# The Floatation Stimulation Platform:

# An investigation into the feasibility of delivering audio and audio-visual stimuli into the floatation tank.

ΒY

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# Abstract

The floatation tank experience is unique. It involves floating on a body of water dense in Epsom salt, inside of a purpose-built tank. The buoyancy from the salt density means there is little sensation of gravity, and the water temperature is the same as the skin temperature so there is minimal sense of touch. There is no light, no sound, and no one else. This research considers the feasibility of developing technology designed to stimulate the senses in the floatation environment - conceptualised as the floatation stimulation platform (FSP). The identified target market for the FSP is the commercial floatation centre. Three phases of investigation were conducted to assess feasibility of the FSP. Phase One involved surveying 10 existing floatation centres and assessing their use of stimuli in the floatation environment in a commercial context. Phase Two involved surveying 37 participants connected to a commercial floatation centre's online network. Participants were asked a range of questions about their perceptions and experiences of floatation, stimuli within the floatation tank, and activities they participate in. Phase Three involved analysing a commercial offering of audio stimuli designed for a specific model of floatation tank. The findings of all three phases of investigation suggest the FSP is a feasible concept. A major finding from Phase One was that all surveyed commercial floatation centres currently use stimuli in their floatation tanks, while in Phase Two it was found that all participants surveyed were open to the concept of experiencing stimuli in the floatation tank. Phase Three of the investigation found that stimuli designed for the floatation tank is most valuable to floatation centres if it can increase customer retention. From the investigation findings, recommendations were developed for appropriate business models and developmental pathways for FSP technology. It is suggested that FSP technology operate as different components for different senses. It is also recommended that a content library for existing floatation tank and FSP technology be developed and made available on subscription-based access. The feasibility of creating personalised content for FSP technology is also explored.

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# 1. Introduction

This thesis considers areas for innovation and development in the scope of the floatation tank. Floatation tanks are a unique technology and widely perceived as the most effective way to isolate oneself from external stimulation. The inventor of the floatation tank, Dr. John C Lilly, initially named it the sensory isolation tank (Lilly, 1977).

Historically the floatation tank has had many names, including isolation chamber/tank, sensory deprivation chamber/tank, floatation therapy, and floatationbased restricted environmental stimulation therapy (REST). Floating has been available in a commercial setting since 1972, since this time there have been various iterations in floatation technology.

This thesis will investigate and assess the viability of complementary technology designed to influence and augment the floatation experience. This technology is conceptualised as the Floatation Stimulation Platform (FSP).

# 1.1. Background to floatation

To help contextualise further discussion, a background on the floatation tank is needed. Contemporary float tank dimensions are usually around 2.4 m long by 1.2 m wide. Traditionally, it holds a body of water with a saturated solution of Epsom salts at a density of 1.30 g/m<sup>3</sup>, which is approximately 600 kg of Epsom salts in around 760 litres of water (Lilly, 1977). This salt density allows any human body to float freely. Figure 1.1 shows a person floating in the floatation tank solution. The illustrated tank was the first commercially available floatation tank, known as the Samahdi floatation tank.



Figure 1.1 – Classic Samahdi floatation tank (Samahdi, n.d.)

# **Origins of the Floatation Tank**

The origins of the floatation tank can be traced back to Dr. John C Lilly in 1954. Lilly developed the floatation tank as a means to attenuate the effects of external forces on the mind. Lilly based this investigation of the human mind on a tenet of experimental science, lack of variability:

"In order to adequately study a system, all known influences to and from that system must either be attenuated below threshold for excitation, reliably accounted for, or eliminated to avoid unplanned disturbances of that system."

Lilly, 1977, p.25

There are five sources of stimulus the floatation tank can isolate us from:

- other people
- light and patterns of light stimulation
- sound
- gravity
- temperature.

The typical floatation experience occurs inside a floatation centre, these centres are commercial locations that house at least one floatation tank. Floatation is commonly offered in conjunction with other forms of contemporary and alternative medicine therapy. The typical experience involves a shower before and after entry to the float tank, with the most common commercial time allotted to floating inside the tank being one hour, although the time can vary.

#### 1.2. The floatation industry

Origins of the contemporary floatation centre can be credited to Dr. John C Lilly, Glenn Perry, and Lee Perry. Lilly is credited with the conception and development of the floatation tank in a scientific context. The efforts of Perry and Perry resulted in the emergence of the first commercially available floatation tank. With the help of Lilly, Perry and Perry started a company in 1972 called Samahdi Floatation Tanks. Through this company the first commercial floatation centre was able to open in California in 1972 (Samahdi Floatation Tanks, n.d.). With the foundations for commercial floatation set, an industry began to slowly develop over the coming years. Growth in the floatation industry was experienced until the mid-1980s. The atmosphere of fear precipitated by the AIDS virus correlated with a sharp drop in people willing to float, due to the false conception that floating might lead to the contraction of the AIDS virus (True Rest, n.d.). The result of this was a lull in floatation that resulted in the closure of numerous centres.

In recent years, the floatation industry has experienced significant growth. This can be seen through the number of centres open globally, the revenue generated by the industry, and the size of the industry itself. A consultancy company in the floatation industry, Float Tank Solutions, has released annual reports on the floatation industry since 2014. These reports sample a population of floatation centre owners. Figure 1.2, from a 2016 report sampling 172 operational centres, demonstrates the exponential nature of growth currently taking place in the floatation industry.



Figure 1.2 – When did you open your floatation centre doors? From a sample of 172 operational floatation centres (Float Tank Solutions, 2016)

Industry-wide conferences are now commonplace. In 2010, a Float Summit was held in London, there was also one in San Francisco in 2011, and another in Sweden in 2012. Since 2012, the Float Conference has been held annually in Portland. This conference is now the biggest global floatation industry event, with over 700 people in attendance in 2016. Figure 1.3 shows the steady rise in Float Conference participation since 2012.



#### Portland Float Conference Attendence



#### **Technologies involved**

The most immediate technology to consider is the floatation tank itself. There are a range of manufacturers in the floatation industry but, in general, there are a few key styles of tank to consider. These are shown Figures 1.4 - 1.7.

#### Classic floatation tank



Figure 1.4 – Samahdi Classic Floatation Tank (Samahdi, n.d.)

This Samahdi style of floatation tank (above) is considered classic because it was the first commercially available. Created by the Samahdi Floatation tank company, with the help of Dr. John C Lilly, this style of tank has been available since 1972.

Pod style floatation tanks



Figure 1.5 – FloatPod (FloatPod, 2015)



Figure 1.6 – DreamPod (Dream Water Float Co, 2016)



Figure 1.7 – I-soPod (I-sopod, n.d.)

The pod style floatation tank is a popular design that has come about in recent years. There are numerous manufacturers of such a style in float tank. The futuristic design is marketed as more appealing to potential customers than the classic style of floatation tank.

Float rooms, or float cabins (Figures 1.8 - 1.9), are the largest commercially available floatation tanks. One of the reasons that people might invest in such a style of tank is that it can attenuate any problems relating to claustrophobia in clients. This style of tank also suits larger individuals as they have plenty of space to float.



The Float Room

Figure 1.8 – Zero Gravity Float Room (Zero Gravity Institute, 2015)



Figure 1.9 – The Orion Float Suite (California Float Concepts, n.d.)

The float tent shown in Figure 1.10 was funded through a successful crowdfunding campaign. The objective of this style of floatation experience was to make floating at home more accessible and affordable.



Figure 1.10 – Zen Float Tent (Zen Float Co, 2014)

There are also websites dedicated to demonstrating how to go about acquiring and assembling floatation tanks designed for private use (Figure 1.11). The models presented serve as an introduction to the variability present in floatation tank models.



Figure 1.11 – DIY Floatation tank (The Deep Self, 2007)

# 1.3. The science of floatation

From a scientific standpoint, the act of floating inside a floatation tank has had many names. The most common is floatation restricted environmental stimulation technique (REST), a term coined by Peter Suedfeld (1980). Floatation REST has been studied in an array of different circumstances and there is evidence showing a breadth of physiological and psychological benefit (Seudfeld, 1980). The implementation of stimulus into a REST environment has also been experimented with in a variety of contexts (Hutchinson, 1984; Stanley, Mahoneym & Reppert, 1987; Barabasz, 1990).

Positive physiological and psychological results have been reported by professional athletic teams, Olympic athletes, marathon runners, golfers, weightlifters, basketball players, gymnasts and general sporting enthusiasts (Barnett, 1983; Conway, 1986; Daniel, 1985; Hutchinson, 1984; Mahoney, 1987). In the context of stimulus inside the floatation tank, there are an array of studies to consider. Taylor (1990) investigated the effect that floatation had on rates of learning. The experiment involved 20 students who were screened to ensure similarity in physical and mental stature.

One group was presented information in a dark room lying on a couch, the other inside a REST environment. Through pre- and post-examination of subjects, it was established that those in the REST context experienced greater rates of learning. These differences in learning rates became more pronounced as the testing tasks increased in complexity. Figure 1.12 demonstrates this difference where, as the difficulty of learning increases, so too does the effectiveness of the floatation tank as a learning environment.



Figure 1.12 – Learning efficiency found in floating and non-floating populations (Taylor, 1990)

Mcaleney, Barabasz and Barabasz (1990) investigated the effects of guided mental imagery inside the floatation tank on intercollegiate-level tennis players. The effect measured was first service accuracy and the comparison group was given the same guided imagery outside the floatation tank environment. It was found that subjects who experienced the mental imagery inside the floatation tank performed significantly better. A similar study showed floatation-enhanced imagery training in expert level collegiate basketball players (Wagaman, Barabasz & Barabasz, 1991). Significantly better performance was found for those that experienced floatation and guided imagery over those who experienced just guided imagery. The measures in this research were objective game experience and coaches' blind ratings.

Research has also investigated the use floatation with recreational-level athletes. Suedfeld and Bruno (1990) found significant increase in participant basketball foulshooting accuracy following a single floatation session with guided imagery in comparison to imagery only or no imagery conditions. A similar area of investigation has been on the effects of dry floatation. Dry floatation involves lying atop a bed of silica in a sound and light attenuated environment. The basic premise of dry floatation is that it emulates the effect of normal or wet floatation, in a simpler manner. Barabasz, Barabasz and Bauman (1993) found that dry floatation coupled with guided imagery significantly increased male and female marksmanship scores when compared to the imagery-only control group.

More recent studies of floatation REST have established a treatment protocol that involves 12 sessions over 6 weeks. This is seen as sufficient to achieve desired levels in stress and pain reduction (Bood, 2007). Other findings associated with floatation REST include:

- increased sense of well-being (Kjellgren, Sundequist, Norlander & Archer, 2001; Mahoney, 1990; Schulz & Kaspar, 1994)
- aid in pain reduction (Kjellgren, 2003; Norlander, Kjellgren & Archer, 2001)
- stress reduction (Bood, Sundequist, Kjellgren, Nordström & Norlander, 2005)
- increased creativity (Suedfeld, Metcalfe & Bluck, 1987; Norlander, Bergman & Archer, 1998)
- muscular tension reduction and lowered blood pressure (Jacobs, Heilbronner & Stanley 1984)

- mild euphoria (Schulz & Kaspar, 1994), and
- altered states of consciousness (Kjellgren, 2003).

A recent study from Feinstein (2016a) investigated the pre- and post-effects of floatation using neural imaging. Subjects received MRI scans before and after three floatation REST experiences. Floating was found to reduce connectivity between the right anterior insula and dorsal anterior cingulate. These brain regions are seen to play key roles in mental illness and anxiety (Seeley, Menon, Schatzberg, Keller, Glover, Kenna & Grecious, 2007). There was also correlation between the observable post float anterior insula and dorsal anterior cingulate connectivity and anxiety reduction. This reveals a potential biomarker for the anti-anxiety effects of floatation REST.

Further developments in the study of floatation REST are set to take place at the Laureate Institute of Brain Research. The domains for these further studies include pre and post neural modulation, temporal dynamics during floating, transference effects, individual variability, group effects, specialization and plasticity, difference in healthy and clinical populations (Feinstein, 2016b).

#### 1.4. Project partner

Float Well is a commercial floatation centre located in Wellington, New Zealand. The owners of the floatation centre have contributed to this project wherever possible. Specific examples of this are distributing surveys to their customer base and giving insight into target market demographics.

# 1.5. The Floatation Stimulation Platform

Science demonstrates there is merit in introducing stimulus into the floatation environment and the steady levels of commercial growth indicate that market conditions are optimal for new and innovative technologies. To aid in the process of this investigation, the concept of a complementary technology for the floatation tank will be referred to as the floatation stimulation platform (FSP). The details and specifications of the FSP are yet to be determined, but the concept helps to frame key assumptions and investigative questions.

#### Similar conceptions to the FSP

The first thing to consider in this section is concepts like the FSP. In *Book of Floating* (Hutchinson, 1984), one chapter explores the concept of external stimulus in the floatation tank:

"In order to take advantage of a floater's enhanced receptivity to messages, increased visual sensitivity, and ability to learn at an accelerated rate, in combination with the power of visualization, many involved in sports training are now actively exploring the use of specially installed video screens in float tanks. While the athlete floats in a state of deep relaxation, the only image in the otherwise totally black tank is whatever is displayed on the video monitor – perhaps a new football play or films of an opponent on the field, or a montage of extraordinary plays and players in action."

(Hutchinson, 1984. p.169)

There is also mention biofeedback technologies being used to determine when content is delivered into the floatation tank:

"The ultimate would be—this is down the road—when you have electrodes on; and when you're on the proper wavelength level, the thing turns on, and when you're not, it doesn't."

(Hutchinson, 1984. p.170)

In the book *Stealing Fire* (Kotler & Wheel, 2017), Kotler and Wheel mention that the Defense Advanced Research Agency (DARPA) has worked with the Navy Seals to develop an audio-visual interface inside the floatation chamber.

"Working with researchers at Advanced Brain Monitoring, in Carlsbad, California, they've hotwired neural and cardiac feedback loops, digital displays, and high-fidelity sound into the experience. They're deploying these upgrades for a practical purpose: accelerated learning. By using the tanks to eliminate all distraction, entrain specific brainwaves, and regulate heart rate frequency, the SEALs are able to cut the time it takes to learn a foreign language from six months to six weeks."

(Kotler and Wheel, 2017, p.21)

It is important to note, regarding the above, that there is no citation to a peerreviewed investigation, but in consideration of existing scientific evidence there may be some merit in these claims floatation tank facilitated accelerated learning.

#### Challenges in developing the FSP

The floatation tank is a hostile environment for electronics, and the floatation experience is also one of relaxation and immersion. These are two key obstacles to consider. While technology that can give high-fidelity audio-visual experience is available, it is unlikely that such technology will also be able to withstand the floatation tank environment.

Considering the person floating, if use of the FSP is intrusive and disrupts the immersive/relaxing effects of floatation, then it is unlikely floaters will want to use it, opting for a normal float experience. From this the FSP should facilitate an experience that is as good as or better than the normal floatation experience. The possible technologies that could be used for the development of the FSP are discussed below.

#### Assumptions for the FSP

The following are assumptions this thesis makes with regards to the FSP:

- FSP is most viable if it is complementary to the floatation environment. If it can be utilised in any style of floatation tank, then the accessible market is at its largest. Having the FSP as a head-mounted display means that it can be independent of the floatation environment in which it is used.
- FSP needs to be immersive enough to build on the floatation experience, not ruin it. If it is too intrusive as a technology then it is unlikely that people will be willing to use it over normal floating conditions. This also means the FSP needs to be able to withstand the floatation environment safely.
- The assumed minimal viable product (MVP) for the FSP is audio stimuli within the floatation tank. When it comes to product development the MVP is a common tool used. The MVP is used to gather as much information about the intended product in the shortest period of time this is a strategy key to the lean methodology (Maurya, 2010). Audio serves as stimulation in the floatation tank environment and from this, key information can be found concerning development of the FSP with the least amount of technological innovation needed.

- Target market for the FSP is found in existing floatation centres. This is because the FSP can serve to expand the experiential possibilities in the floatation tank. From this the likelihood of customer retention for a floatation centre can increase alongside access to a wider market. To be more precise, the key target markets for the FSP are commercial floatation centres with a high volume of customers.
- Existing literature can help to guide content development for the FSP. Figure 1.13 is a thematic visualization of marketing efforts made from 84 floatation centre websites (Jonsson & Kjellgren, 2014).



Figure 1.13 – Thematic visualization of a sample of floatation centre marketing efforts (Jonsson & Kjellgren, 2014).

Regarding Figure 1.13, the assumption being made is that content made for the FSP will appeal to existing floatation centres and floatation centre customers if it falls within the given content areas: personal growth, altered states of consciousness, alleviation of medical conditions and relaxation.

# 1.6. Technologies for the FSP

Technologies for the development of the FSP are considered in this section. Consideration of different technologies is done with respect to assumptions being made in the scope of the FSP.

### Virtual reality

Developments and commercial endeavors around Virtual Reality (VR) have been active for the last 50 years, with last 15 years seeing major developments in the industry. Computer technology has advanced, enabling smaller and more powerful mobile technologies to serve as a means of delivery for VR experiences at a lower cost. The gaming industry has also seen significant growth and is investing heavily in the emerging VR ecosystem. The most notable development in recent times has been the acquisition of Oculus by Facebook for \$2 billion dollars s in 2014 (Solomon, 2014).

Virtual reality technology is already being used in an array of different contexts and is growing in accessibility (Figures 1.14 - 1.15). Regarding the assumptions around the FSP, existing VR technology may work well.



Figure 1.14 – Samsung (2016)



Figure 1.15 – Samsung gear VR and a DreamPod floatation tank

### **Augmented reality**

Augmented reality (AR) shares many similarities with virtual reality (VR), and as a result of this the two are typically considered part of the same industry. The primary difference between AR and VR is that AR works to complement 'normal' reality, whereas VR immerses the person completely in an alternate reality.

Figure 1.16 shows the Microsoft HoloLens, a recent development in AR technology, while Figure 1.17 shows the headset in use. The premise of AR technology is that three-dimensional images can be mapped into 'normal' reality.



Figure 1.16 – Microsoft (2017)



Figure 1.17 – Microsoft (2017)

The key consideration in the scope of these two technologies is that they can both serve as a means to deliver audio-visual stimulus into the floatation tank. Because the industries behind them are both experiencing considerable growth and are forecasted to continue doing so, it is expected that they will both continue to rapidly iterate, making them more accessible and available at a lower cost. With respect to the FSP, if a purpose-built VR/AR headset can be developed for the floatation tank then this may serve as a viable FSP construction. Figure 1.18 demonstrates current and forecasted revenue size for the AR and VR industries.



