderate
- Cost: Moderate
  - Two Oceans Foundation would have to hire someone whose distinct job is the collaborative community.
- Resources: Moderate
  - The main resources needed are time, labor and connections. Leading this alliance can be demanding at times, requiring Two Oceans Foundation employees' time and effort. Also, participating organizations' networks, as well as Two Oceans Foundation's, will be needed to perpetually expand.
- Feasibility: Moderate
  - There are many incentives for organizations to join this alliance but it ultimately depends on their resources available, particularly time and money.
- Culture: Moderate difficulty
  - Two Oceans Foundation would be tapping into the growing culture of ocean enthusiasm and the culture of ubuntu: I am because you are. This collectivist

culture will incentivise people to work together to achieve their individual efforts. However, some organizations may refuse to collaborate with competitors despite benefits, possibly due to fear of impact on profitability.

- Timeframes: Long-Term
  - Due to the compounding effect of the alliance, most of the impact will come as it grows larger and can have more scale and reach.

6.3.3.3. The "How"

The team further looked into how a collaborative community could be implemented. First, we looked at operational and coast requirements. The operational burden and the hiring of a new employee focused on the collaborative community would fall on Two Oceans Foundation. Furthermore, events hosted by the network would be hosted by Two Oceans Foundations, however, partner organizations would proceed at a discount. Next, we considered funding. Funding for the collaborative community would come from different sources:

- Annual/semiannual membership fee will be required, as well as active participation, to stay in the network
- There may be varying prices depending on the organization and their financial ability.
- Furthermore, Two Oceans Foundation would have to use revenue garnered from ocean literacy programs with for-profit companies in order to sustain the network.

Next, the team focused on structure and timing. First, the network would be overseen by board members that would be staffed with representatives from organizations within the collaborative community. The governing body would mostly oversee the Two Oceans Foundation employee that is spearheading the network. As for timeframes, the network can be tested within the next 6 months as Two Oceans Foundation continues to partner with more organizations and build relationships.

Lastly, we considered who the first organizations might be to join the network. After considering what organizations Two Oceans Foundation's already has a working relationship with and which organizations had the same mission as the collaborative community, 2 stood out: I AM WATER, and Save Our Seas.

6.4. Testing & Iterating

Once we had our three preliminary prototypes, we needed to test them so that we could modify and perfect them. The goal was to fail early, fail often, and fail forward in order to address as many flaws and blindspots in our prototypes, saving Two Oceans Foundation time and money.

6.4.1. Structure

We set up meetings with people who were part of our target stakeholder group, ask them a set of questions designed to test our prototype, and summarize the feedback from each interview into its key takeaways. If a takeaway opposed something we already had in our

prototype, we would consider adjusting our prototype to address the concern but it was not required.

6.4.2. Pivoting

At the beginning of testing, our target stakeholder was ocean sustainability NGOs, so we interviewed staff from these organizations. However, throughout our interviews, especially one with Ann Lamont, we realized that although we were technically targeting adults and fulfilling the client's "ask", the majority of the impact would come from the youth. In addition, Two Oceans Foundation has limited resources and would be working with another group that has limited resources so funding would be a challenge. For this reason, we decided to pivot at the last minute and target boat charter employees at the V&A Waterfront instead. They were the most feasible audience that targets adults directly and indirectly, especially because of their expressed interest in an ocean literacy program and close proximity to the Aquarium.

7. Recommendations

7.1. Target Stakeholder

The Ocean diiVers recommends that TOF initially targets boat charter employes at the V&A Waterfront, specifically Waterfront Charters (WC). Through extensive research and interviews and due to expressed interest, we decided this solution has the greatest influence because it targets a variety of adults, directly and indirectly.

7.2. Final Prototype

The program we recommend Two Oceans Foundation employs, called "Your Bond with the Ocean", uses our initial Oceans Campus prototype as a foundation, but targets V&A Waterfront boat charters and, consequently, includes a change in structure. Our final prototype uses ocean education and behavioral economics to promote sustainable behaviors in the adults of Cape Town, both directly and indirectly.

7.2.1. The "What"

In this prototype, the Two Oceans Foundation will launch an in-person, adult education program that combines their existing ocean literacy lessons with behavioral economics in a learning model.

The Foundation already has experience with teaching ocean literacy in person, so this prototype will expand upon this capacity in order to make the program more convenient and accessible to Waterfront Charters. It will also capitalize on TOF's unique accessibility to live animals at the aquarium and its proximity to Waterfront Charters. Moreover, the Foundation is already an intellectual hub with its unique marine sciences curriculum that will complement the staff of Waterfront Charters. This program will give Waterfront Charters a competitive advantage by improving their interactions with customers and showing customers they care about the ocean.

Incorporating behavioral economics into their existing curriculum will further differentiate this from other ocean education programs as it will provide Waterfront Charters with a means of promoting and measuring any behavioral change they would like to see in their customers. Particularly, the change champions model can greatly increase this prototype's impact by empowering the learners to spread their knowledge and sustainable behaviors to their customers.

