BOB COONEY'S STRATEGIC GUIDE TO BUYING VR ATTRACTIONS

WRITTEN BY BOB COONEY

How to Select the Perfect Virtual Reality Attraction for Your Operation

One of the most frequent questions I get from operators is,

"What VR attraction should I buy?"

When I started writing about virtual reality in 2015, my skepticism was rooted in the last two VR waves I rode. In 1992 I helped launch Virtuality, building VR and laser tag arenas in malls across the US in the mid-'90s. Then, in 1999, I helped launch Global VR to greater success. Both of those VR waves were big and rogue, breaking onshore before their energy receded back out to sea.

This third wave, as I've called it since 2015, is more like a set of waves. When a good swell comes into a surf beach, typically created by a storm thousands of miles away, the first waves are few and far between. Then, as the swell fills in, the waves stack up all the way to the horizon. We call these "sets." It's a magical thing to see as a surfer, but can be intimidating. Will I be able to paddle out through all of that energy? Will I catch the right wave, or will I paddle into something that's beyond my skill level? What if I get caught out there and my leash breaks? If you let these thoughts get in your head, you're likely to just sit on the beach watching the other surfers catch all the waves, which is cool, by the way. I've had memorable days on the beach at San Onofre, drinking a cold beer and watching better surfers demonstrate their well-honed skill.

For the amusement operator, this third wave (or maybe I should call it the third swell) is stacking up. At the annual trade show hosted by the International Association of Amusement Parks and Attractions (IAAPA) in 2015, we saw the first energy in the water. By 2016 the swell filled in, most notably when Zero Latency unveiled their free-roam arena at Main Event, Pointe Orlando.

In 2017 there were a lot of waves, but few were surfable. Most were half-baked, poorly executed, and hardly deserving of your money. When I talked to my friend Frank Cosentino, SVP of arcade game manufacturer NAMCO, we challenged each other to see who could try the most VR before succumbing to motion sickness. The notable exception that year was Hologate, unveiled by Creative Works, the long-time laser tag arena supplier.

I get asked why Hologate was so successful by almost every other supplier in the market, most looking to see if they can replicate the success of its product launch. But Hologate caught lightning in a bottle. It was the first VR product under $100K, multiplayer, compact, and brought to market by a company that operators could trust. Most of the other products had glaring problems: the games didn't work; the labor was too intensive; the content made people queasy; or the company was unheard of, so operators wondered if they'd be around to support it.

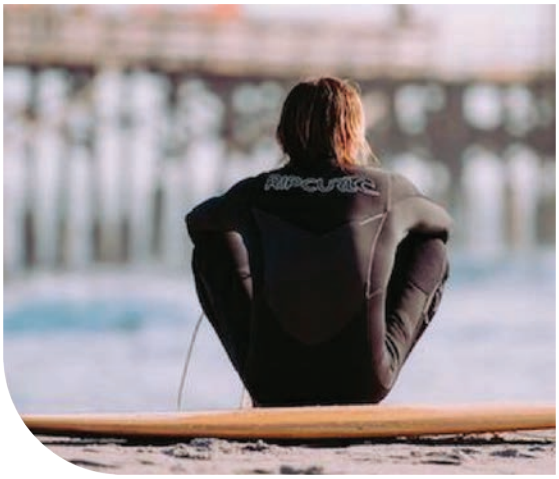
"Hologate caught lightning in a bottle

This last year, the swell turned epic. VR products worthy of consideration were lined up to the horizon. My friend and industry analyst Kevin Williams, counted over 60 VR products on the show floor. I played many but couldn't try them all, despite quite a few being worthy of consideration. I was amazed at the progression in the market. It was like everybody went from surfing three-foot waves on a foam board to riding the nose on head-high walls of water. But I also saw how it would lead to paralysis of the market.

Most operators I speak to are in one of four states with their consideration of virtual reality...