Figure 1.18 – asted growth for VR and AR industry revenues (Digi capital, 2017)

#### Televisions

Televisions have previously been rigged into floatation tanks. This process involves building or modifying a tank so that a television can be housed safely. Considering the assumptions made with respect to the FSP, having to modify tanks to install televisions is not considered viable.

#### Holograms

Holographic technology has also experienced recent development and shares similarities with AR. Having holographic technology inside the floatation tanks means the floater need not be tethered or connected to anything, making this a highly desirable method of audio-visual input into the floatation tank. However, as holographic technology is relatively expensive when compared to VR and AR technologies, it is also likely that it needs to be rigged somewhere inside the floatation tank. Following on from this, a potential application of holographic technology would be implementing it into floatation tank construction, a use outside of the scope of the FSP.

#### **Floatation tank speakers**

The majority of floatation tanks commercially available come equipped with speakers. Usually sound is used at the beginning and end of commercial floats to relax and then re-orientate customers respectively. With respect to the MVP for the FSP (audio experience in the floatation tank), this could make the accessibility to a potential market much higher.

#### Wireless waterproof ear-buds

The typical process of floatation involves placing foam or silicone earplugs in the ear to prevent the saltwater solution entering the ears. Waterproof ear-buds are another means to deliver audio in the floatation tank and can be substituted for earplugs. Having waterproof ear-buds in the tank increases audio quality and allows for more variation in audio experience when compared to the typical floatation tank speakers.

#### Wireless waterproof bone conduction headphones

As mentioned, it is common for people to float with earplugs to prevent float tank water entering the ear canal. Bone conduction headphones are a way to deliver high quality audio without disrupting the functionality of the earplug. In cases where waterproof ear-buds might cause discomfort in comparison to earplugs, bone conduction headphones may be a solution.

# 1.7. Theory used to guide FSP development

Theory key to proposed development of the FSP is firstly found in the context of existing scientific research. When it comes to assessing key assumptions around the FSP, the lean start-up theory (Reis, 2011. Maurya 2010) has been utilised, demonstrated in Figure 1.19. Physical product development is outside the scope of this thesis, so key assumptions have been investigated via a survey of potential customers, interviews with stakeholders and observation of existing market trends.



Figure 1.19 – Principles of the Lean Startup product development cycle (Reis, 2011)

# 1.8. Opportunities present

The rate of market growth in the floatation industry is indicative of majority growth market stage (Figure 1.20). This stage of the cycle can be considered optimal for the advent and the implementation of industry innovations.



Figure 1.20 – Industry life cycle stages. The floatation industry can be is observed as being in the growth stage. (Stephen, 2013)

The opportunities present in this thesis are investigating key assumptions around the concept of the FSP and establishing whether or not there might be an identifiable market demand. Then the key opportunity is to provide evidence that can help to inform future development of a concept like the FSP.

# 1.9. Similar commercial technologies to the FSP

In the scope of the FSP and its developmental pathways there is one notable alternative now commercially available. DreamScape Elements by DreamWater Float Co is a collection of audio experiences tailored for a particular manufacturer's build of floatation tank. The marketing approach, content available and foreseeable developmental pathways for DreamScape Elements are covered in the findings and analysis section.

#### Unknowns in the project

While there has been scientific investigation into the effects of stimulus in the floatation tank, there is still much that remains unknown. Figure 1.21 flowcharts examples of the potential uses of the FSP. Of these examples, where there is existing scientific and anecdotal literature has been highlighted in bold font.





This flowchart demonstrates the ongoing investigation needed on the domain of the floatation tank in general and with the implementation of stimulus in the floatation tank. More than anything there is need for a well-researched guideline to be developed on the most appropriate ways to augment the floatation experience.

#### Proposed business model

A lean canvas (Maurya, 2012) has been adopted with respect to the FSP and is shown in Figure 1.22. This canvas illustrates a basic overview of the floatation industry as an ecosystem and how the FSP might be best integrated. Further explanation into variables presented follows.

Loon Convoc		Floatation Stimulation Platform			19/03/2017
Lean Canvas	(FSP)			1	
Problem Empty floatation tanks (underutilised business assets) Lack of recurring customers for floatation centre	Solution FSP -> Audiovisual stimulus within the floatation tank. Content library for the FSP for floatation centres Personalised content for the FSP	Unique Va Propositio Immersive audiovisual experience floatation t help to exp accessible floatation c grow a reco	alue on s in the ank. These band the market for tentres and	Unfair Advantage Early commercial developer of content in the floatation tank. Accessible content through subscription. FSP designed for all floatation environments, not just one style of float tank.	Customer Segments Commercial floatation centre owners Private floatation tank owners Sports organisations
Customer boredom in the floatation tank Lack of education for customers concerning floatation Existing Alternative Speaker system in the float tank. DreamScape Elements audio for the float tank	Key Metrics FSP unit sales Number of content subscriptions to FSP library Number of personalised programs developed for the FSP.	grow a recurring customer base.		Channels Float Conference, Social Media, Documentaries, Word of Mouth, Collaborations.	Elite athletes (peak performers) Reseachers Early Adopters High volume commercial float centres
Cost Structure FSP development & distr Library curation and crea Personalised content ger	ibution tion costs neration		Revenue Streams FSP unit sales FSP library subscriptions Personalised content sales		
F	RODUCT		1	MARKET	1

Figure 1.22 – Basic overview of floatation industry and how FSP technology and concepts might be integrated through a lean canvas.

#### Subscription-based content

With the possibility that the FSP can be successfully developed, the most immediate question to ask is what type of content to use. From this concept, the core of the FSP business model can be found, a subscription-based content. Pathways to develop

this business model are developing a library of audio content designed for the floatation tank. From this commercial businesses can use this library through existing tank-speaker technology they are likely to have. Once the FSP is developed, audio-visual content can be made available through subscription. Sources of revenue from this would be sales of FSP units and subscription to content for the floatation tank. These ideas will be discussed in more depth in chapters three (findings and analysis) and five (recommendations).

#### Scope of investigation

The scope of this investigation is to consider assumptions around the implementation of stimulus into the floatation tank, and how this might be done in a commercially viable way given the current condition of the floatation industry eco-system.

#### Structure of report

Figure 1.23 outlines the structure for this report.



Figure 1.23 – Report structure

# 2. Method

As previously discussed, there has been significant growth in the floatation industry for several years. Forecasts are for this growth to continue. The proposed technology in this thesis, the floatation stimulation platform (FSP), is an amalgamation of floatation tank and stimuli delivering technologies. This thesis investigates FSP, and seeks to establish whether there is an identifiable demand and/or viability for FSP technology and, if so, to identify optimal pathways for FSP development. The research questions presented were used to guide the methodological process. To address the research questions, a multi-phase quantitative and qualitative process was used to collect and analyse relevant data.

# 2.1. Summary of project assumptions

- The most viable pathway for the FSP as a product is for it to be independent of the floatation environment in which it is used. Essentially, for FSP to have optimal viability, it would be applicable to any model of floatation tank and therefore be accessible to all commercial floatation tank operations.
- The FSP needs to be able to withstand the harsh floatation tank environment (water with high salt density) and it needs to be non-intrusive to the floatation experience. Floatation is typically marketed as a habit that is unparalleled in levels of relaxation. If the FSP impinges on the floatation experience then it is unlikely float centres and float centre customers will find any value.
- The minimal viable product (MVP) for the FSP is audio experience within the floatation tank. Audio in the float tank serves the role of MVP because it is the easiest way to deliver stimulus into the floatation tank. From this, valuable insight regarding float centre and float customer perception of stimulus in the floatation tank can be found.
- Floatation centres are the target market for the FSP. If the FSP can be developed in line with previous assumptions, then it is commercial floatation centres that can gain the most utility from the FSP. This is because commercial floatation centres service many customers with different profiles. The only other immediate target market to consider is the private floatation market (personal floatation tanks). While private floaters might be interested in the FSP, the size of the market is much smaller than the commercial floatation industry.

• Existing literature can help guide content development for the FSP. Considering existing science, anecdotal perspective on floatation and other market offerings can help guide content areas that can be considered viable for the FSP.

# 2.2. Project research questions

Key research questions for this thesis were developed to help guide investigation, and are discussed below, along with their justifications.

#### What is the user profile for the FSP?

This research question provides important insights that can assist the developmental process of the FSP itself. It encompasses the following considerations:

• Who is the target customer for the FSP when it comes to early adopters?

Theoretically, there are a broad range of potential uses for the FSP. For any new and innovative technology, there is an adoption curve to be considered (Figure 2.1). Identifying and targeting early adopters is essential in initial market offerings.



Figure 2.1 – Technology adoption curve (McFadden, 2010)

• Which stakeholders gain through FSP customers?

The FSP is a complementary technology and enhances the potential floatation experience. This means that active floaters are able to do more with their floats, and floatation centres can offer more to potential customers. This question assesses whether or not floaters or float centre facilitators may find worth in the FSP and, depending on the findings, how the FSP can be tailored to meet such identified value. • What uses of the FSP are viable in initial developments?

Research is required to establish the type of content early adopters of the FSP would want. The breadth of potential uses in the FSP is a recurring theme in this thesis, since addressing what may be of most interest to potential market demand can help guide optimal development pathways and initial market offerings.

• What uses could be considered if the FSP technology was to grow?

This question considers how the FSP concept could be expanded further if commercial traction can be found. An example of this is the implementation of biometric technology to increase the level of immersion with content experienced through the FSP inside the floatation tank.

#### What is an optimal product format for the FSP?

This research question considers the following areas:

• What type of technology should be used in the development of the FSP?

In line with assumptions discussed, the FSP needs to be immersive to the floatation environment and capable of withstanding the high salt density of the water.

• What is the minimal viable product for the FSP?

Key to the process of new innovation is the creation of a minimal viable product (MVP). Establishing what can serve as the FSP MVP is critical to further development of the FSP, an approach found through the lean startup methodology (Reis, 2011).

• What type of content is best used within the FSP?

Content used within the FSP may be considered the most important piece of the equation. When someone's attention is engaged at a high level, it would be desirable to experience relevant content of subject areas. If this was not available, the experience of the FSP may be unwanted. Assessment of how existing and potential floatation customers perceive stimulus in the tank gives further insight to this question.

### What is a suitable business model for the FSP?

Paramount to development of the FSP will be identifying a suitable business model to generate revenue. Within this research question there are several areas to consider:

• How do existing commercial operations in the floatation industry operate?

Observing successful commercial operations within the floatation industry can reveal valuable insights on general business operation. This is important when considering aspects such as business relationships, key stakeholders and advertising procedure.

• Who is the primary customer of the FSP?

The FSP has unique value as a proposition for an array of different markets. Establishing who might gain the most value will help guide the development process.

• What is the fastest way to market?

A lean start-up mentality (Reis, 2011) is being adopted for the FSP. This means identification of an MVP on which to obtain market feedback in a timely manner.

# 2.3. Development strategy assumptions

The lean business approach is being used to guide development strategy. This model emphasizes gaining substantial feedback from stakeholders as quickly as possible. Considering this, the MVP for the FSP has been assumed as audio in the floatation tank, so audio produced specifically for the floatation tank is considered the first step in FSP development.

Assessing current use of audio stimulus in the floatation tank is, therefore, an important domain for early feedback on the FSP. This feedback can then be used to evaluate suitable content areas for stimulus in the floatation tank and initial audiovisual content for the FSP. Questions asking customers to identify which areas are most desirable for audio experiences in the floatation tank can then assist the development of audiovisual content. When developing audiovisual aspects of the FSP, existing consumer-grade virtual and augmented reality technology has been assumed as the most accessible approach.

# 2.4. Business model assumptions

If the conceptualised FSP was to be developed within necessary requirements, the first point of assumed revenue is unit sales of the FSP. Cost of development and distribution of the FSP is yet to be determined, so any suggestions and assumptions made regarding such a product are currently speculative.

Subscription-based access to audio or FSP content is regarded to be a recurring source of revenue generation. Based on this assessment, the business model has two primary means to generate revenue – the development and distribution of technology, and providing subscription-based content created for such technology. Further insight into the assumptions around this business model is provided in Chapter 1, Figure 1.2.

# 2.5. Methods of data collection

Data collection occurred over three phases, each phase involving different sources of data. Phase 1 involved floatation centres based in New Zealand, Phase 2 involved existing or potential floatation customers, and Phase 3 was observation of current market competitors.

#### Phase 1: Floatation Centres

Contact was made with 10 floatation centres based in New Zealand. Questions asked covered the scope of existing audio stimulus use in the floatation tank. Eight out of the 10 floatation centres were interviewed by telephone, with the remaining two interviewed in person. Data gained from these interviews was then mapped into a table and colour-coded based on responses. Project partner Float Well also provided information on their primary target market, based on 75 per cent of their operation.

The specific interview questions included:

- Do you offer customers music at the beginning and end of their floats? This question provides insight to common market use of stimulus in the tank.
- Do you offer customers music for the duration of their floats? This helps establish whether or not content-filled floats are common.
- Do you offer any variety in the music you offer customers? This is a key question relating to potential market potential associated with the FSP MVP, that is, audio experiences within the floatation tank.

- Do you allow customers to bring in their own music? This gives insight into identifiable demand for content experience in the floatation tank.
- Do you offer services other than floatation? This establishes the different perspectives of float businesses that do and do not offer complementary services.

Phase 1 also involved an assessment of use of floatation technologies at the elite athlete level.

#### Phase 2: Survey of existing and potential floaters

In Phase 2, a survey was used to gather qualitative and quantitative data from existing floatation centre customers. The approach was chosen to streamline data collection and analysis from a suitable customer demographic. The survey used was created in collaboration with Wellington-based floatation centre Float Well and the University of Victoria School of Psychology department. All questions and answers from this survey are found in Appendix B.

Specific software used in the survey was a Victoria University subscribed edition of Qualtrics. The survey was distributed through Float Well's monthly newsletter and their community Facebook page. These distribution channels were considered the best way to ensure participants were actual floaters or were interested in floatation. A survey brief was provided and is available in Appendix A. A total of 37 participants took part in the survey, 16 were male and 21 female. The survey gathered a wide range of data from participants to address the key research questions and project assumptions, as shown in Figure 2.2.






In the survey, 17 questions were asked covering a range of information considered relevant to this investigation. Some questions had follow up questions, such as questions 11 and 15, while others were open text requiring coding. The following is the reasoning behind each question:

- Questions 1 2: Demographic information was used for basic understanding of participant population.
- Question 3: Determining whether or not participants have floated before was essential to further questioning. Participants found not to have floated could not contribute meaningful data to the survey, so were asked not to continue with the survey.
- Question 4 5: Establishing where participants heard about the floatation tank was considered useful for determining potential marketing channels. It also filtered out any participants who had not floated before or heard of floatation tanks from answering further questions.
- Question 6: Frequency of floatation was an open text question to determine participant habits associated with floatation. This was considered useful for gaining further understanding into participant floatation engagement levels and whether this might have any effect on likely engagement with the FSP. These answers were coded into data after the survey to present relevant results.
- Question 7 8: Asking reasons associated with the most recent float was considered important for understanding why participants chose to use a floatation

tank, and to establish whether or not participants would float again. If participants said they would not, then an open text question covered why this was the case.

- Question 9: A key question was whether or not participants listen to music at the beginning or end of a float. This is seen as highly relevant to the implementation of the FSP, as it is an extension of the experience.
- Question 10: Participants were asked what aspects of floatation were most important to them. This question was designed to reveal key motivations for being inside the tank, and helps to further understand whether or not a concept like the FSP has any merit among participants surveyed.
- Question 11: Asking if participants would consider stimulus within the floatation tank was seen as essential. This reveals any potential market demand for a device like the FSP in an active floatation population, a demographic deemed essential for early adopters. For any participants that answered maybe or no an open text follow up question was given asking why it is they would not want to experience content in the floatation tank.
- Question 12: The type of content participants would want to experience in the tank was also considered essential. The open text answer format enabled a greater insight into what type of content may be generated to attract early adopters to the FSP. These answers were then coded for analysis.
- Question 13: What participants did in their free time provided insight to potential uses of the FSP, particularly when compared to what participants stated they would be willing to experience within the floatation tank. This question was also open text in answers and was coded for analysis.
- Question 14: Participants were questioned what sports and hobbies they engage in, which was considered relevant to establishing any consistency in participant profile. Those that answered yes were then asked to specify in open text. These answers were not coded and are displayed in full in the results section.
- Question 15: Participants were asked how often they engaged in 'free-time' activities.
- Question 16: Participants were asked what hobby/skill they would take up if they
  found themselves with the time. This was seen as relevant when considering
  appropriate uses for the FSP. This question was open text in response and
  required coding for further analysis.

 Question 17: Participants were asked what it is they enjoyed most when partaking in a new hobby or skill. This was considered relevant when establishing outcomes that the FSP should aim to deliver. This question was open text and required coding.

#### Analysis of survey data

Survey data was collected through the Qualtrics survey platform. A complete and unedited report from Qualtrics can be found in Appendix B. Further data analysis was conducted within the scope of key research questions. This involved separating participant response into what were considered key variables:

- participant demographics
- whether or not participant had floated before
- participant willingness to engage with content inside of a floatation tank.

More complex analysis was conducted using Microsoft Excel, which involved exporting the raw data from Qualtrics into the program and using these key variables to further analyse the data.

All open text answers were placed into relevant categories and the answers were interpreted and coded into response types. To ensure a consistent outcome, one other researcher analysed the data using the same criteria. Results of open text answer interpretation where compared and discussed before being implemented into the findings and analysis chapter.

For questions that included independent answer categories, such as questions 6 and 9, a chi square test was used to assess significance in findings.

#### Phase 3: Competitor analysis

A single direct competitor for the FSP has been identified. The company behind the competitive product is the DreamWater floatation company. The name of the product is DreamScape Elements (DSE). Analysis of this product involved downloading publicly available documents affiliated with DSE (Appendix C). Once downloaded, the information was assessed under the same key assumptions for the FSP analysis, as well as for the observable development pathways DSE may take. Figure 15 from Jonsson & Kjellgren (2014) was used in assigning DSE content categories. The

commercial prices of DSE products have also been assessed, and are available on the DreamWater float company website.

# 2.6. Decision making process for research design

# Breadth of information essential

The concept of the FSP is not new, but the capacity to execute the FSP as a commercially viable product is. This made it essential to gather a breadth of information from floatation industry stakeholders about introducing stimulus into the floatation tank. The stakeholders included float centre owners and operators, floatation centre customers, and current developers of content designed specifically for the floatation tank.

# Critical assumption of content in the tank

The fundamental assumption about the FSP is that content delivery and design can be of a calibre that amplifies, augments and alters the floatation experience without disrupting the current reasons or motivations for floatation. The key question is whether or not any identifiable demand can be found for experiencing stimulus in the floatation tank, an environment synonymous with lack of stimulation.