7.2.2. The "Why"

One major factor that influenced our decision to choose this prototype over the other ideas was its high ease of implementation, especially since Two Oceans Foundation would be entering a new "market". Our analysis is dissected below:

- **Cost: Low** → Given that Two Oceans has already run ocean literacy programs in the past, there will be low additional costs to implement this prototype. They can leverage existing resources, such as their exhibits and Marine Science Curriculum, and incorporate behavioral economics to complement them. If Two Oceans decides that they need to hire an employee to manage this program, it will significantly increase the cost,

but the program will still be profitable over the years. In the long term, these costs may increase in order to expand on the prototype and add new branches that will reach different companies, but that is up to the discretion of the Foundation following the impact of its initial launch.
- ○ Estimated Costs: R200 000 annual salary for an extra employee
- ○ Estimated Revenue (based on other training programs targeting boat charter employees): R4 150/person annually
- **Resources: Medium Barrier** → The Foundation already has an extensive database of ocena literacy resources to utilize, and adding behavioral economics content will not be too difficult as independent research goes a long way. They also have all of the Two Oceans Aquarium facilities available to visually teach and engage with Waterfront Charters' staff. However, the Foundation has limited personnel and will have to reallocate, or hire, one or two employees from their current children's education programs in order to lead and implement this prototype. In addition, if TOF decides to heavily focus on teaching behavioral economics, they would either have to hire an expert or upskill an employee. In the long term, resources will also be required to update its website and implement a new marketing strategy, most likely through social media, to secure more clients in the same stakeholder group.
- **Feasibility: Medium** → Two Oceans Foundation has the facilities and ocean literacy content needed to create this program. However, it is a relatively new educational foundation that has primarily taught children in the past. This may weaken its credibility and make it difficult to secure clients. However, this can be mitigated by leveraging its aforementioned key strengths and implementing a new digital advertising strategy that gets its name out. In addition, Waterfront Charters has already approached Two Oceans about educating their staff on ocean topics and is in very close proximity to Two Oceans, which greatly increases this program's feasibility.
- **Culture: Low difficulty** → Staff at Waterfront Charters will already have a deep interest in the ocean, thus they are likely to be receptive to learning more about it in a way that will upskill their ability to shift the behaviors of their target audience towards more sustainable practices.
- **Timeframes: Short-term** → Within the next 6 months, the staff at Waterfront Charters should have undergone the program. The actual duration of the training can be personalized to their needs. However, the impacts of this program on Waterfront Charters' customers will be observed in the long-term.

Another major factor in choosing this prototype was the impact it would have on Two Oceans Foundation and Waterfront Charters. This prototype will allow Two Oceans Foundation to achieve their vision of launching an adult education program and build their name as a reputable intellectual hub in the surrounding ocean community. Additionally, targeting the staff of Waterfront Charters will allow Two Oceans Foundation to expand their current reach and have an indirect impact on their customers' target audiences, given that their current level of ocean literacy is low. To be specific, securing Waterfront Charters as a customer will effectively enable Two Oceans to educate adults about ocean literacy and initiate behavioral change in a multiplier effect (customers of each boat charter company → target audience of each partner

organization). As for Waterfront Charters, their staff will be trained not only on ocean sustainability, but the ocean itself. Their customers will have a better experience because the staff will be able to better answer their questions on the ocean while expressing their love for the ocean through sustainable practices.

7.2.3. The "How"

Regarding the financial model of this program, Two Oceans Foundation should be charging R4 150 per person per year for their program, regardless of how long each lesson is, the duration of the program, or how often participants need to renew their learning. Two Oceans should also try and reallocate 1 to 2 employees to this program, but if for whatever reason an additional employee needs to be hired, it would cost around R200 000 annually. There will also be additional marketing and operational costs, estimated to be around R50 000. Assuming no external funding and certain growth rates that are expressed in more detail in the actual financial model, this program will break even after 10 years.

As for specifics on how Two Oceans Foundation should design this education program, they are as follows:

- **During winter:** low tourism season
- **1-2 weeks:** due to TOF's limited staff
- **1-2 hour lessons:** charter staff cannot be away from work for too long
- **Only part of the staff at a time:** there has to be enough staff available to continue running the charter company
- **Competitive advantage marketing:** when marketing and presenting this prototype, frame it as a tool to gain an advantage over other competitors

The timeline for this program begins with immediate actions and extends to future expansions for long-term scalability. The timeframes are mentioned below:

- **August 2022:** Finalize financial models using other programs as a benchmark; Reallocate an employee to be in charge of this initiative, along with any other resources; Meet with Waterfront Charters to finalize price, duration, participants, and content
- **September 2022 - December 2022:** Take advantage of low tourism season and educate Waterfront Charter's staff with a program uniquely geared to their needs; Create change champions that will promote ocean sustainability, particularly with the customers and other boat charter staff; Receive feedback at the end of the program and adjust accordingly; Network using Two Oceans' and Waterfront Charter's connections to reach other boat charter companies at the V&A Waterfront
- **2023 and Beyond:** Continue testing the educational program with other boat charter companies, such as Waterfront Adventures; Once Two Oceans Foundation has more credibility in the adult ocean literacy education space, expand this model to other stakeholders within and beyond the V&A Waterfront, such as Sport Helicopters and Capetown Helicopter; Get the educational programs to be part of South African Maritime Authority Agreement (SAMSA) to make their program mandatory for boat charters.