THE SPECTATOR

This is like the person who sits on the beach with their board, watching everyone else catch the waves. They've been watching VR develop over the last several years, and are still not sure whether they should jump in. Is it a fad? Do people like it? Will I get my return on investment? There are about 20 questions you might be asking yourself if you're in this camp, all of which are valid concerns, such as:



What if I buy the wrong thing?
What if I don't get my money back?
What if something better comes out next month?

To the uninformed, a lot of VR looks the same. How on earth can you step forward, with confidence, and make a buying decision? Many operators are sitting on the sidelines, paralyzed by indecision, passively watching and waiting.

THE FOLLOWER

This is the surfer who paddles out where all the other surfers are floating and is battling for every wave. They might catch a few, but unless they're the best surfer at the break, they're more likely to be sitting on the shoulder, growing frustrated with their lack of progress and success. These operators are buying

"Soon every FEC will be a vanilla box, each one containing the same attractions, competing on price, branding, and service

what everyone else seems to buy. This makes perfect sense; there's safety in numbers. If my peers are doing it, then I will just do what they did. It removes the fear from the process.

Some introspection by the Follower might show this is just abdicating the responsibility to the crowd. If an operator buys the same thing everyone else is buying and it doesn't work out, they need not shoulder the blame. Fear of failure is more common than we realize, and it rears its head in many places.

This fear is driving the homogenization of the industry. It's becoming harder and harder to discern one family entertainment center (FEC) from another. FECs are installing climbing walls and rope courses, once the exclusive domain of trampoline parks, whose owners are installing arcades and bumper cars, once limited to FECs. Bowling centers are taking a page from FECs by installing laser tag and redemption centers, while many FECs are installing bowling lanes.

THE TRIALIST

These are the surfers who paddle out into the break without really studying the ocean. They might get lucky and score the wave of their lives because they're actually out in the water. But they're probably working way harder than they need to and getting far fewer epic rides.

I also see many operators using trial and error in their business. They know they need VR to remain relevant and competitive, but they don't want to buy what everyone else is buying. Often these are the pioneers and early adopters that Geoffrey Moore wrote about in Crossing the Chasm. Without a framework to inform their purchase decision, they buy what their intuition tells them to buy. Sometimes this can work, but without a sturdy frame of reference, industry knowledge, and an understanding of the underlying technology, it can be like throwing spaghetti at the wall to see what sticks.

This trial-and-error method is most effective with binary or straightforward problems, where changing one variable at a time can give you a precise result. This approach is the domain of people who don't understand the problem space. It can also be expensive, chewing through money and wasting time —both of which are finite in the business world.

The VR entertainment market is inherently complex. Technology is rapidly evolving. Consumer awareness and attitudes are changing, driven by generational shifts that are transforming expectations of entertainment experiences. New pricing models are emerging, and new competitors are continually entering and exiting the market.