# Assumptions and literature guided the process

Further areas of investigation, such as what type of content might best suit the floatation tank, were guided by existing scientific and anecdotal literature surrounding the floatation experience. For example, audio based guided imagery has been used in past research has been used in the floatation tank to aid in increased athletic performance (Mcaleney, Barabasz, and Barabasz 1990. & Wagaman, Barabasz & Barabasz, 1991).

# 2.7. Process reflection and recommendations

# **Evolution of research methodology**

The first phase helped guide the development of survey questions. More than the questions presented during most of the contact made with the listed floatation centres, plenty of information around floatation business practice was given in this stage. While anecdotal and outside the thesis research scope, this information helped in formulating useful survey questions. Project partner Float Well's directors

Kevin and Samantha also helped guide the development of suitable survey questions. The competitor analysis obtained in Phase 3 was compared with findings from Phases 1 and 2 to establish a possible competitor market direction.

# 2.8. Research challenges

# No physical prototyping (outside of thesis scope)

Considering the fundamental methods of product development literature guiding this thesis, such as lean start-up theory (Maurya, 2011), there is an immediate limitation to this investigation. The capacity to develop and investigate customer perspectives of a minimal viable product (MVP) for the FSP is outside the scope of this thesis. While there is valuable insight gained from appropriate questions and observation of existing commercial float centre operations alongside suitable questionnaires for floatation customers, the inability to develop assumptions in this thesis around physical prototypes remains a limitation.

#### Larger sample sizes for more informed investigation

Larger sample sizes can play an important role in determining the validity of observations and conclusions made. Being able to access more floatation centres and a wider audience of floaters and potential floaters would provide more informed conclusions.

#### Information walls

In Chapter 1, the book *Stealing Fire* (Kohtler, Wheel, 2017) was discussed, regarding the Defence Advanced Research Projects Agency (DARPA) using technology that is essentially a fully conceptualised FSP. Kohtler and Wheel suggests that DARPA rigged floatation tanks with biofeedback, neurofeedback and audiovisual display, which has enabled soldiers to learn new languages in six months as opposed to six weeks. While *Stealing Fire* has substantial citable evidence and further readings, this particular claim cites no actual research. Therefore it is possible to suggest research may have already taken place in this domain but is not publicly available. If it was available, then many points of FSP investigation in this thesis may be answered.

# 3. Findings and analysis

In this chapter, three phases of investigation are presented. Phase 1 and 2 are analysed in conjunction, prior to analysing existing market offerings in Phase 3. This helps in comparing similarities and differences present in existing FSP type technologies in the floatation market and the concept of FSP technology being explored in this thesis. This chapter concludes with an interpretation of all findings. Figure 3.1 illustrates this process.



Figure 3.1 – Visualisation of findings and analysis chapter

# 3.1. Phase One

Commercial floatation centres are a major market shareholder in the floatation industry. Therefore a key assumption in this thesis is that floatation centres are the primary target market for the FSP. This phase observes several aspects of operation for 10 floatation centres (Table 3.1), with a specific focus on how floatation centres currently utilise stimulus in the floatation tank.

Floatation Centre	Pre and post music	Float duration music	Variety in music offered	Custom options for music	Complementary services	Number of tanks	Business model
Float Well	yes	yes	yes	yes	yes	2	Subscription & Packages
Tory Urban Retreat	yes	no	no	yes	yes	1	Packages
Infinity Float	yes	yes	no	yes	no	4	Subscription & Packages
WhiteSpa	yes	yes	yes	yes	yes	2	Subscription & Packages
SaltPod	yes	no	no	no	yes	2	Subscription & Packages
Cloud9	yes	no	yes	yes	no	4	Subscription & Packages
Float Culture	yes	yes	no	yes	yes	4	Subscription & Packages
Float fix	yes	no	yes	yes	no	1	Subscription & Packages
Utopia Floatation	yes	no	no	yes	yes	1	Packages
DeepSpace	yes	no	no	yes	no	1	Subscription & Packages

Table 3.1 – Use of music & complementary services, & business model of surveyed centres

#### Current implementation of stimuli in the tank (music)

All centres used music in some way, as part of their floatation services, as shown in Figure 3.2. The most common use was music at the beginning and end of each float. This serves the purpose of immersing and relaxing customers at the beginning of their float and then letting the customer know their float has concluded.





Four of the 10 float centres offered the option of music for the entire floatation experience, while six did not. Choices for duration float music varied from noisebased sound to meditative/binaural/isochronous tracks. Four of the centres offered a variety of music, while six of the centres did not (Figure 3.3). It is important to note that this variation in music encompassed both music for the duration of the floatation experience and music only at the beginning and end.



Figure 3.3 – Number of centres offering a variety in music to their customers

All centres, except one, allowed customers to bring their own musical selection into their float. For all centres music was delivered via a stereo system that came with the floatation tanks.

#### Use of complementary services in floatation centres

Floatation centres vary in size, location and complementary services available. These variables are all carefully considered before opening a floatation centre. Six of the 10 centres surveyed offered complementary services to floatation (Figure 3.4).



#### Figure 3.4 – Number of centres offering complimentary services to floatation

When considering what types of services to offer in conjunction to floatation, centre operators need to consider the customer base of such services. Massage, for example, is similar to floatation in its effects and therefore some customers might try floating due to proximity. Figure 3.5 provides data from a floatation industry sample of 170 float centres and gives further insight into the types of services offered in conjunction to floatation (Float Tank Solutions, 2016).

# Do you offer any other forms of alternative wellness?



note: centers could selec more than one option

Figure 3.5 – Data from the 2016 annual floatation industry report showing what services 170 floatation centres offer in conjunction to floatation (Float tank solutions, 2016)

# Project partner insights

The project partner for this thesis is Float Well, a floatation centre based in Wellington, New Zealand. Float Well opened its doors in early 2016 and is centrally located in Wellington. It currently has two pod-style floatation tanks in use. Key information provided from three quarters of the operation at Float Well reveals the following about their key market demographic:

- 60:40% female to male
- Mid-20s to mid-40s
- University educated
- Working in a professional field
- Primarily seeking relaxation/stress reduction.

As discussed earlier in this chapter, Float Well offers a selection of music that can be experienced at the beginning and end of a float, or for the duration of a float. The justification behind this is e to offer floaters more value for their floatation experience. Offering more for the floatation service goes beyond music in the tank. Float Well has a post-float lounge that provides a place to relax and enjoy complementary tea and water. The concept of a post-float lounge and complementary goods is common to other businesses offering floatation.

# Floatation centre business methods/models

From a business perspective, a float centre is working well as a business when its tanks are booked out. Float centre owners can consider a variety of ways to optimise books, such as having complementary services. This means a customer engaged in current health and wellness practices may try floatation.

There are two common ways floatation centres incentivise customers to buy more than one floatation experience – subscription-based floating and package-based floating. Of the surveyed centres, eight offered both subscription and package-based floating discounts and two offered only package-based discounts.

#### Subscription-based floatation discounts

Often a commercial floatation centre will offer monthly subscription-based access to their tanks. Discussions with Float Well revealed that having a high customer retention rate was desirable for a float centre because:

- It is a source of recurring income being able to estimate monthly revenue through subscriber numbers is advantageous for floatation centres. This results in a high accuracy for revenue forecasts and is an easy way to review growth.
- It develops relationships with customers encouraging customers to float regularly increases the chance of positive impact from floatation. Having customers come in monthly also means there is the potential to develop a personal relationship. Regular floats also give greater opportunity for the float centre to educate customers on the wider of benefits of floatation.

There are a number of different subscription packages offered in the floatation market (Figure 3.6). Points of variation are cost, number of floats, complementary offerings, further discounts on more floats, and other services offered by the business. Float Well offers a monthly float subscription for \$80.



Figure 3.6 – Example of subscription packages in the floatation market

#### Package-based floatation discounts

It is equally as common for floatation centres to offer float packages alongside subscriptions. Customers can buy more than one float at a time for discounted rates, and at varying costs and session structures, as shown in Figures 3.7 and 3.8.



Figure 3.7 – Whitespa floatation centre (2016)



Figure 3.8 – Infinity Float (2016)

The assumption behind both subscription and package offerings is that incentivising people to buy more floats increases revenue and allows providers to educate customers in the benefits of floating.

Some floatation centres do not offer subscriptions or package-based floatation outright. One example is Utopia Floatation. Owner-operator Angela Prosser says package-based offers are made to customers on a case-by-case basis, so packages can be specifically tailored to meet the needs of the customer.

# The introductory package

Despite growing traction, floating remains a novel experience to most people, so it is common to see commercial centres offer introductory float packages. Typically there are several options for discounted floats available to people new to floating, as shown in Figure 3.9.



Figure 3.9 – Example of introductory packs offered by floatation centres

It is common for a float centre to offer three floats as the introductory package, with the recommendation made to use the floats over a period of one month. Three floats are considered a good number to gain a basic understanding about floatation and its effects on a personal level. It also gives the centres time to educate new customers in floatation as a practice and communicate the many benefits of floatation.

# **Recent iterations in floatation technologies**

The floatation industry is growing and it follows that iterative improvements are taking place in floatation technology. To give insight into where standards in floatation technology might go, it is worth considering the state-of-the-art floatation research conducted at the Laureate Institute for Brain Research (LIBR). This is a facility located in Oklahoma USA which is dedicated to research of the brain. The following information comes from the 2017 annual Float Conference in Portland, Oregon.

#### Measurement of variables within the floatation tank

Three key variables in the floatation experience are water temperature, airflow and sound. Water temperature is essential to floatation experience consistency since, if it fluctuates, it can impact the comfort of the floater. Airflow impacts humidity in the float tank, because if humidity is too high there is condensation in the tank and, if it is too low, the salt in the water can crystallise on the floater.

Sound is another key issue in the floatation tank and there are three ways that sound can interrupt the float experience – air-based noise, ground-based noise and floatation equipment-based noise. Of these types of noise, ground-based noise can be the most difficult to attenuate.

Floataway, a company that manufactures floatation tanks, has developed a floatation monitoring system for LIBR which can be monitored remotely. The ability to monitor such variables ensures consistency in the float experience enjoyed by research participants. Floataway has also developed a spring base for float tanks that significantly reduces ground-based noise.

Colin Stanwell-Smith gave a presentation at the 2016 float conference elaborating on the research grade floatation systems in place, and Figure 3.10 (below) summarises his presentation. Stanwell-Smith stated that these are 'features for the future'.



Figure 3.10 – Colin Stanwell-Smith, Floataway Technology, Float Conference (2016)

# Physiological data from floaters

LIBR has developed techniques to record physiological data from floaters.

Figure 3.11 shows the variables currently being measured by LIBR for floating research participants.



Figure 3.11 – Colleen Wohlrab, Float Conference 2016

In this figure, the four points to the right – waterproof, salt-proof, wireless and noninvasive – are criteria set by LIBR for any data collection instruments being used in the floatation tank. The three pieces of equipment attached to the floater in the diagram are a waterproof EEG brain scanner (head), heart rate and breathing rate variability monitor (chest) and blood pressure measurement (right arm). Floater posture and movement can be measured with equipment that is not attached to the floater. The research-grade facility at LIBR gives valuable insight into techniques and technologies for floatation, and these are likely to be adopted by commercial floatation centres.

#### Phase 1 analysis

Floatation centres are businesses that rely on their assets, that is, their floatation tanks. The more people floating in a floatation centre's tanks, the better their business is. A number of methods can be used to achieve this. The most common business practice involves incentivizing customers to float more via subscription or package-based access to the tanks. Other methods include increasing the value for customers during float sessions, such as through complementary beverages like tea, and spaces to relax and reflect after floating. Float centres can also collaborate with local businesses that share the same customer base, including yoga alongside health and wellness studios.

The questions put forward to the surveyed float centres also showed that stimulus is regularly used within the floatation tank at present. How and why stimulus is used changed from centre to centre. A notable common approach is that nine out of the 10 centres surveyed allowed their customers to bring their own musical experiences into the floatation tank, and all centres used music as a way to begin and end the floatation experience. Considering the existing business practices of floatation centres, if the FSP can provide a way to expand and enhance the floatation experience for floatation centre customers, then floatation centre owners will find value in such a technology.

Floatation researchers are currently working with arguably the 'next generation' in floatation technologies. As the growing floatation industry becomes more competitive, these technological differences will likely grow in commercial appeal. The key message from this, regarding FSP, is that future iterations in floatation technology will begin to focus on the mediation of the floatation experience to maintain consistency. From the capacity to mediate the floatation experience, new perceptions on the floatation tank may emerge that are aligned with the conceptualised FSP. When developing a complementary floatation product intended for floatation centres, there are several immediate criteria that must be considered, as discussed below.

# Interpretation of Phase 1 for the FSP

 Enhancing the floatation experience – it will be difficult to convince floatation centres to adopt new and complementary technology if such technology is not aligned with existing floatation experience.

This presents the most immediate obstacle to a concept like the FSP. One of the main marketing points of the floatation tank is disconnection from all stimuli. Therefore it can be perceived as counterintuitive to stimulate the senses while floating. Such consideration will be important when it comes to FSP product design.

- Creating incentives for customers to float regularly a floatation centre needs a recurring customer base and floaters gain more from floating if they do so consistently. If the FSP is used by a float centre then it should help in this process. Creating cohorts of content for the FSP that require floaters to participate several times to experience all of it, gives float centres an added approach to gain recurring customers for their floatation tanks.
- Meeting the standards identified in research salt-proof, waterproof, wireless, non-invasive floating are the standards set by researchers in the floatation field. Reaching these standards is imperative to credibility and immersion for the FSP in the floatation tank.
- Incorporating physiological feedback mechanisms being able to accurately monitor neural feedback, heart rate, blood pressure and the bodily position of a floater means that the FSP can engage or disengage, depending on this information.

This could be tremendously valuable when it comes to consistency of experience with the FSP. Accessibility to technology that can withstand the floatation environment seems limited only to research at this time. From this, physiological feedback mechanisms could play a role in further iterations of the FSP.

# 3.2. Phase Two

Phase 2 involved surveying 37 participants who were part of Float Well's email list or Facebook audience. Questions were asked relating to their perceptions of floatation and the involvement of stimulus in the floatation tank. This section will present the findings from the survey. Of the 37 total participants, 16 were male and 21 were female, as detailed in Figures 3.12 and 3.13.



Figure 3.12 – The number of participants in each age group



Figure 3.13 – The number of males and females in each age group

The largest observable demographic was females aged between 31 and 40. There were also more female participants than male, with most participants (male or female) coming from the 21–25 and 31–40 age group. Twenty-five of the 37 participants had floated before. Of the participants who had not floated before, one had no pre-existing knowledge of floatation tanks, so did not participate further in the survey.

Participants were asked how they heard about the float tank and were able to choose more than one category. The results were as follows:

- YouTube/internet 55.56% (20 participants)
- Celebrity endorsement 11.11% (4 participants)
- Advertisement 13.89% (5 participants)
- Books 5.56% (2 participants)
- Friend 33.33% (12 participants)
- Other 11.11% (4 participants).

Most participants came across the floatation tank through the internet, and it is important to consider that 'celebrity endorsement' could also fall into this category. The second most prevalent source was through a friend. Having a friend identified as the second most common source of introduction suggests that those who come across floatation are likely to discuss their experience with their peers. This data suggests the two most effective ways to communicate with potential customers is through the internet and word-of-mouth, and this correlates with data presented in the Float Tank Solutions 2016 annual report, as shown in Figure 3.14.

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The question: *How many times a month do you float* (Figure 3.15) required an open text answer. This was designed to assess whether any consistencies might be present outside of a time-based habit. For example, someone might answer they float when they feel burnt out and stressed or they float whenever they engage in particularly strenuous exercise. Most responses were time-based.

How many times a month do you float?



Figure 3.15 – Number of times a participants float per month

The non-defined category consisted of replies disassociated with time, such as "occasionally" and "as much as I can". Most respondents floated once a month than on any another frequency basis ( $\chi$ 2=10.68 (3), p<.05). This data reflects Float Well's monthly subscription-based service; a programme in which a monthly fee is paid that includes one float. The incentive to subscribe is that the float cost will be discounted and further floats within the month will have more substantial discounts. The reason for a participant's most recent float question allowed as many answers as necessary, with the "altered states of consciousness" category displayed as "other" in the survey, thus allowing an open text answer (see Figure 3.16).



Figure 3.16 – Number of participant responses for motivations regarding their most recent float

The replies recorded within "other" all associated heavily with altered states of consciousness and it was categorised as a result. The most common reasons for floatation are complementary in nature, such as relaxation and stress reduction. Next were mental clarity and curiosity. Pain relief and altered states of consciousness yielded the same number of replies.

Participants who had floated before were asked if they intended to do so again, 23 (92%) indicated yes they would do so again, and 2 (8%) indicated they would maybe float again. The floatation subscription package offered by Float Well may again reflect the reason for this finding. Participants were asked why they would choose to float again, as an open text response. To display this information, categories have been chosen and answers filtered appropriately. Reasons for engagement in floatation were identified in nine categories:

- Wellbeing elaborated on general health: "It's a great opportunity to get in touch with and harmonize my body, mind and spirit"
- Solitude involved phrases like "time out" and "get away": "It's something I like as a 'time out' for my mental and physical well being"
- Self-discovery included several different categories, meditation, different states of consciousness and understanding self: *"Ultimately, trying to reach states of consciousness described by John C Lily and Joe Rogan"*
- Stress and anxiety reduction consolidated as they are closely related in context of the floatation tank: *"Find it relaxing and easier to switch off from daily life and stresses"*
- **Relaxation** focused on relaxing aspects of floatation: *"To see if I can learn to relax completely"*
- **Recovery** mentioned use of the tank specifically for physically orientated recovery: *"Pain relief for my back"*
- **Creativity** specifically mentioned creative aspects of floatation: *"My last float gave me an innovative musical idea"*
- Mental clarity indicated effects on mind: "It's a fantastic way to clear the mind"
- **Curiosity** reflected on lack of knowledge in the domain of floatation: "Was sort of weird, not too sure what to think of it so maybe try again".

The associated text answers for each category are available in Appendix B. Selfdiscovery is the largest category identified from the text, possibly because the scope of the reply it allowed. Wellbeing and relaxation were next, as these are also closely related concepts (Figure 3.17).



Figure 3.17 – Participant number of replies for each category – why would they float again

To aid in further analysis and comparison, participant replies were also categorised to align with the four themes of floatation found in an analysis of floatation centre marketing (Jonsson & Kjellgren, 2014). These themes are personal growth and enhancement, alleviation of medical conditions, relaxation and altered states of consciousness.