Some possible obstacles that Two Oceans Foundation might encounter, whether internal or external, are listed below:

- TOF is unable to reallocate or hire an employee
- Change in knowledge of charter staff does not translate enough to change in behavior
- Charter companies fail to see the financial benefit of this program, resulting in not enough interest in the program
- Charter companies cannot afford to temporarily relocate their staff to participate in this education program
- TOF is not given access to a company's data, making it harder to track indirect impact

It is very important that, moving forward, Two Oceans Foundations does their best to keep track of their progress and impact.For the purposes of this project, the direct target of this education prototype will start with the staff of one company of boat charters at the V&A Waterfront. TOF's direct impact will be upskilling the staff of client companies and its indirect impact will be the knowledge of the ocean and its sustainability practices that is delivered to their clients' respective customers.

Ideally, all staff from Waterfront Charters will participate in this program so that all customers can be indirectly affected. The method for keeping track of the direct impact that TOF has can be as simple as creating an evolving spreadsheet of each client company and the number of staff taught there. This database can be created however current TOF employees deem fit based on their previous methods of collecting outreach data. As for indirect impact, it will be harder to collect quantifiable data but one possibility is to access and track the historical consumer data of the client company and look for any correlation between the amount of staff taught at a company and their reviews and/or growth of customers.

8. Next Steps

8.1. Implementation

These are the team's recommendations of the immediate, short-term, and long-term actions needed to implement the education program with Waterfront Charters.

8.1.1. Immediate Actions

Within the coming month, the financial model for the education program should be finalized, and relocate one employee to be in charge of this initiative, along with any other resources. Next, the TOF should send a representative to reach out to Waterfront Charter, securing a partnership with them to run the training program (finalize details like duration, price, and number of participants etc.)

8.1.2. Short Term Actions

In the next three to four months, Two Oceans Foundations should take advantage of the momentum and coming summer to carry out a pilot educational program, educate the staff of waterfront charters uniquely geared to their needs and start to create change champions that will promote ocean sustainability, particularly with the staff of boat charters.

8.1.3. Long Term Actions

In the long term, TOF should learn and reflect from the first prototype after carrying out the first education program and make necessary adjustments and implement the prototype with other boat charters such as Waterfront Adventures or Sport Helicopters at the V&A Waterfront, and make a case to put Two Oceans Foundation's education program as part of the SAMSA qualification programs for boat charter staff. The TOF should also consider replicating the change champion model for training businesses in other sectors at the V&A.

8.2. Future Expansion

Two Oceans Foundations should start to make a case with the South African Maritime Authority Agreement to implement their educational program as a requirement with the other certification programs through SAMSA. The need for this has already been expressed in stakeholder interviews and this would further sement the training program because it would be mandatory not optional.

9. Conclusion

9.1 Executing Next Steps

In order to execute the immediate actions, Two Oceans Foundation will need to finalize their adult education program by making sure that the program incorporates the Change Champions model as well as behavioral economics. Two Oceans Foundation can look into how one of the leading ocean education programs such as, "I Am Water," implements this model for inspiration. Further, in order to facilitate the Change Champions model into Two Oceans Foundation adult education program, Two Oceans Foundation will need to identify a key group or a single individual to be put in charge of this change. Two Oceans Foundation should be in touch with a V&A Waterfront boat charter company to test their program. Once the testing is complete, Two Oceans Foundation can decide to reevaluate the target audience, number of staff training the boat charter staff, and even the price that they are charging per adult.

Looking ahead, Two Oceans Foundation can continue to grow and expand their adult education program by working with the government to make it a requirement for all local boat charter companies.

9.2 Final Remarks

It has been an honor for the team of Ocean diiVers to work alongside Two Oceans Foundation to help them reconceptualize their adult education program. Aside from meeting and interacting with so many wonderful, diverse, and knowledgeable team members, our mentor, and staff at Two Oceans Foundation, it is the Ocean diiVer's hope that Two Oceans Foundation can take our advice from research, stakeholder interviews, ideation exercises, and meetings with Two Oceans Foundation staff to test the prototype the ocean diiVers team has come up with. All of the Ocean diiVers have learned so much about ocean literacy, ocean sustainability, and how important it is to have an adult education program up and running in order for people to take action to become educated on the ocean and to further see the impact they have on the ocean, and the likewise, the impact the ocean has on them. Thank you Judy, and all of the staff at Two Oceans Foundation for making our experience so memorable and educational.