"Complex markets require a more strategic approach

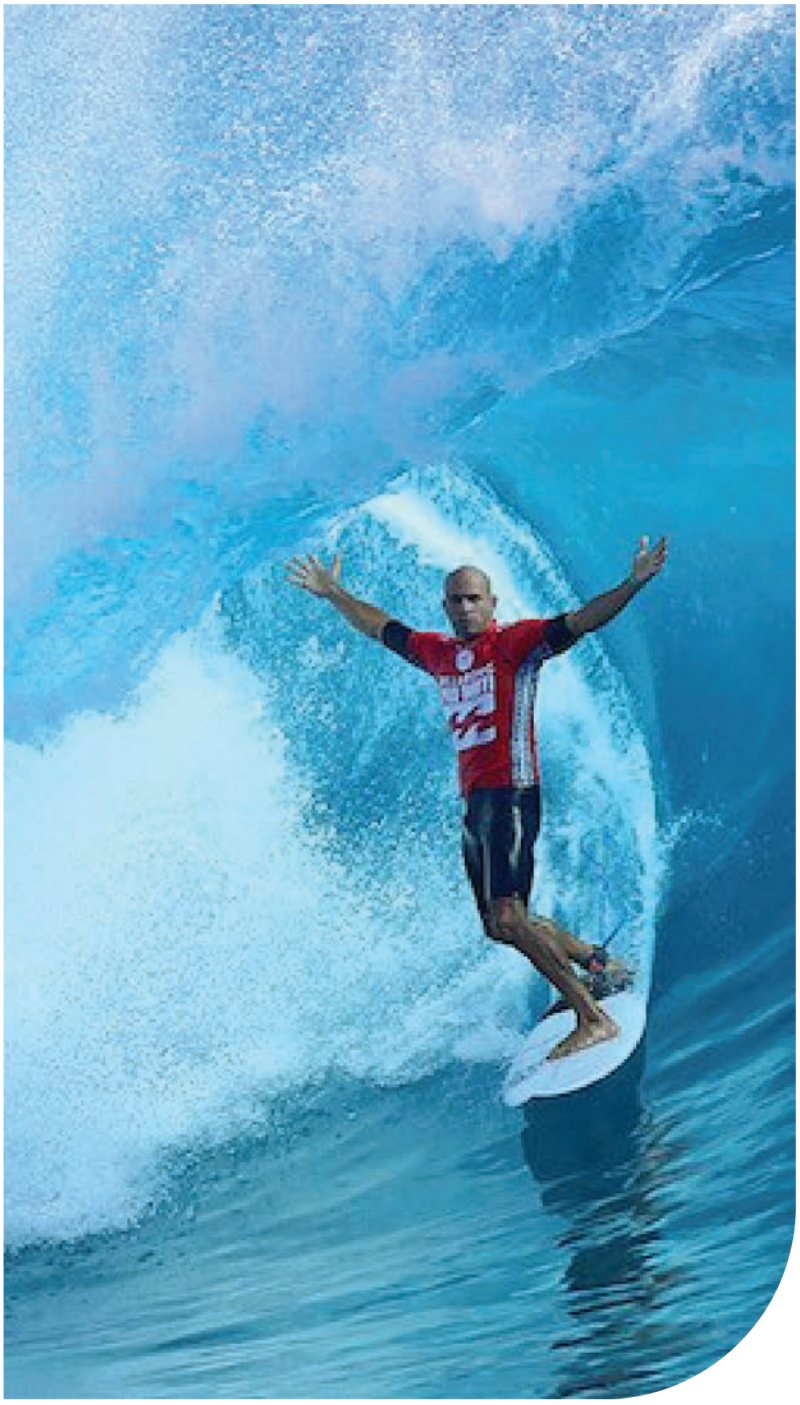
THE STRATEGIST

This is the surfer who does his homework and knows the break. He studies how it works at different tides, understands swell period and direction, wind speed and angle, and watches how the surfers in the water are doing. This is the domain of surfers like Kelly Slater, 11-time world champion. While he certainly could paddle out and be the best in any conditions, his approach is more strategic, which is why he is so dominant.