As shown in Figure 3.18, relaxation was the most common theme for floatation, followed by personal growth and enhancement, then alleviation of medical conditions. There were no replies that suited the category altered states of consciousness.



Figure 3.18 – Categorisation of participant reasons for floating

The above figure provides further categorisation of responses from Figure 3.17. The categories are adopted from Jonsson and Kjellgren (2014) and represent common areas of floatation marketing. The theme for altered states of consciousness was omitted as there were no appropriate responses. Bars represent the number of responses for each category.

For participants who had floated before, 21 indicated they usually listen to music at the beginning and end of their floatation experience, while four indicated they did not ( $\chi$ 2=11.56 (1), p<.01). Typically music is used initially evoke a state of relaxation and immersion into the tank, and then used at the conclusion of the float to indicate the session has finished. Float Well offers a range of music to experience at the beginning and end of their floats. In relation to the FSP, this data suggests that customers may be open to experiencing content in the floatation tank.

The question regarding the most important aspects of the floatation experience (Figure 3.19) allowed participants to choose as many variables as were relevant to them.



# Which of these elements are most important to your floatation experience?

Figure 3.19 – Most important aspects of participant floatation experience

Solitude was of primary importance to the floatation experience and, considering its relation to self-discovery/personal growth and enhancement, it can be considered as a key reason for continuing floatation as a habit. Lack of gravity was of secondary importance, followed by vision and then sound. Regarding the FSP, lack of sound and vision were of least importance within participants' floatation experience, which suggests there may be some but not great resistance to the concept of the FSP.

All participants were asked if they would consider stimulus in the floatation tank. The possible answers were yes, no, and maybe. 23 (65.71%) participants said yes, 12 (34.29%) said maybe, and no participants said no. This is a key finding in relation to the FSP and suggests that all of those surveyed are open to experiencing stimulus in the floatation tank. Further analysis of this finding was conducted by separating answers from those who have and those who have not floated before (Figure 3.20).



Figure 3.20 – Floaters response to stimulus in float tank (left) and non-floaters response (right)

Those who were most open to experiencing content within a floatation tank were those who have not floated before. This finding suggests that the FSP may increase market demand for floatation. To gain further insight into why people may not wish to engage with FSP technology, existing floaters who said 'maybe' (Figure 3.20) to stimulus in the floatation tank were prompted to answer in open text why it is important that stimulus not be present within the floatation tank. They answered as follows:

- "I'm trying to explore my inner consciousness, which requires lack of outside stimuli"
- "Isn't it the whole point of being in the tank sense deprivation so the mind can relax and meditate?"
- "Open my mind to itself. Free the mind from stimulus I guess"
- "Encourages my mind to switch off rather than spending the hour in the tank overthinking, something I do a lot of anyway"
- "To empty my mind"
- "I want the full sensory deprivation experience"
- "I'm open to other stimulus"
- "No distractions to feel comfortable only with yourself and your thoughts"
- "Would wanna calm down while I'm in there; stimuli may be distracting"
- "Lack of distraction".

These answers suggest that stimulus can be perceived as invasive to internal processes and compromise full relaxation of the mind. In the context of the FSP, this information is highly valuable for assessing that type of content that should be created and to approach implementation.

Participants were also asked what type of content they would be willing to experience within the floatation tank. The response was based on open text and answers were categorised based on observable consistencies in number of replies. The identified categories and examples are below:

- **Skill-related** regarding physical skills, e.g. improving aspects of a sport: *Would* be interested in content involving sporting techniques/strategies for furthering myself physically
- Educational relating to development of knowledge: Educational audio video
- Affirmative involving development of self-worth and self-esteem: Selfaffirmations
- **Psychedelic** anything relating to altered states of consciousness: *Tonal audio* and psychedelic kaleidoscope visuals, centred around chakras and fractal geometry
- **Musical** including anything specific to musical experience: *Concept albums* (*minimal to no lyrics*) / *ambient music*
- Meditative specific to meditations: Guided meditation.

The types of experiences participants may want as content in the floatation tank are shown in Figure 3.21. Categorised answers to this question show that educational and musical content were mentioned most as the type of content participants were willing to experience. Following these categories was meditative, psychedelic, and skill related.



Figure 3.21 – Types of experience participants might want as content in the floatation tank

Participants also answered questions relating to their typical activities. These questions required open text answers unless stated otherwise. For the question about what participants did in their free time, answers were coded to suit the categories for floatation put forward by Jonsson & Kjellgren (2014). The reasoning for this was to assess whether there was any observable overlap between themes associated with floatation and participant activities. Responses outside of the themed categories were placed in other. The categories were as follows:

- Personal growth and enhancement answers included educational content or studies, holistic activities and spiritually orientated practices including *yoga*, *postgraduate study, prayer* and *karate*
- **Relaxation** answers included activities usually associated with relaxation, such as *meditation* and *walking*
- Altered states of consciousness answers related to psychedelic experience or altered states of mind, such as finding consciousness-altering activities
- Alleviation of medical conditions answers involved easing medical conditions, such as *meditate when stressed*
- Other this question covered any answers that did not fit into the other four categories, and included responses such as *YouTube, people watching, gaming, drink/socialise* and *home renovation*.

Figure 3.22 shows that activities fitting the theme of personal growth and enhancement were the most common activities participants engaged in. Following this was the 'other' category, followed by relaxation, then altered states of consciousness and alleviation of medical conditions.



Survey participant free time activities (categorised)

Participants were also asked how often they engaged in such activities, and the responses are shown in Figure 3.23. The categories in this question included:

- Daily, 4-6 times a week
- 2-3 times a week
- once a week, and
- less than once a week.



Participant engagement in activities

Figure 3.22 – Categorisation of answers relating to participant free time activities

Figure 3.23 – Frequency of participant engagement in activities.

The graph above shows that most participants engaged daily in their identified activities. The trend suggests free/spare time activity engagement is more frequent than less frequent. This data suggests that if active or potential floatation customers can perceive floating as a means to contribute to activities they already engage in regularly, they may take up floatation as a regular habit. From this, if the FSP can be used to facilitate such a perspective then it can be of great value to commercial floatation centres.

Participants were also asked what type of skill or hobby they would take up if they had the time or capacity to. Answers were open text and the coding guidelines are as follows:

- **Sport** team and individual activities included these responses: *surfing, learning to play basketball, beach volleyball, learn to juggle and rock-climbing*
- **Creativity** activities that were artistic in nature or involved creativity included these responses: *art, pottery, knitting, craft* and *design*
- Language learning a language included affirmative responses
- Educational learning any particular subject included these responses: astronomy, writing and electrical engineering
- **Music** any involvement in music included these responses: *music* (*playing it*), *learning music or an instrument,* and *picking up my old french horn skill again*
- **Wellbeing –** activities associated with well-being included these responses: *yoga* and *meditation*
- **Other –** responses outside of the above categories included: *start a comic collection.*

Figure 3.24 shows sporting activities were most frequently mentioned by participants, followed by creativity and language. This suggests that if content for the FSP can facilitate effective use of time with respect to developing/learning a new skill, then these areas of content may be in demand from existing floatation customers.



#### Participant new hobby/skill categorisation



Participants were also asked if they engaged in any sporting activities and, of the 33 that answered this question, 23 (69.7%) did and 10 (30.3%) did not. A follow up question was asked of those answering 'yes', to specify the activities they engaged in. The responses included the following wide variety of sporting activities:

- football and skiing
- no organised team sports, but I run, hike and swim on a semi-regular basis
- keeping fit/athletic and currently teaching myself how to play basketball
- trail running, sailing
- Lindy hop
- running
- yoga, strength training, Krav Maga
- roller skating, HIIT exercise
- Xtend barre, circuit and TRX (as an instructor)
- rowing

- ski very occasionally
- dancing, capoeira, yoga
- yoga, run, hike, surf, cycle
- gym
- karate, boxing, squash, skiing
- skateboarding
- walking
- running, weights, yoga
- gym
- yoga, horse riding, running, tramping
- rowing (coxswain and coach)
- mountain biking, cycling, swimming, gym, squash
- ski, swim, run, mountain bike, road bike.

The array in sporting activities engaged in by participants helps to suggest a broad interest in floatation and from this, FSP type technology.

Participants were then asked what part of engaging in a new skill/hobby they enjoy the most and this was again an open text response. Answers were categorised as follows and the results are presented in Figure 3.25:

- Personal growth responses associated with accomplishment or progression, such as these responses: feeling of satisfaction, growing as a person, feeling like I'm making progress, accomplishing and practicing a new skill
- **Relaxation –** responses associated with relaxation, such as these responses: *relaxation, having time to just chill*
- **Creativity** responses associated with creativity, such as these responses: *creating things, creating something*
- Education responses associated with learning, such as these responses: acquire new knowledge, enjoy learning
- Altered states responses associated with altered states of consciousness, such as this response: *attaining flow state*
- **Solitude** responses associated with being alone, such as these responses: solitary time to myself, time to myself
- **Other –** responses that did not fit the above categories, such as this response: *connecting to the environment around me.*



Participant enjoyment in hobby/skill categorised

Figure 3.25 – Participant responses by category regarding what they enjoy about a new hobby/skill

# Further analysis of data

One possibility worth considering is the reason people choose to float might have influence on their interest in floating with stimulus. To answer this question it was assessed whether or not the reasons for participant's most recent float had influence on their interest in floating with stimulus. These data are presented in Figure 3.26 as a proportion of people in each category of floatation tank use separated by interest vs. maybe interest in stimulus in the floatation tank (note, there were no "no" interest responses).



Figure 3.26 – Stimulus in floatation tank: interested vs possibly interested, based on reason for engaging in floatation

Although this graph shows more participants who used the floatation tank for pain relief were open to stimulus, and participants using the floatation tank for stress reduction and mental clarity were less open to stimulus, these differences were not significant ( $\chi$ 2=1.937 (5), p=0.57).

# Phase 2 analysis

Phase 2 looked at the customer aspect of the commercial floatation experience. Perspectives were gathered from people who either actively float or have shown interest in floatation. Of the participants surveyed, all indicated they were open to experiencing stimulus within the floatation tank. This is an important finding, as the key obstacle to introducing stimulus into the floatation tank might be perceived as counterintuitive from a business perspective. Further, it was discovered that people who had not floated before were more open to experiencing content inside the floatation tank in comparison to those who had. This suggests that a floatation centre with FSP type technology may appeal to a wider market audience.

Another important consideration is the type of content best suited for the FSP. If the FSP can be developed to a suitable standard, then the quality of experience will largely be a result of content. Survey questions about existing reasons for floating indicate that content relating to wellbeing and self-knowledge may be viable subjects for FSP content. Further categorisation of these survey questions found that the subject areas relating to personal growth and enhancement were most common reasons for participant engagement in floatation. From these results, it can be recommended that initial areas of content-offering for the FSP should be in the domains of personal growth and enhancement, alongside relaxation.

The variety in open-ended questions also shows that personalised content could be another viable pathway for FSP. Floating is a personal experience and people float for different reasons. It was also shown that the survey participants had varied profiles, from sports, hobbies and skills wanting to be learnt, to what participants enjoy about engaging in these activities. This shows floatation does, and the FSP may, appeal to a wide market audience.

One area of FSP content could be generalised to appeal to the more common reasons for floating, such as relaxation, meditation, stress and anxiety reduction. Another area could be developing personalised FSP floatation experiences and appealing to people seeking education on specific topics, development of sport-related skills or therapeutic exercises.

Within these areas of content development, there are two identifiable markets – float centres with a recurring customer base, and people looking to use floatation to expand skills and knowledge in a range of domains. The first market consists of float centres looking to expand their accessible market by offering more to their customers through the FSP and its content. The second market would be people who rely on peak performance. The specific domain of performance is not important, as FSP content can be personalised.

# 3.3. Phase Three

Phase 3 considers existing market offerings in the scope of the FSP. As mentioned earlier, the first step towards validation and development of the FSP is audio within the floatation tank. This can be delivered through a variety of mechanisms. The easiest way to do this is utilising existing speakers within the floatation tank. This first step towards the conceptualised FSP has recently been taken by a floatation manufacturing company. This chapter will look into specifics surrounding this commercial offering from DreamWater Float company and make note of any key differences from findings related to the first two phases of this research.

#### DreamScape Elements by DreamWater Float Company

DreamWater Float Co is a floatation tank manufacturing company based in Singapore. At present DreamWater offers four models of *DreamPod* branded floatation tanks. The main point of difference between the existing models is the size of the floatation tank. In March 2017, DreamWater Float Co released DreamScape Elements (DSE). This product is described as "a catalogue of unique, patented multimedia applications designed to enhance your DreamPod floatation experience" (DreamWater 2017).

DSE provides a selection of audio experiences designed for use within DreamPod floatation tanks. While audio in the floatation tank is not new, audio produced specifically for the floatation tank is. As shown in the introduction, there is scientific evidence to suggest that engaging in external content in the floatation tank holds merit.

"The DreamScapes applications will enrich your floating experience, adding unique elements of managed sound and lighting that combine to create a powerful, behavior-changing outcome."

DreamWater, 2017

At the time of writing, there are three packages of audio available for download through the DreamWater website (Figure 3.27). One of these packages is called "freebies" and is available at no cost, the second "noise-masking sounds" costs \$99, the third "Package 1" costs \$599.



Figure 3.27 – Source: www.dream-pod.com (12/03/2017)

#### Analysis of currently available DSE products

All three DreamWater products (Figure 3.27, above) are categorised as part of the DSE program. Each offering gives a contextual description for intended use.

#### Freebies

Freebies serves as an introductory point for content developed for the floatation tank. Of the three complementary audio experiences, one is not intended for use inside the floatation tank and is named *BreatheEasy*. The other two experiences are called *The Stressbuster* and *The Mental Detox*, and are described as follows:

- The Stressbuster: "While floating itself offers huge reduction in stress levels, the benefits are not often long-lasting, so we've introduced the DreamScapes Stressbuster in-pod program to help you get the most out of your float session, while showing you ways to keep your life stress-free every day" – DreamScape Elements, (2017).
- The Mental Detox: "Lay back, enjoy your float experience as you go on a fascinating mental journey into the depths of your subconscious mind, where all your habits and life scripts are stored and acted upon" DreamScape Elements, (2017).

#### Noise-masking sounds

The noise-masking sounds package appears to attenuate the variable of sound within the floatation tank. As previously discussed, this is an important variable when it comes to the optimal floatation experience.

"Have you ever wished that you could surround yourself with a 'wall of sound', a comfortable cocoon that isolates you in a world of calm and relaxation, undisturbed by the sounds around you? The DreamScape Noise-masking Elements will help to settle unwanted environmental distractions by countering the frequencies that may intrude into a float session, providing a calming, protective wall or buffer. They will help to mask unwanted sounds from the float space as well as provide the perfect solution for those who are uncomfortable with total silence during their float."

DreamScape Elements. (2017)

#### Package 1

Package 1 is a collection of DSE works intended for the floatation tank, and current programs include:

- The Sleepmaker information to help one develop better sleeping habits
- Kick Butts a smoking cessation program
- Trim and Slim weight reduction program
- Pain Away reducing chronic pain
- My Study (Power Learning)- developing new methods of memory
- Confident Me self-esteem improvement program.

#### **DSE Brochures**

Accompanying these audio experiences are two brochures – one to educate about DSE as a product and the other to educate floatation centres on the effective marketing and use of DSE.

The researcher and developer of DSE is Dr. Jason Greggs, and his background is provided in the explanatory DSE brochure.

"Head of Research, Jason Gregg has over 40 years experience developing unique mental conditioning programs for managing unwanted behaviors and
enhancing human performance. His patented systems are in use around the world by elite athletes, clinics, business organizations and private users. He is the developer of the unique DreamScape Elements programs, exclusive to The DreamWater Float Company and the Dreampod"

DreamScape Elements (2017)

This description mentions a patented system referred to as inter-hemispheric synchronic mediation (ISM) in the brochure, which is described as follows:

"ISM is a special suite of patented production tools that includes guided imagery, affirmation, music, voice, isochronic entrainment, backtracking, subliminal and subsonic messages and control tracks packaged in a unique combination that together create a totally safe, relaxed and receptive pathway to the area of the brain that influences behaviour."

DreamScape Elements (2017)

It is worth noting that the above description appears informative in nature, but there appears to be no existing research (at least not publically) evaluating "inter-hemispheric synchronic mediation."

Accompanying Package 1 is a sales manual relating to the purchasable content. This outlines why such content may be of value to floatation centres and how they might best market it to existing and new customers.

One of the perspectives put forward in the manual is the growing competition in the floatation industry (see Appendix D). The ability to offer more to the floatation experience may contribute to market differentiation. It is also proposed that experiencing an DreamScape program requires more than just one float, increasing the number of recurring visits to a floatation centre:

"Offering value-added float sessions to change unwanted behaviors may be just what you need to push your float centre ahead of your competitors. And it might be the very thing that 'invites trial' for anyone who's looking for a change, but would be unlikely to otherwise." DreamScape Elements brochure (2017) When categorising the content subject areas from DSE (Table 3.2), the thematic visualisation from Jonsson & Kjellgren (2014) can be used as a guideline (Figure 3.28).



Figure 3.28 – Thematic visualization of market possible efforts (Jonsson & Kjellgren 2014)

Table 3.2 – DSE content currently available by category

Currently available DSE content	Content category	
Stress Buster	Alleviation of medical conditions	
Mental Detox	Relaxation	
Sleepmaker	Relaxation	
Trim & Slim	Personal Growth and enhancement	
Confident Me	Personal Growth and enhancement	
Pain Away	Alleviation of medical conditions	
My Study	Personal Growth and enhancement	

### **DSE Pipeline content**

In one of the brochures (Appendix D), there is mention of further DSE content currently in development (Table 3.3), categorised in the same manner as the current DSE content shown in Table 3.2 above.

DSE pipeline content	line content Content category	
Power Learning	Personal growth and enhancement	
Super Mind	Personal growth and enhancement	
Wellness	Relaxation	
Mental Toughness	Personal growth and enhancement	
Pain Management	Alleviation of medical conditions	
Addiction	Alleviation of medical conditions	
Memory	Personal growth and enhancement	
Golf	Personal growth and enhancement	
Ironman	Personal growth and enhancement	
Sleep	Relaxation	
Relationships	Personal growth and enhancement	
Creativity	Personal growth and enhancement	
Sales Intuition	Personal growth and enhancement	
Mindfulness	Relaxation	
Inner Peace	Relaxation	
Sports Injury	Alleviation of medical conditions	
Positive Thinking	Personal growth and enhancement	
Jetlag Relief	Relaxation	
Panic attacks	Alleviation of medical conditions	

#### Table 3.3 DSE Pipeline content currently available by category





# **Collective perspective on DSE content**

#### DreamScape Elements Analysis

DSE clearly demonstrates the viability of the FSP concept. As suggested earlier, the minimal viable product for the FSP is audio inside the floatation tank. In this respect,

DSE is a first mover in the space of commercially available audio in the floatation tank. It can also be viewed as the first commercially orientated effort to augment the floatation experience. Key considerations are the intended market for DSE, owners of DreamWater floatation tanks, referred to as DreamPods.