10. Appendix

Appendix A: Visioning Exercise Shared Responses

Judy	1. Slogan: Inspiring action for the ocean
	2. Headline: The leading foundation for inspiring action for the ocean on the african continent
	3. Through partnering with like-minded organisations around the continent the…,…,…., Two Oceans Foundation has become a leader in inspiring action for the ocean through groundbreaking work on ocean sustainability.
	4. Compared to key ocean sustainability educators, such as OCEANA and Save Our Seas Foundation, Two Oceans Foundation has harnessed their unique strengths in South Africa through research, innovation and collaboration …., in order to expand ocean literacy.
	5. Key Achievements:
	   a. Helped communities around the Western Cape. develop a more community oriented approach to their impact ocean
	   b. A ocean sustainability leader in ocean literacy across the african continent
	   c. Led ground breaking research on Ocean Literacy that has shaped ocean literacy programmes around the continent
	   d. Inspired action for the ocean - through the Ocean Literacy program the Two Oceans Aquarium Foundation has inspired over 1000 community projects in support of ocean sustainability.

Alvin	6. Slogan: Ubuntu with the ocean
	7. Headline: The expert education foundation on the african continent
	8. Through partnering with local government,…,…., Two Oceans Foundation has become a … in ocean sustainability.
	9. Compared to key ocean sustainability educators, such as OCEANA and Save Our Seas Foundation, Two Oceans Foundation has harnessed their unique strengths in South Africa by …., in order to expand ocean literacy.
	10. Key Achievements:
	   a. Helped Africans develop a more community oriented approach to their impact ocean
	   b. A ocean sustainability leader in educational materials across the african continent
	   c. XXX
	   d. XXX

Ashley	11. Slogan: We bring the ocean to you, so that you bring the action to save it.
	12. Headline: The ==leading ocean literacy== education foundation on the african continent
	13. Through partnering with ==local ocean conservation communities==, Two Oceans Foundation has become ==the go-to intellectual hub== in ocean sustainability.
	14. Compared to key ocean sustainability educators, such as OCEANA and Save Our Seas Foundation, Two Oceans Foundation has harnessed their unique strengths in South Africa by ==connecting people to the beauty of the ocean with live animals and unique hands-on experiences== in order to expand ocean literacy.
	15. Key Achievements:
	    a. Helped other ocean conservation groups develop a more community oriented approach to engage their broader target audiences and their impact on the ocean
	    b. A ocean sustainability leader in providing knowledge and unique experiences of connecting to the ocean across the african continent
	    c. Through its partnerships with other conservation groups, it mobilized communities across the Western Cape to advocate for more sustainable policy change in government entities and larger businesses (ex: fisheries).
	    d. Two Oceans Foundation's dedicated work to building once-in-a-lifetime connections to the ocean among its participants made people actually care enough to take action to change their behaviors and protect our oceans.

Lauren	16. Slogan: Revitalizing our connection with the ocean.
	17. Headline: The ==broadest-reaching== education foundation on the african continent
	18. Through partnering with ==local ocean enthusiasts==, Two Oceans Foundation has become ==an inspiration for others== in ocean sustainability.
	19. Compared to key ocean sustainability educators, such as OCEANA and Save Our Seas Foundation, Two Oceans Foundation has harnessed their unique strengths in South Africa by ==utilizing their live animals facilities== in order to expand ocean literacy.
	20. Key Achievements:
	    a. Helped ==other like-minded institutions inspire others to== develop a more community oriented approach to their impact ocean
	    b. A ocean sustainability leader in ==educating a wide variety of enthusiasts== across the african continent
	    c. Utilized behavioral economics in their ocean literacy programs that has truly inspired others to action.

	d. By working with other similar institutions, were able to impact those who had little to no connection with the ocean and establish this connection to the ocean.

Elmer	21. Slogan: Connecting to the Earth by connecting to our ocean
	22. Headline: The ==most engaged== education foundation on the african continent
	23. Through partnering with ==schools, firms, and government== Two Oceans Foundation has become a ==leading educator== in ocean sustainability.
	24. Compared to key ocean sustainability educators, such as OCEANA and Save Our Seas Foundation, Two Oceans Foundation has harnessed their unique strengths in South Africa by ==connecting people with the ocean through physical interactions==, in order to expand ocean literacy.
	25. Key Achievements:
	    a. Helped ==local government and people to== develop a more community oriented approach to their impact ocean
	    b. A ocean sustainability leader in ==educating various of audiences== across the african continent
	    c. Published books/journals on ocean literacy; helped schools to build a better ocean literacy education framework.
	    d. Promoted physical interactions with the ocean, both for locals and tourists