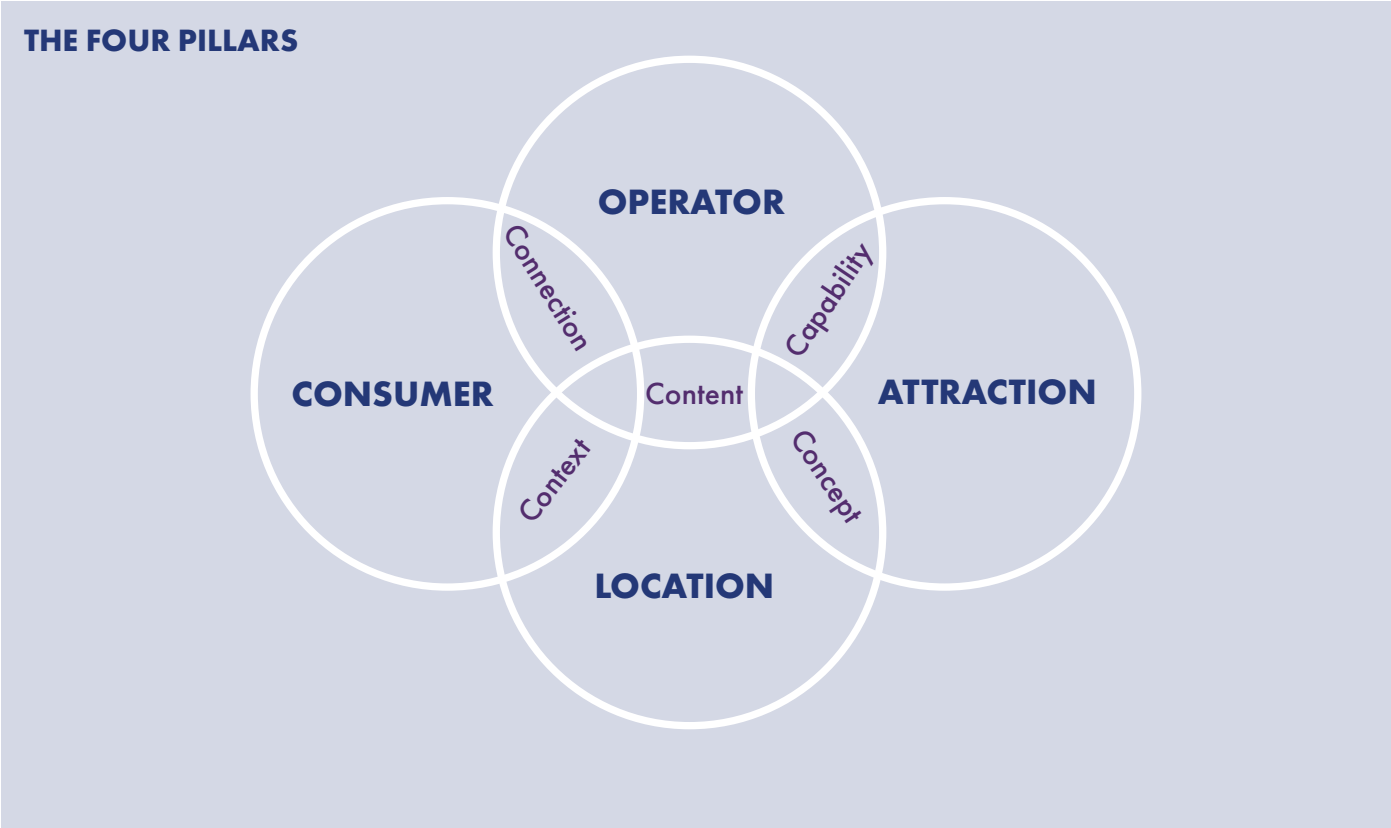
Surfing, like VR, is highly complex. Every wave is different and paddling out without a strategy is unlikely to yield the best result.

Operators who employ a deeply considered strategy are the ones who are most likely to succeed in the early stages of the VR adoption curve. If the Trialist is playing checkers, then the Strategist is a chess master. They understand that time to market is critical in building a leadership position, and that by increasing the odds of success of their first VR product deployment, they save precious time and money. The money they might have wasted on buying the wrong product can accelerate awareness through effective marketing, further increasing their competitive advantage in the market.

Like Kelly Slater, the Strategist doesn't let the fear of failure stop them from acting decisively, nor do they allow the pressure of competition to move them to act prematurely. They take the time to survey the product landscape, understand consumers' innate needs, consider the physical and brand attributes of the location, and the unique needs of their operation and staff.