DSE is marketed towards DreamPod owners for two reasons. The first is that DSE audio is made specifically for the DreamPod speaker system, which means that the optimal experience for DSE content will be inside a DreamPod tank. The second reason is that developing DSE specifically for DreamPod tanks differentiates DreamWater as a floatation tank manufacturer. The result may be more incentive for potential float centres to invest in DreamPod floatation tanks, which is important considering the growth stage of market cycle in the floatation industry.

The business model for DSE content is a one-time payment of \$599 for the first package, which averages at \$100 per DSE experience. It appears there will be more packages to come from DSE. The value proposition to floatation centres is that DSE audio can appeal to customers who might not have otherwise floated and it requires more than one float, increasing the recurring customer base. Therefore it can be said that DSE is an innovative product from DreamWater Float Co that increases the commercial appeal of their brand of floatation tank.

In the scope of the FSP there are several pathways when considering DSE:

- FSP should be designed for all floatation tanks if this is possible, it would mean that all existing floatation centres are the accessible market for the FSP, not just centres that own a specific model of tank.
- Subscription-based access to a breadth of content DSE access is gained through a one-off payment, which at \$599 is a notable cost. An alternative offer to this is subscription-based access to content. Content for the FSP could be made available through subscription-based payments.

In comparison to the high cost of packaged content, a subscription requires less immediate capital and its value can be determined over time. This means less financial risk for a floatation centre as they can cancel their subscription if they feel the content is not giving any value to their operation. Frequently adding to the content library made available through subscription would also be incentive for subscribers to stay.  Original content – one of the primary selling points of DSE is the patented audio system. Following the lead of DSE it would be of worth working to create original experiences for the FSP. There are many ways this could be done - collaborating with established artists, producing original music or licensing existing content. Being able to offer a wide range of experiences means floatation centres can appeal to a wider market with their floatation tanks.

There is also the important question of what type of audio experience to create for the tank. From DSE Package 1 it can be seen that content has been designed to alleviate conditions and symptoms that are widely prevalent in society. From a broader perspective it looks as though DSE is focused on expanding the healing and wellness characteristics of the floatation tank.

# 3.4. Analysis

This chapter has considered floatation business practices, research standards in floatation technology, perspectives from existing and potential float customers, and existing market offerings for audio within the floatation tank. The most immediate point is the momentum of development in the floatation industry, which can be attributed to growth in floatation centres, floatation manufacturers and an increase in the body science behind floatation. Approaches to owning and operating a floatation centre are being refined and therefore a standard in operational practice is emerging. The growing size of this industry means that market competition for floatation centres will become more prevalent.

Consideration of existing business practices are discussed in Phase 1. Floatation centres already use stimulus in their tanks, some in more dynamic ways than others. It is also common for floatation centres to allow customers their own selection in music while floating. This shows that stimulus in the float tank is not perceived as negative or counterintuitive.

Further viability for introduction of stimulus into the floatation tank was explored in Phases 2 and 3. Phase 2 demonstrated existing and potential floatation customers open to experiencing stimulus during their floatation experience, while Phase 3 demonstrated a first mover for the market surrounding stimulus in the floatation tank. It is important to consider the target market from Phase 3, that is, floatation centres with DreamPod brand floatation tanks. When looking at intended areas of future research, it is likely the domains of audio and audiovisual stimulus in the tank will be investigated. This means there are likely to be well-established researchers and engineers already tackling the problem of immersive audiovisual stimulus inside the floatation tank. In the introductory chapter there is mention of the DARPA having already fully developed a conceptualised FSP.

Another consideration is that existing methods of stimulus introduction into the float tank are made through speaker technology within manufactured tanks. Being able to develop a means to introduce stimulus into the floatation tank, that is independent of the tank, may have commercial viability. If the FSP was independent of the float tank in which it is used, then anyone who owned a floatation tank or floatation centre could utilise it.

The specific criteria for complementary technology for the float tank are addressed in Phase 1 in existing research practice, while current methods for delivering content in the float tank are outlined in Phase 3. Meanwhile, DSE products have been created using patented techniques developed over 40 years, and the rendering of the DSE audio has been tailored for use in DreamPod brand floatation tanks. DSE content spans a many possible uses, most relating to improved wellness and wellbeing. Therefore, if effort was made to create audio specifically for the floatation tank, it would be worthwhile considering areas of content not covered by DSE.

The specific research questions for this thesis are discussed below.

#### **FSP** user profile

The target market for the FSP is commercial floatation centres, because FSP can enhance the floatation experiences of existing customers, while appealing to new customers who may not have otherwise considered floatation. Content is also essential. If content can be developed that encourages floaters to float more than once, then floatation centres will gain more value from the FSP technology. Phase 2 and 3 give insight into the type of content best suited to the existing floatation market, including alleviation of medical conditions, personal growth/enhancement, and relaxation. The ability for floatation customers to engage in personalised content is also essential.

# FSP optimal product format

Salt-proof, waterproof, wireless and non-invasive are the criteria set by leading researchers in the field of floatation. Meeting these criteria will be essential in developing the FSP. If the FSP can be independent of the floatation tank in which it is used, then both the commercial and private markets become more accessible. For initial product developments there are two immediate options to be considered. The first is developing, curating and licensing a body of audio works to suit the floatation environment and appeal to identified market demand. The second is developing an immersive means of audio delivery within the floatation tank.

The primary reason DSE targeted only DreamPod float tank owners was that the DSE audio was designed for that specific environment. This suggests audio experience in the floatation tank is subject to the calibre of speaker system in the floatation tank. If an early FSP model could be designed to deliver audio, it could serve as a viable product by enabling a higher calibre of audio content within the floatation tank than normal floatation tank speakers. It is also worth noting that FSP technology could work as interdependent components. For example an audio FSP device could also work in conjunction with a visual FSP device. Developed FSP technology should also have remote content triggering functionality. This is to say the experience for the floatation customer should remain as close to the normal floatation experience as possible. If the content experience in the FSP is triggered remotely, all the floatation tank, from here the floatation centre operator can trigger content. However there should also be the capacity to control the FSP experience on the user end.

#### **FSP** business model

Sales of developed FSP units serve as one source of revenue. This would involve demonstrating the effectiveness of the FSP as way to non-intrusively stimulate people floating and to increase floater retention and expand accessible markets. As discussed, the first iteration could be designed to deliver only audio within the floatation tank, making it easier to develop and assess market viability further. Meanwhile, a subscription-based model may be the best approach for delivering content within the FSP. This subscription gives owners of the FSP choice of content,

and could ensure constant access to an evolving content library. This content library is described in more detail below.

## Content library for the FSP/floatation tank

Curating and creating a content library for the floatation tank may be a feasible pathway to commercial traction. Viability in this idea is shown in the DreamScapes Elements packages available through DreamWater Float Co. With respect to this project, a content library is proposed that is optimally experienced through FSP technology, but also usable in normal floatation speaker systems. This means the accessible market for the content library is all floatation centres that have speakers in their floatation tanks, and all who purchase FSP technology. From this there are two areas of content development to consider:

- content designed to expand on floatation experience in general (macro content)
- content created on a personalised level (micro content).

As a commercial operation, macro content can be consistently expanded and made available through subscription. The target market for macro content would be commercial floatation operations, particularly those with high rates of customer traffic. Macro content can also be released in streams, so there is more than a single float's worth of content on a particular topic. As a result, customers of floatation centres may be inclined to float more so they can experience a whole stream of content. This approach of content experience that involves more than one float is also seen in current DSE packages (Figure 3.30).





Figure 3.30 – DSE content packages

Micro content is content designed for specific personalised use. It could be anything from a sports team, to a class, to a guided meditation, or content for a person seeking deeper knowledge on a specific subject. It must be noted that, due to the personalised nature of the content, the primary substitute for such a concept is content generated by the person themselves. To ensure those using micro content obtain value from their experiences, it is essential that existing research in content sequencing is used whenever possible. It is also important that content be of a consistently high quality. Both domains of content can initially be created as audio experiences. Moving into virtual/augmented/mixed reality would be the next step, assuming traction can be made in the appropriate FSP business model.

# 4. Discussion

This chapter reflects on the findings from Chapter 3 and discusses major implications for the viability of the FSP. The opportunities and barriers found in research and how these were addressed is also discussed. Initial assumptions and any changes are also discussed. Previous research is also considered in the scope of presented research findings, alongside comparison of the FSP to similar concepts/technologies.

# Major findings

All three phases of investigation presented evidence that reflects positively on the feasibility of the FSP concept. The literature review in the introduction also suggests experience of stimuli in the floatation tank can contribute to positive outcome in learning (Taylor 1990) and athletic (Suedfeld & Bruno 1990) domains.

# Common use of stimuli in floatation tank

The most important finding of this research is demonstrating viability in introducing stimulus into the floatation tank. Because the floatation tank is an environment heavily associated with total reduction in stimulus, there was the potential problem of disinterest or resistance to the concept of experiencing stimuli while floating. All three phases of research suggest this is not the case. Phase 1 found music was used in varying degrees by all floatation centres surveyed. The most common use of music being to calm and relax the floater at the beginning of their float and then letting them know their time in the tank has come to an end. Some centres offered music for the duration of their float, and most centres were open to customers bringing in their own audio content to be experienced in the floatation tank.

# Participant willingness to experience stimuli in floatation tank

An important finding concerning the FSP feasibility was that of the participants surveyed, and it was found that all were open to the idea of experiencing stimuli in the floatation tank. The question concerning whether or not participants would be interested in stimuli in the floatation tank enabled three types of responses – yes, maybe or no. Of the participants who had not floated before, 90% answered yes and 10% maybe. Of the participants who had floated before 54% answered yes and 46% answered maybe. This finding reflects positively on the feasibility of the FSP, because:

- it indicates that existing and potential floaters are open to experiencing content in the floatation tank, and
- it shows that people interested in floatation, but who have not floated before, were more open to experiencing stimulus in the floatation tank than existing floaters.

This suggests that a floatation centre equipped with FSP technology may appeal to a broader market than one without FSP.

# Scientific criteria for implementing FSP into floatation tank

Observing current standards for floatation research also gave suitable criteria that must be met for any implemented technology into the floatation environment, that is, waterproof, salt proof, wireless and non-invasive (Warhleen, 2016). These standards can serve as guidelines when considering development of the FSP.

# Types of content for the FSP

Of the categorised responses to what type of content participants would be willing to experience in the floatation tank, it was found that educational, musical and meditative were the most popular. When the reasons for most recent float were categorised, participants responded most strongly to relaxation, followed by personal growth and enhancement, then alleviation of medical conditions. When current and pipeline offerings of floatation tank content from the DreamScape Elements (DSE) program were categorised it was found most experiences suited the category of personal growth and enhancement, followed by relaxation, then alleviation of medical conditions. While there is variability in these responses, a recurring theme in response is that people seem willing to experience content that aligns with existing reasons for floatation.

# Existing market offerings suggest further feasibility in FSP

DreamScape Elements (DSE) is the result of commercially sensitive research that is not publicly available. Observing the content areas for DSE gives commercial insight into target market areas to consider. The patented method of audio production referred to as Interhemispheric Synchronic Mediation from DreamScape is also worth considering. Again there are no open publications on the ISM method and how effective it is. Observing DSE offerings also showed that content implementation into the floatation tank may be more appealing to a floatation centre if it results in customers floating numerous times. For example, available DSE programs come in a specific number of floats, meaning that if a customer wants to experience the package they have to buy the number of floats in which the content is fully experienced.

#### **Development of initial assumptions**

The initial assumptions in this thesis were as follows:

• The most viable pathway for the FSP as a product is if it can be independent of the floatation environment in which it is used.

The logic behind this assumption is that if the FSP can be used in any floatation tank environment then the accessible market associated with it is maximised. This assumption did not develop further in this thesis, but initial perceptions of the FSP as a product have developed. In particular it suggested that a content library be made available in conjunction with the FSP. This library is designed for use in existing floatation tank audio systems and the FSP. The result of this development is different degrees of investment possible when it comes to the adoption of FSP technology. This means floatation tank.

• The FSP needs to be able to withstand the harsh flotation tank environment (water with high salt density) and it needs to be non-intrusive to the floatation experience.

Scientific criteria found regarding implementation of technology into the floatation tank where, water proof, salt proof, wireless, and non-invasive. A notable development concerning this assumption is wirelesses. Another development is that the FSP needs to have the capacity to be triggered and monitored remotely. The reason for this is that it removes the need for floatation centre customers to learn how to operate the FSP technology. All they have to do is choose what content they want to experience and then lie down in the floatation tank.

• The minimal viable product (MVP) for the FSP is audio experience within the floatation tank.

DreamScape Elements serves as a commercial example of this. From this the assumption has developed into the MVP for the FSP being an external device to the floatation tanks speakers that delivers audio content. This MVP is identified as a waterproof and wireless bone conduction mp3 player. This is because this

technology meets another key assumption for the FSP, independence from the floatation tank.

• Floatation centres are the target market for the FSP.

This has remained consistent throughout the research, although there has also
been mention of the value in personalised content for the FSP. Target markets
considered for personalised FSP content are elite level athletes, as there is
existing research around athletic performance enhancement through experiencing
stimulus in the floatation tank (Barnett, 1983; Conway, 1986; Daniel, 1985;
Hutchinson, 1984; Mahoney, 1987). It is also valid because elite level athletes are
in a position to invest in technologies that may enhance performance.

Existing literature can help guide content development for the FSP.
 The changes in this assumption are that existing literature does not cover all of the possible uses for the FSP mentioned in this thesis. This suggests that there is the need for further investigation of the effects of stimulus in the floatation tank over an array of different domains. Despite this, when it comes to the domain of personalised content designed for specific outcome there is existing literature that can aid in such content development process (Barnett, 1983; Conway, 1986; Daniel, 1985; Hutchinson, 1984; Mahoney, 1987).

# **Opportunities**

The survey used in this thesis was distributed through an existing floatation centres marketing channels (email list and Facebook profile), which meant the group of participants surveyed were either interested or active floaters. Data from these participants gave valuable insight into why people might choose to float and what it is they get out of their experiences. This information was used to help determine feasibility in the concept of the FSP, but information gathered is also applicable to other domains, like understanding consistencies that may be present in potential floatation customer profile.

### Barriers

An immediate barrier to valuable insight in this research was lack of physical prototyping. Business literature that guided the methodological process in this research (Reis, 2012) strongly recommends getting customer feedback on minimal viable products as soon as possible. If physical prototyping was used then more insights could have been gathered around participant perceptions of stimuli in the

floatation tank. To address this barrier a breadth of information was sought out concerning floatation tanks and the use of stimuli within them. The participant survey was also asked questions surrounding the experience of stimuli in the floatation tank. Other barriers present are found in research and development that has taken place but is not publically available. Two key examples are:

- Defence Advanced Research Projects Agency (DARPA) having developed floatation tanks equipped with high fidelity audio visual delivery systems with biofeedback and neurofeedback measurements systems from Kohtler and Wheel (2017), and
- 2. a brochure elaborating on DSE (Appendix C) mentions all DSE content is researched and clinically tested.

If these sources of research/information where publically available then further questions on delivery mechanisms and content for the proposed FSP would be answered.

#### Unknowns

#### Effects of stimuli in the floatation tank

With respect to the idea of experiencing stimuli in the floatation tank there are still several unknowns to consider. Key unknowns are:

- How introducing stimuli into the floatation environment might change the floatation experience as mentioned in the thesis introduction there have several investigations into how the floatation tank with specific audio stimuli can lead to increases in athletic performance (Barnett, 1983; Conway, 1986; Daniel, 1985; Hutchinson, 1984; Mahoney, 1987). Outside of this research is lacking in looking into the effects of stimuli in the floatation tank in other domains.
- The difference in the effect that different stimuli might have on the floatation experience – for example, there might be observable differences between floating with audio stimuli and audio-visual stimuli. Considering this further, a major unknown is if floating with stimuli in the floatation tank can reduce/enhance/retain observable effects that floatation has with no stimuli present.

## Floatation centre owners

While there is evidence to suggest merit in the idea of the FSP from a commercial standpoint, it is still unknown if technology designed to augment the floatation experience will be well received by floatation owners. This is to say that even if the FSP can be developed to suitable standards and have high calibre content, there may still be floatation centre owners that are resistant to the idea as it goes against the foundation of the floatation experience. This suggests there is the need for further market research with focus being placed on the target market as opposed to the customer base of the target market, as is done in this thesis.

# Disruption of the floatation industry

The floatation industry is growing and is forecasted to continue doing so. This means the number of stakeholders present will only grow, and so too will forms of competition. Considering this, there was a breadth of evidence to suggest interest in stimuli in the floatation tank. If the FSP was to gain traction in the growing floatation industry then wider implications of this remain unknown. Considering this it is unknown how FSP adoption by floatation centres might influence floatation centre customer habit.

### Relevant works to consider

The floatation tank was invented through the works of Dr. John C Lilly. In his autobiography he talks how he floated in the tank for 10 years before he started experimenting with variables that influence the floatation experience (Lilly, 1977). Where this thesis has focused on technology to augment the floatation experience, John C Lilly focused on chemicals. The culmination of his work with altered states of consciousness in the floatation tank is seen in his book Programming and Meta-programming the Human Biocomputer (Lilly, 1968). In the process of developing content for the FSP, it is likely the works of Lilly may hold valuable insight when it comes to perspectives that aid in effective content creation.

Research from Jonsson & Kjellgren, (2014) focused on how floatation centres market floatation. There were four key themes:

- Personal growth and enhancement
- Alleviation of medical conditions
- Altered states of consciousness

#### • Relaxation.

These themes were used to categorise several of the responses from the thesis survey. For the categorised survey data relating to why participants float, personal growth and enhancement was the most prevalent, followed by relaxation, followed by alleviation of medical conditions. Data categorised suited the theme altered states of consciousness the least. Considering this, the observation can be made that there are themes and consistencies in floatation customer profiles.

# **Further implications**

The openness to stimuli in the floatation tank found in participants has several implications worth considering. The participants that had not floated before were more open to the concept of stimuli in the floatation tank, and explanation for this may be participants wanting to avoid time alone. Therefore it is worth considering a study in which it was found participants would rather administer electric shocks to themselves than spend 6 to 15 minutes is a room alone (Wilson, David, Reinhard, Westgate, Gilbert, Ellerbeck, Hahn, Brown & Shaked, 2014). From this perspective, introducing stimuli into the floatation tank might be a way to alleviate the possibility of boredom or fear of being alone in the floatation environment.