Samantha	26. Slogan: Two Oceans is sparking sustainable action around the globe
	27. Headline: The ==most effective== education foundation on the african continent
	28. Through partnering with ==leading global programs and schools==, Two Oceans Foundation has become a ==game changing foundation leading global improvements== in ocean sustainability.
	29. Compared to key ocean sustainability educators, such as OCEANA and Save Our Seas Foundation, Two Oceans Foundation has harnessed their unique strengths in South Africa by ==….incorporating hands-on experiences, forming strategic partnerships, and using a hybrid approach to learning==, in order to expand ocean literacy.
	30. Key Achievements:
	    a. Helped ==….leading cities in SA== develop a more community oriented approach to their impact ocean
	    b. A ocean sustainability leader in ==…ocean literacy programs for children and adults== across the african continent
	    c. ==Unify the SA community to come together to learn about ocean literacy in order to make a change for the better==
	    d. ==Reach and inspire leading nations around the world to form similar ocean education programs==

Gabriel	31. Slogan: ==Two Oceans is saving the oceans, one learner at a time.==
	32. Headline: The ==most comprehensive== education foundation on the african continent
	33. Through partnering with ==the government, schools, Indigenous people, and other ocean literacy programs==, Two Oceans Foundation has become a ==global key player== in ocean sustainability.
	34. Compared to key ocean sustainability educators, such as OCEANA and Save Our Seas Foundation, Two Oceans Foundation has harnessed their unique strengths in South Africa by ==providing a constant window into the local ocean ecosystem==, in order to expand ocean literacy.
	35. Key Achievements:
	    a. Helped ==different socioeconomic groups== develop a more community oriented approach to their impact ocean
	    b. A ocean sustainability leader in ==ocean literacy and admiration== across the african continent
	    c. ==Incited a collaboration between Indigeneous and non-Indigeneous people==
	    d. ==Inspired companies to incorporate ocean literacy and sustainability in their strategies==

Julie	36. Slogan:
	37. Headline: The ==…== education foundation on the african continent
	38. Through partnering with ==…,…,….==, Two Oceans Foundation has become a ==…== in ocean sustainability.
	39. Compared to key ocean sustainability educators, such as OCEANA and Save Our Seas Foundation, Two Oceans Foundation has harnessed their unique strengths in South Africa by ==….==, in order to expand ocean literacy.
	40. Key Achievements:
	    a. Helped ==….== develop a more community oriented approach to their impact ocean
	    b. A ocean sustainability leader in ==…== across the african continent
	    c. XXX
	    d. XXX

Appendix B: Stakeholder Findings

Stakeholders for Business Discovery

Stephanie Johnson

Key Areas of Discussions *<In this section record key information such as pain points and/or problems, what big projects/interventions are planned>*

Background of Fisheries

1. <u>Her experience</u>: sales & marketing division at I&J - I&J one of biggest seafood delivery brands in SA, prominently a hake business, they catch process and package and market their own fish but i was on the aquaculture side of businesses - they had seafood farms, up the coast 2 hours east of CT they farm abalone (it's a shellfish that grows very well in cold waters - CT known for this - very sought after shellfish), always been a wild fishery so wild quota when harvesting out of ocean, high value and v sought after in asian countries → became v overfished in SA, 20-25 yrs ago started attempt to farm collaborate with universities to do this, land based tanks where they pumped seawater into lanks

2. **SA offers a lot of diff species of fish for human consumption & feed formulation** (good source of protein), **dept of fisheries, forests and environment** (DFFE?) collabs a lot with marine biologists and biomass studies in the wild - they go out to sea and do sampling, **they make decision ab what quota will be for the year - the way that people know what they're allowed to catch**: every 15 years they take a species and allocate to certain businesses, communities, and individuals based on many factors (do you have skills development for workers, whats ownership structure of business, how much experience does your business have in industry etc.)
    a. Every year for 15 years you will get your percentage of that quota, every year they assess quota allocation - they have to give it for 15 years bc if ppl gonna invest in the industry they're not gonna invest for one year (costs a lot of money)

3. <u>Public sentiment of gov dept</u>: there's obviously **corruption** that runs through, everyones hopeful when minister changes that it will get better, shes a lil out of touch since she's out of the industry but when she was there there was a lot of corruption there still (not always w money, but gov tries to steer away from pay per quota holders - they do nothing but take that piece of paper and they go to business and say buy me out - move towards actual working fisheries)

4. <u>Changes in gov agency</u>: name changes a lot w new ministers but **in terms of criteria - always try to stay the same** - try to give the benefit to businesses who can invest in the fishery itself w vessels, jobs to the ppl that need it etc. and the only evolution change over past 15 years is around decision making - having previously disadvantaged people sit in manager positions and make decisions (more of a requirement now) - difficult to apply every parameter tho

Sustainability Initiatives in Fisheries

1. Been a lot of sustainability initiatives there - business intelligence mathematical model used - **one of vessels were put on systems and they were able to monitor how much was being caught and what species** (sophisticated record keeping on ocean, also weather conditions) - they built very strong data when fishing was the best, kept track of it v strongly **to make sure that they don't overfish and don't catch an excessive amount of bycatch** (if they did they would be penalized by the gov dept), used it as monitoring tool, every time a vessel land always an inspector from the dept that would check → these initiatives built into vessels made that process run smoothly