The Strategist understands that there are four primary things to consider when developing a VR attraction deployment strategy



In this guide, I unpack these four pillars and talk about their intersections so you can develop a sure-fire VR strategy that will thrill your customers, engage your employees, fit your brand, and, most importantly, help you make real money with virtual reality.

The Operator

Let's break down those four critical components of your business to offer some insight into how you can become a Strategist, and consistently win more customers in the increasingly competitive location-based entertainment market.

Let's start with you, the operator. Often we get so caught up in the attraction, and we lose sight of what's driving us to consider it in the first place. If we don't understand our motivations to add VR, it's unlikely we will be satisfied with the result. Here are three things to consider:

PERSONAL EXPERIENCE

How much experience do you have with new technology? How comfortable are you with cutting-edge products? What is your temperament for something that might not meet the operational standards you've come to expect from arcade games that just plug and play? Will you become frustrated with the complexity of a system that is made up of a combination of consumer-grade components, that might need replacing and upgrading more frequently than you're used to? VR is still emerging technology, and many of the commercial systems are built upon components that were initially developed for a consumer market that hasn't appeared yet. Your expectations might need to be adjusted.

If you are developing a VR attraction, or selling one now, understanding this will help you gain valuable insight into how your customers think and can help you position your product as the perfect solution for a particular market segment. If you haven't read my Real Money from Virtual Reality – Entrepreneurs Edition, go to www.bobcooney.com now or pick up a copy from Amazon.com. It covers everything you need to do to successfully launch your virtual reality solution into the location-based entertainment market.

MINDSETS — Where are you on this continua:

Customer-centered vs. profit-centered

If you are more customer-centered, you might lean towards something that provides a fantastic experience, even if the business model isn't rock solid. There are great attractions out there that will blow your customers' minds, but you might not get the return on investment you are used to. You might consider these attractions loss-leaders or something that creates a halo effect on your brand. Conversely, there are more pedestrian attractions (though with a first time VR user, almost anything can be mind-blowing), where the path to profitability is clearer.

Competitive vs. Reactive

Are you adding VR because your competition has it already, or are you looking to add VR because you want to gain the upper hand in the market? Sometimes being a first-mover can be played to advantage. For example, in the competitive birthday party market, being the only company to offer a unique VR experience could sway the decision process of a parent. I also know operators who refused to consider VR until the FEC down the street added it, and then panicked and bought the first thing they found.

Pioneer or Pragmatist

Do you often throw caution to the wind and use trial and error to get results, or do you usually wait until something is proven effective before adopting it. Let's say you were a surfer and I told you about a secret spot I'd heard about where you could surf epic waves all day with nobody else in the water, but you had to trek through hundreds of miles of desert to get there. Would you go with me for the chance to score of the surf session of a lifetime? Or would you wait until I got back and filled you in on my experience? Many pioneer operators have tied their identity to being first. They like to tell their friends and peers what they've done, being seen as influencers in the community. Conversely, pragmatists often want to let others take the first risks, and when the products have been fleshed out and perfected they jump in.

VISION

If you are more customer-centered, you might lean towards something that provides a fantastic experience, even if the business model isn't rock solid. There are great attractions out there that will blow your customers' minds, but you might not get the return on investment you are used to. You might consider these attractions loss-leaders or something that creates a halo effect on your brand. Conversely, there are more pedestrian attractions (though with a first time VR user, almost anything can be mind-blowing), where the path to profitability is clearer

Stephen Covey wrote in The 7 Habits of Highly Effective People, "Begin with the end in mind." Where do you see the road to VR ending for your business? What's your idea of the future of your business? Does VR play a role, or is it a distraction? Do you believe that VR is the future of location-based entertainment? Do you envision a time when all the videogames in your arcade feature VR headsets? Do you see this as the next paradigm shift, like when we converted from CRT monitors to flat-panel displays in the 1990s? Is this potentially the first step in a long journey of integrating VR into your business? Or is VR going to be like motion simulators, something to sprinkle in with your attraction mix, offering a peak experience among the more traditional arcade games?