# 5. Recommendations and business case

This chapter presents the recommendations for developing and commercialising the Floatation Stimulation Platform (FSP), based on the research findings. The first section elaborates on four interdependent commercial offerings considered possible within the conceptualised FSP framework and the research findings. The second section provides a business planner, designed for companies focused on developing FSP commercial offerings for an investor audience.

Business model design, market validation, product developmental pathways and resource requirements are also provided throughout this chapter, along with the possibilities of an open source approach to developing the FSP. Two key concepts to further this project are also provided: BE, a company that specialises in developing content for the floatation tank environment; and Open Source Consciousness (OSC), a community focused on the holistic potential in altered states of consciousness. Figure 5.1 provides the company logos for each entity.





Figure 5.1 – Company logos for BE (left) and OSC (right)

# 5.1. Recommendations

#### Key business concepts

The four potential areas of commercialisation discussed are:

- 1. Content library for the FSP and existing floatation technology
- 2. Audio-based FSP system
- 3. Audiovisual-based FSP system
- 4. Personalised experience for the FSP.

The independent and interdependent nature of these ideas is discussed below, with a focus on the functionality of each concept, while much of the business-related perspective is reserved for the business planner.

# Content library for the FSP and floatation technology

All floatation centres surveyed in Chapter Three indicated that they currently use audio stimulus in their floatation tanks to varying degrees. In addition, all survey participants indicated they were open to the idea of stimulus in the floatation tank. There are also commercial offerings focused on tailored audio for the floatation tank. Considering these factors, a viable venture may be possible in a library of content suited for use in the floatation tank, with the target customer being the commercial floatation centre. The content in this library could be experienced through:

- Existing methods of audio delivery in the floatation tank
- Audio FSP component
- Visual FSP component.

This raises a key point to consider – the type of content present in such a library. Areas with the most immediate commercial application have been identified as relaxation, alleviation of medical conditions, and personal growth or enhancement. This is confirmed in research of existing floatation centre marketing efforts (Kjeller & Jonsson, 2014) and current commercial offerings for floatation tank specific audio (DreamScape Elements, 2017). The next consideration is how best to assimilate the relevant content that builds the library. There are two key options to consider:

- 1. Production of original content for the floatation experience, and
- 2. Curation of existing content to suit the floatation experience.

The skills required for producing original content for the floatation tank are the same as those needed to curate existing content to suit the floatation environment. The specific skill set is proficiency with a digital audio workstation. Therefore, it is more effective to curate existing content to suit the floatation environment, rather than the time and effort required to create original content.

A critical assumption is that the cost of licensing and curating existing works for the FSP library is more cost-effective than producing original works. If this is the case, then the cost of content licensing must be covered by revenue generated from the

library. If this is not the case, then focus should be on producing original works for the floatation tank. The cost of licensing content varies and will need further investigation to determine what best suits the development of the library.

## Audio FSP Component

This thesis seeks to determine whether or not there is any commercial value in delivering content within the floatation tank. It is concluded that both floatation centre owners and their customers already find value in existing content used in the floatation tank. Further evidence for this is found in existing market offerings mentioned.

One initial market offering to consider is an audio-based FSP. The design of this product must meet the determined standards for implementation of anything external to the floater inside the floatation tank, that is, it must be waterproof, saltproof, wireless, and non-intrusive. An existing audio technology meets these criteria – the wireless, waterproof bone conduction earphones (Figure 5.2).



Figure 5.2 – Example of waterproof bone conduction earphones (Audio Bone, 2017)

Bone conduction technology works by transmitting frequencies through the cranial bones to bypass the eardrum and reach the inner ear. This technology is often used by those with hearing impairment. An alternative is waterproof earbuds, but bone conduction technology is more comfortable than waterproof earphones so is the preferred option for audio-based FSP.

The typical floatation experience offered by centres involves using earplugs. This is because any float tank solution entering the ear canal can crystallize due to its high salt content, causing discomfort. Most centres give customers earplugs to prevent this discomfort, so bone conduction technology would not interfere with this process if a customer opts to use the audio-based FSP.

A key feature of audio-based FSP is that it needs the capacity to trigger content remotely. This allows centre owners to remotely control the experience of their customers. This is important as it simplifies and streamlines customer experience – all they need to do is put the headset around their head, lie in the tank and enjoy the experience.

The on-boarding process of new and existing customers using the audio-based FSP is also very simple, requiring minimal instruction beyond the normal float process. The only difference is placing the headphones on and adjusting volume as necessary. A minimal viable product (MVP) of the audio-based FSP is already possible considering available bone conduction technologies. From this development of a purpose built bone conduction device could take place through collaboration with an existing bone conduction manufacturer. Further iterations for the audio-based FSP could include EEG brain scanning technology, which can help to trigger content once an optimal state of mind/relaxation is reached by the floater.

### Visual FSP Component

The third concept is an audiovisual FSP, an original concept discussed in the introduction chapter. An audiovisual FSP delivers a new medium to the floatation environment: visual stimulation. Through this type of content expands to existing audiovisual works. As with the audio FSP, specific criteria must be met in developing the concept, such as the requirement to be waterproof, saltproof, wireless and non-invasive). Figure 5.3 shows conceptual drawings for an audiovisual FSP.



Figure 5.3 – Conceptual renderings of the audiovisual FSP

When it comes to the functionality of an audio-visual FSP, there are existing technologies that can help to guide recommendations. Firstly it is worth noting that the audio-based FSP could be used to deliver sound for an audio-visual FSP. From this a means of visual delivery needs to be considered. As previously mentioned in this thesis, the FSP needs to be independent from the floatation tank in which it is used. Existing technology that could serve well for the visual side of the FSP is in consumer grade virtual reality (VR) headsets. One of the most immediate differences between commercially available VR headsets is those with independent screens and those with dedicated screens. Examples are provided in Figures 5.4. and 5.5.



Figure 5.4 – The HTC Vive: A contemporary consumer grade VR headset with a built in display. Image from James (2016)



Figure 5.5 – Google Cardboard. An inexpensive device that uses supported smartphones to deliver VR experiences. Image from Rao (2016)

The HTC Vive currently retails at US\$820 and the Google cardboard can cost as little as US\$5. There are several reasons for the difference in price between these two technologies. Firstly, the HTC Vive has a viewing screen built into the headset whereas Google cardboard requires a compatible smartphone to operate. The HTC

Vive also has motion tracking technology built in, this technology is used in VR based applications and games. It is also worth noting that the Google cardboard has released the specifications behind Google cardboard as open source (Google, 2015). This means that there are a number of modifications that can be made to the headset. In the scope of the FSP such modifications would require making the headset as waterproof and salt resistant as possible. When it comes to the functionality of the visual FSP it need share the same characteristics as the audio FSP. This is to say that content experienced in the visual FSP should be able to be triggered remotely so that the process of experience is simple for customers, and the triggering and monitoring of the FSP remains in control of the floatation centre operators.

Considering this the MVP for visual delivery of content for the FSP is best suited as smartphone based VR headset. This is because it is the cheapest and easiest way to prototype and modify existing VR technology. Not only this, information surrounding the Google cardboard VR is open source meaning the existing schematics concerning Google cardboard are accessible and modifiable to meet the needs of the visual FSP. To ensure basic functionality and safety in the MVP a waterproof smartphone and water resistant VR headset will be needed. Further development of the visual side of the FSP could also utilise the open source information made available in relation to Google cardboard.

#### The FSP as Components

It is being recommended that the FSP be developed in components. The reason for this being that the target market (floatation centers) will be able to invest in the baseline FSP technology components and then assess for themselves if such technology adds any value to their business. From here floatation centers can consider investing in other available FSP components. To put this into context, the audio-FSP component is easier to develop and manufacture than the visual-FSP component. From this the audio-FSP component could be an initial offer to the market. Working with the assumption traction is gained, the visual-FSP component would follow. The visual-FSP component would be designed to function with the audio-FSP component, meaning that adopters of the audio-FSP would likely invest in the visual-FSP provided they found value in the audio-FSP. In this sense, component based FSP products lock customers in to purchasing further developments in FSP component technology.

## Personalised content for the FSP

The fourth concept is developing content for the FSP that is intended for personal use. This is also discussed in Chapter Three. The concept is micro-level content, where a profile of a floatation centre customer/FSP user is created and content is based on this. An initial target market considered for personalised FSP content is elite level athletes, since existing research shows improvements in sports performance through experience of specific content inside the floatation tank (Mcaleney, Barabasz, and Barabasz 1990; Wagaman, Barabasz & Barabasz, 1991)

Elite level athletes and sports organisations are also in a position to invest in technologies that may lead to increased performance. There are other areas where personalised content would be useful, like therapy, but to effectively deliver such content further literature would need to be consulted and ongoing research would be required. Personalised content could be delivered to interested customers in two ways:

- In collaboration with existing floatation centres with FSP technology, such as Float Well, the project partner of this thesis
- 2. Opening an FSP-specific floatation centre in which all discussed technologies are utilised.

A key consideration of personalised content is that it can be sold at a higher cost than generalised content found in the FSP library.

#### Interdependent nature of these technologies

The potential exists to develop all these proposed business offerings simultaneously, as all these concepts stem from the idea of providing content in the floatation tank. The first concept serves as a means of generating a library of applicable content. The second is a means of delivering audio based content. The third concept is a method to deliver audio visual content and operates in conjunction with the second. The fourth concept is working with interested parties to deliver personalised content through concepts two and three. As a result, learning processes associated with one idea are transferable to others. Relevant data collected from FSP user experience is essential in this respect. For example, what is found to be popular in the proposed content. Table 5 .1 elaborates on the different characteristics of the four proposed concepts.

Idea	Reasoning	Development process	Difficulty	Innovative summary
Content library for FSP / existing floatation technology	Float centers already utilise music in the floatation tank. This expands on what they can offer their customers	Production/ Curation/ Licensing of relevant content for use within the floatation tank environment	Easy. Content can be produced or licensed and for most centers, there are basic speakers systems in use within their floatation tanks.	Nothing new - float centers already use musical content as part of their commercial operations. This idea is working to increase the caliber and accessibility to such content
Audio FSP Component	Deliver higher audio quality into the floatation environment than normal floatation speakers.	Re-purposing existing waterproof and wireless bone conduction technology to suit the floatation tank and the needs of the floatation center	Medium. Bone conduction technology already exists that can be used in the floatation environment. The step that needs to be taken is giving float center owners capacity to engage technology remotely.	Improving existing techniques - Most commercial grade floatation tanks already have speaker systems. This idea is increasing the quality of audio experienced in the floatation tank
Visual FSP Component	Deliver high caliber visual content into the floatation environment. Is additive to the audio-based FSP component	Re-purposing existing virtual/augmented reality technology to handle the environment of the floatation tank and needs of the floatation center. Can be used in conjunction with the audio FSP	Difficult. Existing VR/AR technology can deliver immersive experience, but there are obstacles that need to be overcome to ensure that such technology can withstand the floatation environment	New concept - Immersive audiovisual experience in the tank delivered through VR/AR has not been done on a commercial scale in the floatation tank. As a result this is a relatively new level of innovation taking place.
Personalised FSP content	Use FSP technology to help deliver specific outcomes, increasing the value of the floatation experience	Experiment with interested users of the FSP, determine what is effective through existing or new research, collaborate with sports teams/ organisations/ therapists/ interested parties	Subject to type of personalised experience sought out. For the initial target market of high performance individuals there is existing literature to base development of content on. Further research will also need take place	Building further on the commercial aspects of the proposed FSP technology.

#### Table 5.1 – Characteristics of the four proposed FSP concepts

#### Open sourcing a knowledge base for the FSP.

The proposed ideas are seen as a way of business integration for the conceptualised FSP. The ideas are intended to work interdependently, so if one concept finds any commercial traction, so can the others. Based on this, a critical point to consider is market adoption of FSP type technology. This is important to mitigate any risks associated with resistance to stimulation in the floatation tank.

One effective approach could be making the experiential aspects of FSP technology open source. The term open source is typically reserved for software development and simply means making the source code of a particular program available to all for free. There are many advantages to open source software, and making foundational aspects of software programs free does necessarily not limit the capacity to commercialise. Indeed what is being suggested here is not that all FSP technology be open source, but that the insights and experiences found through use of FSP technology be readily available to all. The logic behind this being that access to information surrounding the experiential possibilities of the FSP will help broaden FSP uses. The website opensource.com (2017) gives a general guideline into the principles behind open source technologies, with the key points as follows:

- **Open exchange** Ideas and concepts move freely. Existing information is accessible and can be used to learn and generate new concepts and possibilities.
- Participation Enabling collaboration means the creative solutions possible increase. Problems that cannot be solved on an individual level are solvable through participation of different people/parties.
- Rapid prototyping Enabling access to existing ideas/technology means the prototyping phase of development happens faster. Through rapid prototypes there are rapid failures and through failures better solutions are found.
- Meritocracy The concept of meritocracy is that the best ideas are ultimately used. Successful endeavors are those that gain the most interest from the community.
- Community Community is developed around a common purpose. This common purpose brings together diverse ideas and skills. A community based effort is more than the capability of any individual. In other words, more can be done together.

It is worth reflecting on the breadth of potential uses of the FSP identified previously in this thesis, and shown in Figure 5.6 below.



#### Figure 5.6 – Potential uses of the FSP

Considering the above figure, the open source approach may be the most effective way to explore the efficacy of the FSP in these listed and non-listed domains. There are also four proposed business concepts put forward in the scope of the FSP. From the breadth of use found in the FSP, and potential business concepts, an open source approach to development may well be an optimal way to progress this project.

#### Open source consciousness

The primary function of open source consciousness (OSC) is to engage and develop a community around the potential of the FSP. Those with immediate interest in this community are likely to be existing floatation industry stakeholders. Having a community focused on the development of the FSP has many advantages when compared to individual or small team-based FSP development, including:

- More feedback Engagement from many existing floatation industry stakeholders means feedback around the concept and development of the FSP is broader and gathered faster
- Leverage more skills Those interested in furthering this concept can contribute their efforts/skills

- More input for uses of the FSP Rapid assumption testing through involved community members leads to more refined ideas around the FSP
- Crowdfunding options for development If the community helps to develop key characteristics of the FSP there is the option to crowdfund the development of the refined FSP technology.

It is also important that OSC does not focus exclusively on FSP technology, but all technologies that can serve to augment and influence the floatation experience. If OSC was to grow as a community it could encompass information about consciousness altering technologies and techniques outside of the floatation tank/FSP paradigms.

In summary, a publically available knowledge base enables more developmental potential and uses for the FSP, certainly more so than can be developed through commercial and private interest alone. With respect to this, the seeding and development of a community focused on exploring the potentials of FSP technology, Open Source Consciousness, is an important step to consider. This could also increase the interest in FSP technology within the target market, while retaining the capacity to generate revenue through the given FSP business concepts. The focus of OSC should be on the education, and a key part of this process may be making functionality of developed FSP technologies fully transparent or open source.

# 5.2. Business case

This section presents a business plan for the proposed company BE, and elaborates on open source consciousness (OSC) and how it can facilitate an increase in adoption rates of BE technologies and services.

# The Pitch

In a fast paced and ever-changing world we are often overwhelmed. Sometimes all we need is time to ourselves, time to reconnect, to relax, time to be. In recent years, an industry that relies on this inherent need for 'time out' has seen considerable growth. This is the floatation industry, which harnesses the art of lying still in a chamber of salty water. There is no light, no sound, no distractions. It is in this unique environment that BE is working.

Floatation tanks come in many different shapes and sizes. They are purpose-built environments that can cost anywhere between \$1500 and \$50,000. A commercial float operation will have at least one of these floatation tanks. As a business, a float centre relies on people floating in these tanks. The problem BE is addressing is the empty tank time that all floatation businesses can experience. A solution to this problem is products and services that enhance the floatation experience, and help floatation centres expand their accessible market and increase customer retention.

These solutions exist via a content library tailored for the floatation tank, audio and visual platforms designed for use within the floatation tank, and creation of personalised content for these platforms. These are new and innovative solutions to problems experienced in a rapidly growing industry.

### The Problem

A float centre relies on having its floatation tanks booked out. Optimal operation is when all allotted float tank times are in use. A problem that all float centres experience is not having their tanks booked out. There are two key parties affected by this problem. Firstly, there are the float centre owners/operators. An empty floatation tank is a business asset not utilised. Secondly there is the floater or potential customer. For several reasons a potential customer may choose not to float, or float only once. The most immediate impact for the floatation centre is loss of potential revenue. For the floatation customer, it is lack of access to the benefits of floatation as a habit. Insight into these problems is found in Figures 5.7 and 5.8.



Figure 5.7 – A visualisation of the problem commercial floatation centres experience

	WHO Active and potential floaters.
	CAUSES
Boredom in the tank	Competition/Substitutions
Lack of education on the benefits of floatation	Cost of floatation
	EFFECT
	Lack of benefits found through regular floatation.

Figure 5.8 – A visualisation of a problem experienced by floatation centre customers who don't float as a habit

# **Current solutions**

A floatation centre will typically offer the following to encourage recurring customers:

 discounted three float introductory packs – helps educate new floaters about the benefits of floatation

- discounted floats for monthly subscribers regular floaters pay a monthly subscription fee that enables 1 float per month with subsequent floats discounted
- float specials or sales distributed through discount sites, e.g. groupon.com.

Some centres also focus on the aesthetic/experiential aspect of their floatation offering through:

- high quality business premises
- complementary goods (tea/water/room to relax post-float)
- engagement in with local community.

Considering these current solutions, float centres can focus on two areas:

- 1. **Economically** offering options for discounted floats, whether these are recurring or one-off deals
- 2. **Experientially** creating more value throughout the floatation experience.

#### **The Unique Solutions**

BE offers, and is developing, several products and services that expand on the experiential aspects of the floatation tank, including:

- a content of library curated and produced for the floatation tank
- a non intrusive and wireless audio delivery system
- a wireless headset designed to deliver visual content into the floatation environment.

These products can also be personalised based on existing and new customer profile, and there is research to suggest this can help in expanding the accessible market for floatation centres. The science and developmental pathways behind these technologies are the subject of this master's thesis.

This technology is broadly conceptualised as the floatation stimulation platform (FSP). The components of the FSP technology are being developed to be interdependent of each other, that is, they can be used in parallel or individually to augment the flotation experience. One component of the FSP uses waterproof and wireless bone conduction technology to deliver high fidelity audio experiences into the floatation tank at maximum comfort. The other component of the FSP is designed to deliver visual experience into the floatation environment through a headset. The current prototype for this component involves a waterproof phone that can withstand

the floatation environment which is attached to a Smartphone-based virtual reality (VR) headset.