2. Lots of initiatives ab the way they fish - they have big nets that go deep into ocean for hake so they have **special nets designed** trialed and tested so they could **avoid bycatch** and so that other fish besides hake could get through the net undamaged and get a lot more hake for human consumption - if you don't have the right net you damage the fish which is wasteful so this maximizes reason for fishing

3. There's also **lots of accreditations they got, have to be part of MSC** (make sure that businesses follow certain parameters) - if you don't comply your MSC accreditation get taken away, if you don't have this your export thing gets taken away (consumers way fish sustainably caught)

Two Oceans Foundation's Potential Role

1. Even if you go into big processing facilities of corporates they don't actually know how to properly handle product that they've been giving - important to train how to actually filet the fish (done by hand in SA while machines do it in other places)
    a. Fisherman - are there certain practices that they should do to make it more sustainable - doesn't know much from this perspective, there is already inspectors to make sure there's no overfishing or anything so in terms of that they try the best they can from dept perspective

From a skills perspective: how to process the fish, maybe certain baits or hooks that they can use that they are accustomed to - smaller guys that do line fishing and stuff, training them and teaching them where to

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Research Framework Elements *<In this section record key information that aligns to Research Framework>*

Bucket 4: Key Stakeholders
- Lots of background about fisheries and sustainability initiatives that they have - Alvin & I don't think TOF has much of a role to play with educating them and shifting their behaviors

Taryn Van Neel

Key Areas of Discussions *<In this section record key information such as pain points and/or problems, what big projects/interventions are planned>*

Current Status of Education Programs
1. The Shark Spotters current educational programs focus on primary school level. They have an interest in adult education, however they have not started educational programs.

Future Interest
1. Shark Spotters is working on a project that would be in collaboration with Two Oceans Foundations. They want to create an educational program focusing on adults. Shark Spotters is looking for an adult education program for their staff. The education program must be customized to them. Customization is important because it will garner a stronger connection when the educational program reaches the target audience.
    a. "Adults do not like to work in silos", "they engage really well when it comes to working in groups". These are some key insights that Taryn spoke about when explaining her experience with adult learners.
    b. Another key insight is that people in general and adults especially thrive with more practical training. She spoke about this from the perspective of the Shark Spotters, however it is also valuable to know for the Two Ocean Foundation.
2. Another potential collaboration partner or funder is CETA: Center Education Training Authority. Taryn spoke about how in the past the CETA has focused more on terrestrial training and not ocean literacy, however it is a growing space.
3. Taryn mentioned that the interest is there for educational programs, also people want to get something out of it that is not just a certificate. "If they are taking part in a program, they want to get something back from it. Maybe school credit or specific certification for a job".

Barriers:
1. There needs to be more training opportunities. **One of the biggest reasons for the lack of ocean literacy is because of the lack of learning/training opportunities.**
2. Another barrier from Taryn's experience with educational programs is that it is hard to get people interested.

a. Must keep the educational program simple. The more oceanography and marine biology gargin that is used, the less people pay attention.
b. "People don't want to advocate for something they don't know or understand".
    i. ex:. great white sharks are disappearing. People or fishermen specifically do not understand the impact of losing the great white shark. She spoke about how it might be a good idea to run through a case study about what would happen if something like the great white shark was no longer alive.
    ii. This would show people what will happen or what is happening now.
c. "Many adults don't want to create change"
d. "Engage with things that are relevant to them" Most importantly, customize it to them so they can connect to it and understand.

Stakeholders at V&A
- Taryn also spoke about fishermen at the V&A Waterfront. Spoke about how sharks sometimes get caught in their nets. She said that the fishermen are stuck in their ways and reluctant to change. However, there is a lack of education customized to the fishermen. Even though they depend on the ocean, they are not very ocean literate.

Research Framework Elements *<In this section record key information that aligns to Research Framework>*

Bucket 2: Local Ocean Literacy Trends

- There is interest in ocean literacy and education programs however there is a low supply. Furthermore, in creating ocean literacy programs, customization is key

Bucket 3: Ocean Education in South Africa / Partnerships

- Two Oceans Foundations can partner with: Shark Spotter, or local places like it. These local retailers with activities can give a natural place to teach and go through the educational program.

- CETA, and other organizations can be a good source of funding.

Bucket 4: Key Stakeholders

- Formal stakeholders like Shark Spotters. Due to their location and access they also have access to reach informal stakeholders like fishermen.

Kerry Kopke

Key Areas of Discussions *<In this section record key information such as pain points and/or problems, what big projects/interventions are planned>*

CLDSA Ocean Literacy

1. Some people are more literate than others. There are some people who care a lot (ex: nature photographers) that are worried about the current state of the ocean, but others don't care at all.
2. The club is conscious about the water waste situation, but some are active about it and some are not.