"Sometimes being a first-mover can be played to advantage

Aristotle said, "Knowing yourself is the beginning of all true wisdom." Looking closely inward can help inform your evaluation process. One way I like to do this is with Expectation Mapping. An expectation map is a 360-degree thinking framework where you project yourself to the end of a project, and consider:

What will I want to say and do?
What will I want to think and feel?
What will I want to see?
What will I want to hear?

This approach can help you expose your deeper desires about the project, and give you guiding principles with which to make your decision. I recently used an expectation map to design my office, and it gave me a crystal-clear methodology to select everything from furniture to art to technology, and how to arrange them to evoke the feelings I want. If you would like tools and instructions to use for expectation mapping, go to www.bobcooney.com/tools and watch the expectation map video, then download the template.

By understanding your mindsets, motivations, and expectations, you are much more likely to have a great experience with virtual reality in your entertainment center

The Attraction

Now let's talk about the attraction itself. There are hundreds of possible attractions out there right now you could purchase. Without a framework for evaluating them against one-another, it will be overwhelming. You can't compare apples to steak and decide which one is better. However if you compare a Fuji to a Red Delicious, it becomes a bit more clear which you might prefer.

While there are lots of ways to segment a market, and there is no right or wrong, here are the broad product categories I use when thinking about VR solutions. Don't focus too much on the specific product examples as they change all the time. There are new entrants every month, and some of the players mentioned here are likely to be gone by the time you read this. There are too many companies selling too many products to too few operators for them all to survive.

ARCADE SINGLE PLAYER

VRsenal at IAAPA 2018

At the low end is the store-bought HTC Vive in a 10×10 foot room. At the high end are commercial products like Raydon's Total Recoil and VRsenal's versions of Fruit Ninja and Beat Saber, both unveiled at IAAPA last year. The price range goes from $5K for a do-it-yourself Vive booth to $35K for a deluxe arcade cabinet. But the player experience is the same. You have replaced the LCD monitor from a traditional arcade game with a 3D head-mounted display (HMD), or VR goggles as some people call them. This makes the experience more immersive, more believable, and often more fun for the player.

ARCADE MULTIPLAYER

This category includes products like Hologate, Chaos Jump, Omniverse VR Arena, Quest Arena, WePLayVR, X-Arc, and the newest entrant, BoxBlaster, which are generally for 4-players in a small enclosure (less than 400 square feet). Players can either be tethered to the computer or can wear a backpack PC.

There are a few systems, like YDreams' Arcave VR Studios' Atom, that leverage wireless transmission of the video signal, but for now, those are limited to 3-players until the FCC approves a 4th channel on the wireless spectrum. Virtuix takes a unique approach with their Omni Arena combining "running" on a treadmill with esports competitions and social sharing of videos. These games take the immersion of VR and add a social element, which Greenlight Insights reports 70 percent of players surveyed expected in their VR experience.

ARENA SCALE

These solutions employ more sophisticated tracking technology and take up much more space. Arena scale setups generally range from 1000 up to 4000 square feet, with between 6 and 20 players inside the experience together. The further a player actually walks in VR, the deeper the immersion, so these experiences are more compelling to the player. Some employ full-body tracking, which can make them highly social, as players can actually touch each other in the real and virtual world. Zero Latency is the leader in this space, but VR Studios, True VR, Mass VR, Neurogaming and about 20 other companies have systems in this category. Most run only first-party software titles, but there is a growing community of indie developers building titles in this category.

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Just a year ago, these systems required expensive camera systems to track players, but the commercialization of inside-out tracking, where the cameras are built into the headsets, has reduced the cost of entry dramatically. Some have also pushed the limits of the Vive trackers to cover bigger spaces. Vertigo Games, makers of the wildly popular Arizona Sunshine games, offers a version for 4 players in 1000 square feet using the out of the box HTC Vive Lighthouse tracking that comes with every headset. Holodeck is

Multisensory impact enables deep immersion much more quickly

combining tracking systems to create more efficient and higher player density attractions, up to 20 players in a space that most others would limit to 8 and is even developing a virtual bumper car system.