Accompanying both components of the FSP will be a content library. This library contains market researched content considered desirable for experience within the floatation tank. This content library will also contain cohorts of experience that require more than one floatation session to experience fully, so customers are inclined to float more than once when experiencing FSP technology and its content. The nature of the FSP technology is to give commercial floatation centres the capacity to offer their floatation customers more in their floatation experience.

#### The FSP explained

The float tank greatly reduces the use of our senses, increasing our attention capacity. When we introduce stimulus into this environment we engage with it at a deeper level. This means that the experiential outcomes associated with floating increase. For a floatation centre, the most immediate benefit is that more people want to float because of the expanded possibility of the floatation tank. Content designed for the FSP will also span more than a single float session, meaning the recurring rate of floatation customers may also increase. For the float customer, there are many potential uses found through the FSP, as shown in Figure 5.9.



#### Figure 5.9 – A tree of potential uses found in FSP technology

Another business opportunity considered is personalised content for the FSP. Initial target markets for personalised FSP content are found in elite level athletes. This is because there is existing research demonstrating the effectiveness of floatation with stimulus to increase athletic performance (Mcaleney, Barabasz, and Barabasz 1990. & Wagaman, Barabasz & Barabasz, 1991). These personalised programs can be run in collaboration with existing floatation centres, or alternatively through an FSP specific floatation centre.

#### **Use cases**

At present musical experiences from BE are available at Float Well, a Wellington floatation centre, and are openly available to all customers. There are two options available for Float Well customers to have these experiences – through the speakers built into Float Wells floatation tanks or through a wireless and waterproof bone conduction mp3 player.

A survey has also been distributed to the Float Well mailing list and analysed. For the survey, 37 participants answered a range of questions to do with stimulus inside the

float tank. All survey participants indicated they would be open to experiencing stimulus in the float tank. The survey also gave insight into what type of content participants might be interested in when it comes to stimuli in the floatation tank. These trials/surveys are discussed earlier in this thesis.

#### **Market opportunity**

There are various markets where BE can be of service. The primary market is the commercial floatation centre. The rate of growth in this market has increased significantly over the last seven years, with most floatation centres today opening their doors over the last five years (Figure 5.10).

160 120 Number of centres 80 40 0 30+ years 21-30 11-20 years 6-10 years Last 5 vears vears ago 800 ago ago Time of opening

When did you open your floatation centre doors?

Figure 5.10 – Float Tank Solutions (2016). This data comes from an industry report that samples 170 active floatation centres

Floatation is also gaining traction domestically. In 2016, New Zealand saw three floatation businesses open in Wellington. In Auckland, the available locations for floatation experiences expanded from one to four. Centres also opened in Dunedin and Christchurch. Figure 5.11 shows industry growth through attendance at the annual float conference in Portland, Oregon.



#### **Portland Float Conference Attendence**



Considering the above statistics, the floatation market has the characteristics of a growth stage in the industry cycle (Figure 5.12).



Figure 5.12 – Industry life cycle stages. The floatation industry can be is observed as being in the growth stage (Stephen, 2013)

This observable growth means more floatation centres are opening globally. Core to the development of FSP technology is its capacity to be used in any floatation environment, making it accessible to any commercial floatation centre or private floatation tank owner.

The secondary market to consider is in the personalisation of content within the tank. Early adopters for such a service are considered elite level athletes. In this respect it is important to note there is research showing significant increase in athletic performance when athletes experience the floatation tank performance enhancement based stimuli (Mcaleney, Barabasz, and Barabasz 1990; Wagaman, Barabasz & Barabasz, 1991). The ability to personalise the FSP experience means that existing research can be adapted to suit specific athletic domains. This also means that the FSP can be used for increased performance/outcome in domains other than athletic performance.

### **Customer Overview**

#### High volume commercial floatation centres

Float centres vary. There are some that have one tank and offer other services in conjunction to floating, while others have many tanks and offer only floating. A primary customer base for BE is float centres that have several tanks and high volumes of customer. The assumption is that float centres meeting this criteria have the most to gain from BE products and services. This is due to larger centres:

- having more resources allocated for customer acquisition
- usually being geographically placed to reach a wider market, and
- having higher variability in customer profiles.

By offering a library of content for the float tank/FSP technology, BE can help larger float centres increase the value for their floatation customers. This will enable them to grow their recurring customer base.

#### Athletic organisations

The float tank is conducive to increased levels of mental and physical performance. For athletes and professionals who rely on peak levels of performance it can be a powerful tool. In this sense organisations that focus on athletic/peak performance outcome can find value in the services offered by BE. This is done through creation of research informed personalised experience for within the floatation tank.

### **Competitive landscape**

The primary offering put forward by BE is a complimentary technology for the floatation tank. In this field there is one immediate competitor. Dream Water Float

Company is a float tank manufacturer that has released music produced specifically for its available models of floatation tank. The name of the product offered by Dream Water is DreamScape Elements (DSE). As mentioned, this product is intended for DreamPod floatation tanks, a specific type of floatation tank manufactured by Dream Water Float Co, rather than all floatation tanks. Therefore, DreamScape is a complementary product for DreamPod floatation tanks, not floatation tanks in general. This limits the available market share for DSE content to those who own DreamPod floatation tanks. Another consideration is that most floatation tanks come equipped with speakers, so floatation centres already have the capacity to choose their own music inside of the floatation tank.

This is one of the primary reasons the floatation content library is intended for use with normal floatation technology alongside FSP technology. However, there may also be some floatation centres that choose not to subscribe to the floatation tank content library from BE when they can source their own content elsewhere. In the scope of proposed FSP hardware, there is no immediate competition at this time, only substitutes. Figure 5.13 shows the observable competitive advantages of BE/FSP technologies.



Figure 5.13 – Competitive advantages observable concerning the BE/FSP technologies

#### **Current traction**

BE has been developed through this Masters in Innovation and Commercialisation at the Victoria University of Wellington. BE has also worked closely with Float Well, a
commercial floatation centre based in Wellington, New Zealand, to refine products and services. Currently BE is collaborating with Float Well to provide its customer audio experiences in the floatation tank. These experiences are available in a general and personalised context, with general audio content available for any floatation customer, and personalised content available through a four float program.

# Key risks

# Lack of perceived value in BE products and services

Essentially, floatation is total disconnection from external stimulus. There is the possibility that uptake of the products and services put forward by BE may be minimal as they go against the essence of floatation. This risk has been investigated through research and no immediate likelihood of this occurring was found. To mitigate this risk further, consistency in product quality is essential. Any music experienced in the tank should be of a high calibre and conducive to positive outcomes in the floatation experience. Where possible, further research into the effects of music or audiovisual content in the tank will also take place. If it can be scientifically validated that products and services put forward by BE amplify the floatation experience then this risk is considerably reduced.

# **Critical success factors**

# Resonance with the floatation industry

Floatation is unique and, equally unique is the industry around it. A great example of this is the website floatdrinks.com, an industry initiative from Float On (2017) designed to facilitate positive relationships between competitive businesses. The idea behind floatdrinks.com is that the first round of drinks between floatation centre owners will be is paid for (the website requires a receipt to be uploaded). Industry stakeholders are also well connected.

There are several community-oriented pages on Facebook that focus on the different aspects of centre operation. In such online communities, products and services are thoroughly discussed and considered before being used. To have any chance of success in this venture it is essential that BE resonates with the floatation industry. This involves demonstrating values outside of the business aspect of floatation. To achieve this, BE is working to seed and develop a community called Open Source

Consciousness (OSC). OSC aims to create a community of people interested in how augmenting and influencing the floatation experience can lead to a positive outcome. Attendance at the annual Portland Float Conference is also considered essential, as this will help to cultivate positive relationships with floatation industry leaders.

# Team

Core team positions needed for BE are:

- Content producer and curator This role involves producing new and original content for the FSP library and those interested in personalised experience in the floatation tank. Specific skills being proficiency in a digital audio workstation.
- Software and hardware developer This role involves prototyping and designing iterations in FSP technology. Specific skills being proficiency in virtual reality development and an understanding of hardware prototyping process
- Trained psychologist/coach This role is to aid in generating effective personalised content for those seeking personalised floatation experience. Skills being an understanding of behavioural psychology and experience coaching

# **Project vision**

To expand the potential of floatation. To create new pathways for personal development and interconnectivity. To facilitate solutions for perceptual problems.

# **Project goals**

# Short term

- Crowdfund a private floatation tank to help iterate proposed FSP technologies.
- Initial market offering of audio FSP component for the floatation tank followed by visual FSP component.
- Initiate working with interested parties to provide personalised musical experience in the floatation tank through the audio FSP.
- Form an Open Source Consciousness community focused on how augmented floatation experience can be used in a holistic manner.

# Long term

• Opening a floatation centre specialising in FSP technology and experience.

- Further research into the efficacy of FSP.
- Development of FSP components that measure bio-feedback.

# Positioning

• Early mover in offering technologies that augment floatation experience

This is an emerging field and there is still much to be known. From this existing market efforts are based on assumptions and existing research. This is important but it is also worthwhile considering the iterative potential of this technology and the breadth of potential uses. Emerging as an early developer of this technology is essential when it comes to gaining repute in the floatation industry and others, BE is aiming to do this.

#### • Facilitator of community to resonate with industry

A floatation based community – Open Source Consciousness (OSC) will work alongside BE to facilitate the development of experiential possibility within the floatation tank. The goal of this community will be to investigate and elaborate on techniques and experiences possible in the floatation tank.

#### • First mover on personalised experiences for the floatation tank

Working to collaborate with organisations that rely on improved performance – This may be executive, athletic, academic or creative. Being open to any interested party will help to establish BE as a leader in this emerging field.

#### • High calibre content, high levels of community engagement

Working to collaborate with artists and creators of repute will help to further develop strong community ties.

# Offerings

# Content library for the floatation tank/FSP technologies

- Consistently updated with new content.
- Many different themes.
- Can be used with existing floatation technology or FSP technology.

# Audio FSP component

- Using wireless bone conduction headsets to deliver high quality audio experience to the floatation environment.
- Designed to be non intrusive to the floatation experience.

# Visual FSP component

- Immersive visual headset suitable for any floatation environment.
- Greatly expand the experiential possibilities within the float tank.

# Personalised content experience for the floatation tank

- Content intended for use with FSP technology.
- Deeper engagement with content in the floatation tank.
- Tailored for specific outcome.

# **Revenue model**

# Subscription based content

The content library will be available on a subscription base. This provides a recurring source of income if engaged floatation centres are happy with the service and willing to continue. There are two key avenues to providing music for the floatation tank – producing original content and licensing existing content.

Costs associated with the subscription to this library will take these into account, and may vary based on size of floatation centre. Costs may also vary if private/home floaters subscribes to this service. This model is chosen because most commercial floatation centres also use subscription based service as their business foundation.

# Contract-based work

This approach is designed for organisations seeking customised floatation experience, and will be costed on a case by case basis.

# FSP product sales

Products will be the developed technology associated with the conceptualised FSP.

# Pricing strategy

The main source of revenue identified in the business model is subscription based access to content designed for the FSP. From this, a penetration pricing model will be adopted for the sales and distribution of the FSP. Through this the demand for content for the FSP increases.

# **Marketing strategy**

### • New Zealand/Oceania

Working with local float centres will help to refine the sales pipeline and develop further feedback on the musical library. This will be done through initial contact, development of relationship, offering of free content for the float tank, inviting float centre to join the community Open Source Consciousness. Following this floatation centres will be asked if they are interested in subscribing to the content library and purchasing FSP components.

#### • Float Conference 2017

This conference involves an array of floatation businesses. Presenting the library of content alongside FSP developments will aid greatly in floatation centre interest.

### Educational documentary/content

The release of film or podcast based content designed to educate both floatation centres and their customers about the potential of technology like the FSP.

#### • FSP Tour

BE would take the FSP technology on tour from floatation centre to floatation centre, so any immediate questions can be asked and answered in person.

# **Distribution strategy**

#### • Online web platform

BE's first offering will be a music library designed specifically for the floatation tank. This can be distributed via an online platform.

#### • FSP Hardware

Subject to the manufacturing process FSP components can be shipped directly from manufacturers to floatation centres.

# Loyalty strategy

### • High level of customer engagement

This is a relatively new field that requires ongoing research to understand. Working to maintain optimal relationships with customers will involve paying close attention to feedback and creating musical experiences based on crowd engagement.

### Rewarding early adopters

Those centres that adopt FSP type technology early will be rewarded, potentially through early/exclusive access to content designed for the FSP.

# Sales strategy

The sales strategy relies on connecting with float centres. Most commercial floatation centres worldwide are listed at floatationlocations.com. Aspects of each centre have been analysed, and include assessing the number of tanks, the location of the centre and other factors. From here, using existing data, the likelihood of a centre being receptive to BE's music service has been weighted. The highest weighted centres will be contacted first.

A website www.consciousness.nz will be used to facilitate the sales process further. Feedback on content created is essential and will be key to further development.

# **Milestones**

### Kickstarted funding

Funding an entry level tank will assist in the iterative process of the technology discussed throughout this business plan.

### • First 10 centres registered

This is a new business concept, and gaining a small amount of traction in terms of revenue will be a significant step moving forward.

### • First 100 centres registered

Again, this is indicative of growth and the potential for exponential growth in this space.

### • FSP prototype

Rigging existing and incoming virtual/augmented reality technology is essential and will come immediately after acquisition of a private tank.

### • Further research

Further research into the effects of audio-visual stimulus in the tank is essential in gaining further market status.

# Financials

# Crowdfunding

Taking into account current traction a critical assumption being made is that the basic technology needed for rapid iteration is obtainable through a crowdfunding campaign.

Crowdfunding is a relatively new method of securing investment. It involves pitching an idea/project on a crowdfunding platform like Kickstarter.com and then offering incentives/rewards for people to back the idea/project. These incentives/rewards are determined by who is behind the project/idea. The project suggested here is to crowdfund a floatation tank for OSC to use as a research and development tool to help develop FSP technology further. The floatation tank identified for this crowdfunding campaign is the Samadhi Eco tank. This tank sits at a relatively cheap price point (\$US4970, Samahdi Float Company, 2017) considering it can be used commercially. Table 5.2 demonstrates the different levels of project backing that will likely be possible and the rewards and motivations for each level of backing.

	Who?	What?	Why?	Estimated backing price
Entry level	Immediate community/Friends and family	Thankyou + Musical EP from BE. + Updates on the project	Looking to contribute due to interest in project	\$10-20
Mid level (international)	Floatation centre owners	Thankyou + Musical EP from BE. + Floatation tank audio content. + Access to updates on the project. + Discussions on FSP prototyping and how to get involved early	Looking to get involved with FSP development, get access to early FSP technology, and begin experimenting with content in the floatation tank	\$50-100
Mid level (local)	Floatation enthusiast local to project	Float in the floatation tank once it is funded.	Avid floater local to the project.	\$50-100
Upper level	Floatation enthusiast	All of mid level + creation of personalised content for the floatation tank.	Avid floater, looking to get expand their experiences within the floatation tank	\$150+

#### Table 5.2 – Overview of crowdfunding target audience

The price points for each level are to be determined once a final quote for the cost of the floatation tank and delivery can be determined. There will also be a dialogue with the manufacturer to ask if they might consider contributing to the project by discounting the cost of the float tank. The mid-level backer is considered the group that will contribute the majority of funds. Contact with those in this group will also be made prior to the launching of the campaign to inform them of OSC as a community.

#### Musical licensing

Licensing of music means the size of the floatation library can be expanded considerably. The cost of licensing need be low enough to ensure that subscription costs are not too high for floatation centres.

#### • FSP development

Being able to develop the FSP is essential to the progress of BE. The choice is being made to do so in an open source manner. This way the costs of getting other interested parties involved is reduced considerably.

#### • Further research

There are many potential applications for the technology being developed by BE. Further research will be essential. Being able to conduct such research in conjunction with academic institute will help to develop this technology further.

# 6. Conclusion

This chapter provides a summary of the most important findings from the research, and the key implications that will be considered and used to determine how this project can continue.

# Key outtakes from research

The most immediate outtake from this investigation is that there is an observable market interest for the experience of stimuli within the floatation tank, as the research found that all existing and potential floatation centre customers were open to experiencing stimuli in the floatation tank. Further analysis of this finding indicated that potential floatation customers (those that were aware of floatation but yet to float) were more open to experiencing stimuli in the floatation in the floatation tank when compared to existing floatation customers.

For conceptualised FSP, specific criteria has been identified that must be considered in the development process, including being waterproof, salt proof, wireless, and noninvasive (Warhleen, 2016). The minimal viable product for the FSP is considered to be a wireless and waterproof bone conduction headset, since this device meets the criteria and is independent of the floatation tank. It is also recommended that development and iterations in FSP technology are component-like in nature, so that each component is interdependent of the other. For example, an audio-FSP could be developed to deliver high quality audio to the floatation tank, and following this a visual-FSP could be developed that works in conjunction with the audio-FSP. The intended result of this developmental approach is a reduction in the initial purchase cost of the FSP technology, thereby locking customers into the FSP component ecosystem.

The key target market for the FSP technology is identified as floatation centres, particularly high volume floatation centres. The reasoning for this is that, through FSP technologies, floatation centres can offer their customers more possibilities in their floatation experience and can then appeal to and retain more floatation customers.

It is also suggested that a content library be developed for use in both existing floatation tank speakers systems and FSP technology. The business model behind this concept is subscription based access to the content library, with the subscription fee subject to the cost of content licensing, acquisition and/or production.

Initial content offerings for this proposed content library should align with existing floatation centre marketing themes found in previous research (Jonsson & Kjellgren, 2014), including relaxation, personal growth and enhancement, and alleviation of medical conditions. This was determined through consistencies found in analysis of responses from survey participants and currently available commercial content designed for use in the floatation tank.

The concept of personalised content experience through FSP technology is also recommended, with elite athletes as the target market. This is backed by research which demonstrates increased levels in athletic performance following floatation experiences where performance-orientated audio stimuli introduced (Barnett, 1983; Conway, 1986; Daniel, 1985; Hutchinson, 1984; Mahoney, 1987).

An assessment of existing market offerings for stimuli designed for the floatation tank identified DreamScape Elements (DSE) as the major player. Analysing DSE yielded several key insights to be considered in the scope of optimal business outcomes when implementing audio content into the floatation tank. A primary consideration is that floatation tank content should be designed to contribute to an increase in the recurring customer base of floatation centres. To do this, the audio content should be developed in packages that require more than one floatation session for the full experience. For example, the weight loss package from DSE requires five float sessions over five weeks (DreamScape Elements 2017).