Joining CLDSA

1. Annual fee. To be recognized as a swimmer, you must do a long distance swim. But there are some people that join just for the community.
2. It is informal, but there are some rules. For example, they dealt with swimmers getting run over by boats, so a lot of swimmers have transitioned to attach a buoy to themselves for safety purposes.

CLDSA and Ocean Education

1. CLDSA members are the target market because they have a huge interest in the ocean. A lot of people don't care, but most people are passionate about what's going on with the ocean.
2. Members would attend talks and courses. They would be receptive to the program depending on how much ownership is put on them. They wouldn't like having assignments due.
3. Would like to learn about topics that are central to them such as tides. They would like to understand more about how the ocean works and safety having to do with animals.
4. Ex: biodegradable sunscreen. Wouldn't research it themselves, but if someone from Two Oceans told them a recommendation, they would buy and use it

Interactions with Sea Life

1. Will often encounter whales, dolphins, seals, and jellyfish. People have gotten stung by jellyfish and suffered from hypothermia but will still come back and swim in the ocean.

Racial Barrier

1. Not enough black swimmers. CLDSA allowed wetsuit swimmers to join to be more inclusive. Water sports are white-centric.
2. Foraging in kelp forests has become controversial because people don't like white people foraging, as it is not their land.
3. In South Africa, there is a general fear of swimming. Fishermen don't know how to swim, and they are putting themselves in danger. People don't have access to pools so they never learn how to swim and end up fearing the water. This causes a lot of drowning.

Research Framework Elements *<In this section record key information that aligns to Research Framework>*

Key Stakeholders in V&A in Cape Town

- Formal activities (such as CDLSA) will be receptive to ocean education if there are topics that are relevant to their interests. They will listen to recommendations made by Two Oceans employees.
- Formal activities in the ocean are predominately white-centric, and are working to become more inclusive of all.
- People in formal activities are usually conscious of issues surrounding the ocean, however, some take action for improvement and some do not.

Ocean Education in South Africa

- General trend in South Africa of being scared of swimming in the ocean, which ruins their understanding of the ocean/ocean literacy. If we can mend the bond between understanding your impact on the ocean and its impact on you, then we can increase ocean literacy

Petro Myburgh

Key Areas of Discussions *<In this section record key information such as pain points and/or problems, what big projects/interventions are planned>*

Background of Waste Management Process

- outdoor, on-site waste recovery & recycling, daily crew will drive arove and collect waste from collection points (~380 points), avg month sort around 550 tons of waste - prior to covid that number increased, two dedicated boats that clean the water bay & started collected waste from them
- a lot of waste coming from outside → main cause is windy/rainy days so polluted from cities leaks into storm water & some people don't understand that it leads to ocean so they dump stuff in there
- Started monitoring volume of waste from water ways & next step is full categorization of it to understand waste profile
- A lot of waste is contaminated at source & they have minimal control over it - enforcement is hard (12-14% waste in landfill could've been recycled) → future project is waste energy plant

V&A Waterfront Sustainability Efforts

- Last 18 months story telling of their efforts improved and made a lot of effort to package stories in diff ways - not marketing campaign but opportunity to guide people in different direction (aware about how they consume) → before it was not common to "brag" about what they were doing so just doing it without broadcasting
- Demographics: mixed-use property, over 2,000 live there, 27,000 workers there so lots of movement, avg 23-24 million visitors → shift to more locals than tourists (65% of visitors are local) but still expensive
- Waste management in SA in general is poor compared to countries like Sweden → believes focus needs to be on creating a full circle picture on the consumer from start to finish (what we buy, how we buy, where it ends up)
- Other issues overshadowing sustainable waste: loadshedding, drought

Plastic Bags

- Have to pay for them, some retailers have alternative bags → using these & reusable bags are all dependent on customer behavior (ex: their social situation, where it is most convenient/accessible/affordable for them)
- A lot of plastic in SA is unrecyclable
- [Plastic Pact](#)

Research Framework Elements *<In this section record key information that aligns to Research Framework>*

Bucket 1: Background and Context

- General background about V&A waterfront waste management & sustainability efforts
- Demographics of V&A

Stakeholders for Ideation and Prototyping

Craig Girdlestone

AN: Great meeting you both, incredible to see V&A through your eyes, seeing it change so much. Tell us about boat chartering business runs at the waterfront?

CG: selling experiences. Have boats but sell time on the water. Made up of private charters and cruises. 7 boats (5 and deep sea, 2 are high speed). The one advantage to having the feet is that we can sell either. Private charters are 3 hours, the most popular is 2 hours. Cruises start at 11, half-hour to hour trip. (2 or 3 trips, sunset cruise 5:00 in winter, 7:00 in summer). Take more than a few hundred to 1200. 50 staff, 7 boats, 5 or 6 people per boat. 65 staff, run 12 months of the year, don't take time off. Some boats are only seasonal, but have maintenance and school holidays, run every single day.