MULTISENSORY

These high-end attractions take the immersion to the ultimate level by adding environmental effects and haptic feedback. The players feel wind, heat, and vibration. Some use scents to make the environments even more believable. At the high-end of this spectrum are solutions like The Void, Nomadic and Dreamscape, and new entrant Tyffon, which map the physical environment to the virtual one, so you can open doors, or even climb into a virtual helicopter and what you feel maps realistically to what you see in VR.

These experiences are shorter, but the multisensory impact enables deep immersion much more quickly.

Nomadic's Arizona Sunshine

To track physical objects in the space, and to accurately map players in relation to these objects, these systems all use expensive optical tracking systems like those used in motion capture special effects studios. While new technologies are emerging that might bring the costs of these systems down over the next year or two, expect these solutions to stay in he upper levels of the pricing strata.

VR ESCAPE ROOMS

There is an emerging category of rapidly growing VR escape room experiences. These are longer, from 30-60 minute experiences, more story driven than most of the shooting games, and contain a combination of puzzles and action. Consumer game behemoth Ubisoft has entered this market via a division called Blue Byte with games in the Assassin's Creed universe. These are generally room-scale (10×10 foot) HTC Vive booths, with up to four linked for a multiplayer experience. Eclipse from Backlight uses a vibrating floor, but most use the same setup as the Arcade Single or Multiplayer systems.

Entermission offers a multisensory VR escape room experience where 6-players sit in special vibrating chairs, with scent, wind and heat deepening the immersion for players. Taking up only 170 square feet of space, it's one of the most efficient VR experiences I have seen as of this writing.

Entermission Escape Room

The Arena and Multisensory attractions fall into the anchor category, with bowling, laser tag, and other large footprint and expensive attractions.

Many players will drive long distances and book sessions in advance to play. The arcade systems are more casual and impulsive, costing less for both the operator and the consumer.

Like in any categorization exercise, there are blurred lines. Vex offers environmental haptics in a multiplayer arcade system. The Omni Arena is showing signs of being an anchor attraction, with 40% of the players visiting specifically to play it at their first test site, but I've put it in the arcade multiplayer segment because of its relatively low cost and comparatively small footprint.

Some of the VR escape room games offer action sequences where players shoot like in an arcade game. Is it an escape room or a multiplayer arcade system? Keep in mind this exercise is designed to help you narrow down your comparison process. Don't get hung up on the category itself. If you think that something falls into two categories, it's OK to run a comparison twice.

Once you narrow down the category you want to focus on, you can run a SWOT analysis on each product to get a handle on the strengths, weaknesses, opportunities and threats for each product. This will give you some perspective and hopefully make better sense of the market as it exists today. If you need some help on how to run a SWOT analysis, go www.bobcooney.com/tools for videos and templates.

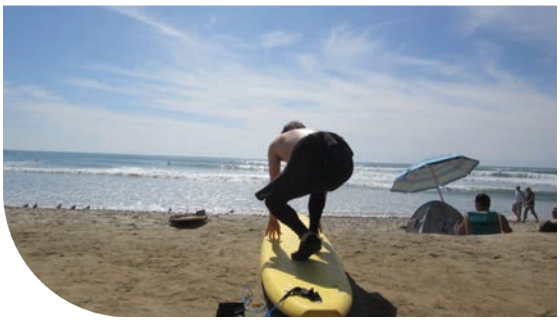
Not every type of attraction is a good fit for every operator. Let's dig into some of the capabilities you might want to possess in your organization to ensure success with each category.

The Capabilities Required to Operate a Profitable VR Attraction

Now we will explore the intersection of the Operator and the Attraction. What matters here is your organization's capability. Given unlimited time, energy, and money, we are infinitely capable. In the world of operating a retail business, those are finite resources. It's best to find an attraction that fits within your capabilities.