There is potential for a company to emerge to develop the FSP technology. This company would offer the following services for the audio-FSP component:

- visual-FSP
- FSP/floatation tank content library, and
- personalised FSP content.

It is also suggested that a community be seeded and developed that initially focuses on exploring the experiential potential of technologies to augment the flotation experience. The proposed name for this community is open source consciousness (OSC), and it would evolve from the many uses possible for FSP technology. The community could serve as a knowledge base for the FSP or any similar technology and, from this, community-based engagement could help to harness the possibilities in the technologies faster than any private endeavour. It is also important to consider that, because there looks to be an emerging market in the space of augmented floatation experience, significant research is needed into the effects present when stimuli are introduced into the floatation tank.

# Continuation of the project

# Collaboration with project partner (Float Well)

Collaboration with the project partner is currently underway, with a package of four floats offered at a discounted rate. For the first float, no stimuli present. For the second float, an audio experience is delivered through the identified audio-FSP prototype/ minimal viable product (MVP), such as waterproof and wireless bone conducting earphones. Feedback is taken from the floater at this point, including discussion on what type of personalised experience they would like. The third float will then have the personalised experience delivered through the audio-FSP prototype device, with post-float feedback again obtained from the floater. For the final float, the floater is free to experience what they want. This collaboration is helping to develop further insight and experience in the domain of personalised content within the floatation tank.

# FSP development dedicated floatation tank/floatation centre

In furthering this project, a key technology identified as necessary is a floatation tank. Having a private floatation tank means the amount of time spent developing and experimenting with FSP technology expands greatly. This floatation tank could also be used in a commercial context to help generate revenue. This could result in a commercial floatation centre that offers cutting edge FSP technology experiences. Such a centre may be feasible once FSP technology moves beyond the prototype stage.

# Further research into effects of stimuli in floatation tanks

Throughout this thesis, the many potential uses of FSP technology are frequently mentioned, along with the fact that the research is lacking considering the breadth of potential uses associated with FSP technology. Further research into the effects of stimuli in the floatation tank would be highly valuable.

# Appendix A: Information sheet for participants

# Stimuli within the Floatation Tank INFORMATION SHEET FOR PARTICIPANTS

Thank you for your interest in this project. Please read this information before deciding whether or not to take part. If you decide to participate, thank you. If you decide not to take part, thank you for considering my request.

#### Who am I?

My name is Henry Boyle and I am a Masters student in the Master of Innovation and Commercialisation at Victoria University of Wellington supervised by Dr Maree Hunt and Jenny Douche. This research is work towards developing a major report on my innovation and commercialisation project.

#### What is the aim of the project?

This project is investigating suitable markets when it comes to the use of audiovisual stimuli inside of a floatation tank. This questionnaire is focused on identifying a target market for this technology. This programme has been approved by the Victoria University of Wellington School of Psychology Human Ethics Committee.

#### How can you help?

Questions presented in this survey will help to identify similarities in people who actively float. Any similarities found will be used to elaborate on suitable initial experiences to implement within the flotation tank. Questions will ask about experiences associated with flotation tanks and other leisure time pursuits.

#### What will happen to the information you give?

The responses you provide will be collected, coded (turned into numbers) and combined with other participants' responses. I will then analyse the data, and look at overall patterns of responses. I may then write scholarly articles or make commercially orientated presentations in which I talk about these patterns of results. The data may also form part of a thesis. I may also use your data in other related projects, share it with others, or quote without attributing anything written. When I do any of these things—share data, describe results, write articles or theses, or give scientific presentations—it will be impossible for anyone to identify you, because your data will be represented as a set of numbers. I will keep this coded data indefinitely.

#### What will the project produce?

The information from my research will be used in my Masters report. I may also use the results of my research for conference presentations, and academic reports.

#### If you accept this invitation, what are your rights as a research participant?

You do not have to accept this invitation if you don't want to. If you do decide to participate, you have the right to:

- choose not to answer any question;
- receive a copy of the research results;

#### If you have any questions or problems, who can you contact?

If you have any questions, either now or in the future, please feel free to contact either:

Student: Name: Henry Boyle boylehenr@vuw.ac.nz

Supervisors:

Name: Jenny Douche Role: Course Co-ordinator jenny.Douche@vuw.ac.nz

Name: Dr Maree Hunt Role: Academic Supervisor <u>maree.hunt@vuw.ac.nz</u>

#### **Human Ethics Committee information**

If you have any concerns about the ethical conduct of the research you may contact the Victoria University HEC Convener: Associate Professor Susan Corbett.

Email susan.corbett@vuw.ac.nz or telephone +64-4-463 5480

Click to participate

# Appendix B: Phase 2 Survey Results





# HAVE YOU EVER FLOATED?







### OTHER

#### Other

Altered States, comic portraying the concept

Other float service when booking massage

Numerous friends aged 24-40

Walked past it on street

# HOW FREQUENTLY DO YOU FLOAT?

How frequently do you float?
Monthly on average
Did it once
Once per week
2 times a week
2 times a month
At least once a month
Only once
Infrequently
2 x times a month
Once
Once or twice a month
Only one so far.
Fortnightly
Once a month
Infrequently, have had 2, but treat at Float Well as the Biodynamic Craniosacral Therapist, so will definitely be doing more!
Once a month??? (I've only just begun)
Once
As much as I can
Monthly
Occasionallyhopefully at least once a month
Once a month
Monthly
Once a month-ish
2-3 times a month
Once a month



Q2_5_TEXT - OTHER
Other
Spiritual journeying
Introspection
Meditation
Had just done a full day of physical training, so muscle recovery, but am interested in tapping into different states of consciousness. This far I've found that easier through cranio. Have just been calmed and had great physical relaxation in the tank.
Meditation
Spiritual awaking

#### ARE YOU PLANNING ON FLOATING AGAIN?



#### WHY?

#### Why?

It's a great opportunity to get in touch with and harmonize my body, mind and spirit was sort of weird, not too sure what to think of it; so maybe try again

Positive results. I feel less stressed, my mind is more calm and my skin/hair feel great. I often sleep better the night I float.

Mental clarity, meditation, pain relief for my back, creativity, cool conversations with the people who work and run the place too

more curiosity

helpful for meditation

It is an experience like none other. I find it difficult to meditate traditionally and I find floating to make this process so much easier

Enjoyed the relaxation

It's healthy for the mind to be with itself

To see if I can learn to relax completely to relive fatigued body and pain.

Because I find it relaxing, promotes mindfulness and allows me to take an hour out of my day to focus on me.

It's a fantastic way to clear the mind, relax from everyday stresses, muscle repair & relaxation also.

Because I'd like to work on dropping deeper.

De-stress and open my mind to musical ideas. My last float gave me an innovative musical idea. The first experience was more about getting to know about what it is, what to do during the session, testing the water (literally), and how to position my body to get to the relaxation state, hence, the 60 minutes of unsettling-positions-oh-the-water-is-so-silky-crap-now-I-have-water-in-my-eye experience. However, after the session, I feel relax and chill. So, I guess it deserve a second go.

I want to experience some unreal experiences, like what Joe Rogan talks about in his podcasts find it relaxing and easier to switch off from daily life and stresses

I love the escape, and love Sam and Kevin! I'm looking forward to seeing where I can take it with my meditation practice.

Ultimately, trying to reach states of consciousness described by John C Lily and Joe Rogan, which appear to require significantly more practice than I originally anticipated

I enjoy the experience and hope it will take me further, and allow me to understand myself better, reduce my anxiety, and chill out

Time out, health benefits

I've been fortunate enough to have float tanks in my life for a few years now; more recently with FloatWell - it's something I like as a "time out" for my mental and physical well being

# WHY?

Great habit to have

### WHY NOT?

Why not? (Note n=0)



# WHICH OF THESE ELEMENTS ARE MOST IMPORTANT TO YOUR FLOATATION EXPERIENCE?



#### WOULD YOU CONSIDER STIMULUS WITHIN THE FLOAT TANK? For example: Lectures, film, music



#### WHY IS IT IMPORTANT THAT YOU HAVE NO OTHER STIMULUS IN THE TANK?

Why is it important that you have no other stimulus in the tank?

Lack of distraction

would wanna calm down while I'm in there; stimuli may be distracting

No distractions to feel comfortable only with yourself and your thoughts.

I'm open to other stimulus

I want the full sensory deprivation experience

To empty my mind.

Encourages my mind to switch off rather than spending the hour in the tank overthinking, something I do a lot of anyway.

Open my mind to itself. Free the mind from stimulus I guess.

Isn't it the whole point of being in the tank? - sense deprivation so the mind can relax and meditate?

I'm trying to explore my inner consciousness, which requires lack of outside stimuli

# WHAT TYPE OF CONTENT (AUDIO OR AUDIOVISUAL) WOULD YOU BE WILLING TO EXPERIENCE IN A FLOAT TANK?

For example: Movies, Lectures, Concerts, Youtube videos, Television, Albums

What type of content (audio or audiovisual) would you be willing to experie...

educational audio video; learning a new skill videos eg, learning to play a music piece; affirmations; audio books

Initially, to open up my consciousness, tonal audio and psychedelic kaleidoscope visuals, centreed around chakras and fractal geometry. Later on in the process, when I want to implant something into my brain, then all forms of audiovisual stimulation would be beneficial - one-on-one seminars, documentaries, intense audio tracks and visual stimuli based around repetition etc.

Anything that intellectually interests me (lectures, ted talks etc), would definitely listen to some of my favourite albums in there if I got a chance too, would also be interested in content involving sporting techniques/strategies for furthering myself physically

Music, lectures

Language immersion. Education. Something serious that I want to actally learn. Nothing funny. Meditation on self compassion.

Audio. Audio books/lectures/albums/ted talks

Happy to be a guinea pig, biy presumably within my interest or a specific calming range! Don't really want to float to a lecture on farming or country music ;)

Only relaxing things.

Meditation audio

not sure, something educational.

Not sure...Definitely audio, either music or guided meditation. Even story telling would be pretty nice.

All

concept albums (minimal to no lyrics) / ambient music / guided meditation

Lectures, Concerts, Albums, audio-books

anything alternatively sensory stimulating/ mediation enhancing, ie music (without lyrics), visual stimulation (such as kaleidoscopic imagery etc, nothing the depicts real environments). Also potentially thought provoking talks, such as talks by Alan Watts

Lectures, albums

Binaural beats, lectures/language lessons, guided meditations, breathing exercises, 3D visual effects

Both

Things that inspire the base motives and drive within me. The core values. Each piece would have to speak directly to me, not be a generic piece that is meant for many people. Personalised collections of music would be best. Photos or videos that evoke emotion.

Willing to experience anything but would lean towards audio content rather than audiovisual

Lectures, concerts, instrumentals

Education / Enlightenment

Music concerts, music mixes, informative films.

#### DIFFERENT PEOPLE DO DIFFERENT ACTIVITIES IN THEIR FREE TIME. For example, some people will listen to TED talks or lectures, take night classes, and read books; others might watch movies, meditate, play computer games and visit with friends. WHAT ACTIVITIES DO YOU USUALLY DO IN YOUR FREE TIME?

Different people do different activities in their free time. For example, s...

Read books and websites that inspire me, walk, create music, dance, spend time with friends, flatmates and family, take baths, cook meals, put love into my room/flat/garden, meditate, yoga asanas, attend interest groups or talks

read non-fiction books

computer games; listen to music;

Yoga

Read a wide range of books and literature. Meditate at least 4 times/week Brew Kombucha Watch documentaries that make me stop and think Skype with friends that are doted around the world

Co-incidentally, almost all examples above I like to do in my free time. Added to this would be sports trainings and other workouts. Finding consciousness-altering activities like the float tank for example too. Creating art and photography

all above

Read, watch documentaries, lindy hop

Read, exercise, gaming, writing

Volunteer work in human rights. Part time postgrad study. Language. Yoga. Meditation. Strength training. Hikes. Feminist novels. Art films. Music.

Walk

TED talks, my large list of to dos, Postgraduate study, walks, yoga, dinner or coffee with friends, blob watching TV.

Exercise, socialise with friends, watch tv, read books

Free time?! At the moment I don't have much, I have an 8 month old and work 4 jobs, 2 with occasional travel. But all of the above. Mostly friends and I do partake in the odd crappy game on my ph when I just want to mentally check out for a while. My cranio practice is very grounding.

Sport, study

Read, TED talks, write music, drink coffee, watch movies.

In the rare occasion of having free time, I will watch something while doing some stretching.

Read as much books about spirituality, self-awareness and self-improvement as I can

Games, Make youtube videos, gardening, diy

Yoga, visit with friends, read lots of news and random articles online, sometimes watch TV and movies, cook/bake, garden, outdoors stuff (hike, ski, cycle, surf)

You tube. Music. Movies. Walking in nature. People watching. Documentaries. Pod casts. Auduo books

Karate, hiking, watch films, read books, meditate occasionally when stressed

Programming, Skateboarding, Yoga, Reading, Play Computer Games, Meditate, and Listening to Music

Read books, read forums, play computer games, exercise.

mediation, listening to talks/lectures, playing guitar, painting/artwork, some reading, home renovation, community organisation, paragliding...

Podcasts, tv watching, visit friends, go out for meals/drinks

Walking, Yoga, Reading, Music, Movies, Socialising, Cooking

Read, music, pray

DIFFERENT PEOPLE DO DIFFERENT ACTIVITIES IN THEIR FREE TIME. For example, some people will listen to TED talks or lectures, take night classes, and read books; others might watch movies, meditate, play computer games and visit with friends. WHAT ACTIVITIES DO YOU USUALLY DO IN YOUR FREE TIME?

Read books, run, practice yoga, tramp, go to music gigs, take recreational drugs, mediate, horse ride, write, sing

Spend time with friends (and cat), listen to music, cook (food), meditate, drink/socialise, watch documentaries, paint/redecorate

TED talks, draw, watch t.v shows, read or listen to books

Read about business / human emotion. Try to make money. Talk to interesting people about new ideas.

Listen to podcasts, ted talks, read books, look out for nearby events to attend. Mountain bike, swim, run, music, uni studies.



#### Q38\_1\_TEXT - YES (PLEASE SPECIFY)

Yes (please specify)

Football, skiing

No organised team sports, but I run, hike and swim on a semi-regular basis

Keeping fit/athletic and currently teaching myself how to play basketball.

trail running, sailing ...

Lindy hop

Running

Yoga. Strength training. Krav Maga.

Roller skating, HIIT exercise

Xtend Barre, circuit and TRX (as an instructor)

Rowing

Ski very occasionally

Dancing, capoeira, yoga

Yoga, run, hike, surf, cycle

Gym

Karate, Boxing, squash, skiing

Skateboarding

walking,

Running, weights, yoga

Gym

Yoga, horse riding, running, tramping

Yes, rowing (coxswain and coach)

MTB, Cycling, Swimming, Gym, Squash

Ski, swim, run, mountain bike, road bike

### WHAT ARE THE MOST COMMON ACTIVITIES THAT YOU DO IN YOUR FREE TIME?

What are the most common activities that you do in your free time?
Read, meditate, cook food, walk
reading
computer games
Yoga, gym
Read. Listen to Music. Organise a skype date with a friend from overseas. Hike in the nearby Wellington hills
Workouts, meditation, creating art, activities involving mindfulness
trail running
Lindy hop
TV, walking
Yoga and meditation daily. Read something new daily ie news or a book.
Walk my dogs.
Postgraduate study Gym/yoga
exercise, tv
Cafe with friends.
Rowing
Spend time with friends
Chill, most likely do some stretching or just lie on the floor.
Housework, Read, and spend time with my family
watch tv
Hang out with friends over a meal/drinks or a walk.
Walking and listening to music
Karate
Skateboarding, programming, reading, yoga, meditation
Currently, trying to educate myself on the stock market by reading books / charts. And de- stressing/relaxing by playing computer games
mediation, listening to talks/lectures,
Watch tv, read magazines
Walking, Socialising, Cooking
Carpentry, music, reading, socialising
All of the above. Run a lot. Listen to music. Study for university.
Socialise w friends, meditate, paint/create, watch documentaries/TV series
Draw, Game, Sex
Read books, Business planning
Meditate, play guitar, produce music



#### Appendices | Page 130

IF YOU HAD THE TIME TO TAKE ON A NEW HOBBY/SKILL, WHAT WOULD IT BE?
If you had the time to take on a new hobby/skill, what would it be?
Surfing
would start a comic collection
art
Beach volleyball
Equally to learn a language and to really get into yoga.
Learn to play basketball
pick up my old French Horn skill again
Knitting
Crafts
More languages.
Art
language
A language or partner dancing
Something artistic
Astronomy
Learning aikido
Floating
Woodworking
Learn a new language or maybe mountain biking or something
Arieral Hoop
learning music / an instrument
Electircal Engineering, building useful circuits and investigation automation.
Improve my ability to generate a passive income - like part time business or something
I intend to learn to juggle
Music (playing it)
Pottery, Languages
Writing, design, business ventures
Get better at slacklining, rock climbing, trail running, ukulele.
Horse riding
Meditation
Yoga
Learn a language

#### WHAT DO YOU MOST ENJOY WHEN YOU PARTAKE IN ANY HOBBY/SKILL?

What do you most enjoy when you partake in any hobby/skill?

Connecting to the environment around me

time for myself

relaxation

Advancing my skills

The expansion of my brain that happens when I learn something new. The effort it takes to create new muscle memory patterns, and the feeling of success you get when something begins to feel like instinct.

The feeling of achievement and the natural high that comes with that

solitude time

Stress relief

Relaxation, focus

Learning something new and challanging myself.

To know I have creative ability

self fulfilment

Feeling like I'm making progress (whatever that might mean) and enjoying the company of others.

Getting exercise

Keeping oneself happy

Acquire new knowledge.

The ability to be creative

Creating things

Learning something new or creating something.

Learning something new and meeting new people

immersing myself with a certain task and attaining flow state

The feeling of satisfaction when I build my knowledge and reach a new level of skill.

Learning new things, growing as a person, expanding my skillset, fun aspect

learning, accomplishing and practicing a new skill

Fun!

Enjoy learning new things and the ability to understand something different. Pottery looks fun!

Socialising, learning

Losing yourself in the moment once you reach a stage of being good in your own personal terms. The progression of getting better each time your practice. The reward involved.

The social or creative aspect or the solitary time to myself

Freedom, doing what I want, having time to just chill

Satisfaction of learning and achieving tangible goals

Development of a new skillset, realising that one's potential is immense when constantly stretched



# REDACTED

# Check physical

#### Che Experimente Southinsen

الأبصح فتتجر وتنجعه التوا



# REDACTED

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# Check physical

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