AN: how many are hired? Is that normal

CG: hire more in summer than winter sometimes. Normally a skippers for the boat, engineer on the larger boats. Legal requirement is the big boat. Two crew minimum or three, 7-day week, need to factor that in for time off in the week. 7 people per boat is the figure they use. Includes someone in the office. Shop 5 is where people collect the tickets. Part of that number. Ticket sales, stand on the Key side. Have a large online sale, ticket sales are also part of it. 6 or 7 is an average across the industry.

AN: are you and staff interested in learning more about ocean

CG: yes. Approached the aquarium to learn. Our training for people who work for them are based on the legal requirements legally SASA. Must do the first ed, survival at sea, bar fighting, fire, medical, and navigation. No requirement for them to learn anything about the ocean. Something we want to do with the aquarium is to educate the people so that they have an actual basis that they can refer to. Learn more about the sea. They see the sea every day, they see sharks, they can talk about things, but are not actually qualified, so they might not have the correct info. A few years ago, we had a whale watching permit, but we had a whale guide on the boat, who's primary qualification was a guide. Would like to be more involved. As we are designing the education program.

AN: want to make sure they are qualified to speak. Are they interested in ocean sustainability as well?

CG: sustainability is an important part of it. WhatsApp group, the skippers are always posting the pollution that is taking out of the water, large traffic cones. Keeping the water clean even though they are not pollution control. Passengers enjoy that as well. Looking after the ocean is good for us, part of it is good PR and marketing. You should be more informed than the passengers, sometimes they are very informed. People would quiz the whales of the world and not know.

AN: very interested in where the cost would be, if the ocean education program costs 75-90R per person, how interested?

CG: sounds like it is for free.

AN: per hour. From a different perspective?

CG: how many hours in total

EB: doesn't disrupt the running of your business. 1–2-week training course. Initially looking at the cost. Trying to understand what would work and what would not work.

CG: if you look at the other courses, every 3 years, 10-15000 R per person total. Works to be 800-900R per day. Refresher course would be like 1000 R. Should it be a run-off course or a refresher?

AN: Principles we teach in the very first course, known and accepted worldwide. Refresher courses change over time. Still building the course now.

CG: on the boats, we have the skippers who are the cornerstone of the boat, 5 or 6 skippers to send first. The crew comes and goes, and might only be there for a week. Want to train the skippers because they would pass on the knowledge. Initially, 6 or 7 in the course, repeat.

AN: skipper is the most important…

EB: other courses, are those mandatory for the charters to run every 3 years?

AN: skipper needs to get a ticket which is for life. Fire fighting is every 3 years and so is medical. Annual one: eyesight test for skippers, medical. From a charter industry, the landlord must say that you must have qualified people, the course should be on the list. Good thing to have and accreditation for the industry, industry backs it.

EB: Who is the regulating agency that requires all the courses to be done?

AN: SAMSA (South Africa Maritime Safety Authority)

EB: work with SAMSA, made mandatory with them. Drive sustainability.

CG: Also, STCW (Standard Training and Certified Watching), crew had to do that. Basic qualifications that they need. Sailing schools teach as well. Teach you how to be a skipper or crew, how to be a STCW course. Hidden away on the island, the schools are more visual. 3 stakeholder groups that must take charter companies. Crew that works on the boats after COVID see us as a stepping stone to get experience, hopefully they end up on a superyacht in France. Lots of traffic. Skippers hang around because they have a steady job.

EB: how many skippers?

CG: don't change much, what some sort of stability. Between 7 and 12 skippers. Some skippers are crew, double up. Skipper, two crew, and engineer on each boat. 1.5 per boat. 10 skippers for 7 boats. Employ 50 odd people including the office and ticket sellers. People in the office are still front-line staff, and still want them to be educated. Need to know what sea life is because they are the first point of call to the customers. American group, private charter in August— "What Sea life are we going to see?" We can tell them that the whole standard should be higher.

EB: other businesses are front line staff. What are the other charter companies we should be getting in touch with that want to learn?

CG: tenants of the Waterfront. Bigger passenger numbers: Waterfront Adventures, Sport Helicopters, etc. People that are the passenger carriers. Some boats carry 12 passengers, only a passenger boat if you

are over 12 passengers. Private yacht is a non-passenger boat, with different manning requirements… different courses. Robben Island—have a large star complement, run by government, employed by the state, doing similar work.

Research Framework Elements *<In this section record key information that aligns to Research Framework>*

Stakeholders

- 50-65 staff, 7 boats (5 deep sea, 2 high-speed)
    - Skippers are the ones that should be educated first because their jobs are more stable. The companies has between 7 and 12 skippers
- There are education requirements put in place for staff by the SAMSA, but none of them have to do with understanding the ocean, which would be beneficial for the business to have.
- Other stakeholders interested in learning: Waterfront Adventures, Sport Helicopters, Robben Island

Recommendations and Action Items *<how could tech assist>*

Recommendations

- Reach out to the SAMSA to make the ocean literacy course another mandatory course requirement for staff.