SINGLE PLAYER ARCADE SYSTEM

Arcade systems are like the San Onofre Surf Beach of VR attractions, a great place to learn. These require the least effort and know-how. A single-player VR arcade game will plop down in your arcade just like any other game. Most operators are putting them within easy view of the redemption center so their staff can keep an eye on them. VR is new to most consumers in 2019; over 80% have never tried VR before. They might need assistance with the headset. Maximizing earnings and customer satisfaction will often require employee intervention, at least for the near future until customers become familiar with the technology.



Second generation amusement operator Michael Getlan, getting a surf lesson from Bob in San Clemente, CA during a break from the F2FEC conference.

You can't operate a single-player VR attraction profitably with a dedicated attendant. My key metric is a 4:1 ratio of players to attendants. Any less than that digs too deeply into your profit margins.

Most of the VR arcade games use HTC Vive headsets and tracking. These can be flaky and require manual intervention occasionally. If you don't have a good game tech on the floor all the time, and the sight of a game out of order pisses you off, VR might not be for you yet.

If you've been a spectator watching VR happen around you, hesitant to get into the water, a single-player VR Arcade game might be an excellent place to start.

Surf legend Doc Paskowitz in Honolulu

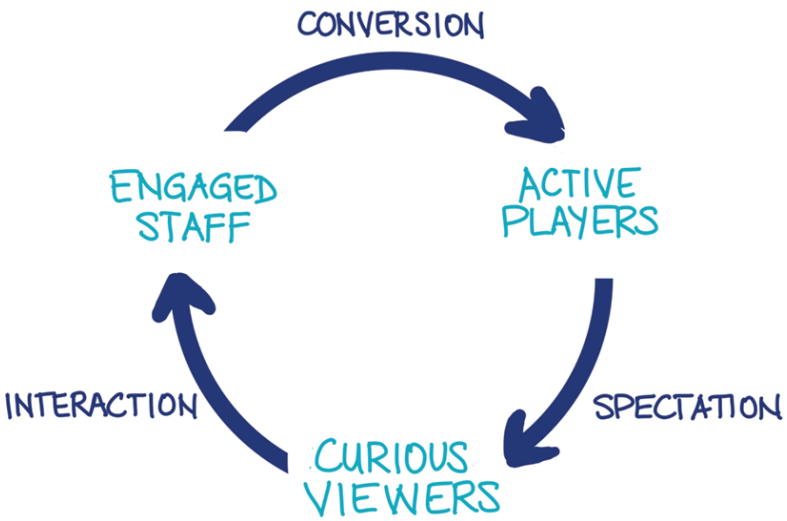
MULTIPLAYER ARCADE SYSTEMS

Multiplayer Arcade systems are like a fun point break. They require more attention and a little more capability. Two things seem to drive the earnings of these systems: the location in your arcade and the engagement of your employees.

VR is new, and there is a high curiosity factor with consumers. Converting that curiosity to ticket sales requires that customers see it, and your employees sell it. Don't put VR in the back of the arcade thinking it will draw people back there. Most systems won't do that. This category of product is mostly still a mode of casual and impulsive entertainment.

VR is new to most consumers in 2019; over 80% have never tried VR before

Turning spectators into ticket buyers is the biggest challenge with multiplayer VR arcade systems. Many operators find that as soon as people start playing, a crowd forms. An engaged staff member can convert that crowd to players. Figuring out how to jump-start that virtuous cycle is essential. One way is to have highly engaged, extroverted employees.



If you are not fully committed to staffing the attraction, think twice about buying it. If you monitor labor rates like Ebenezer Scrooge, a multiplayer VR Arcade system might not be for you. It would be best if you had employees encouraging people to try VR. Some of the most successful arcades take their best party hosts and make them VR guides, actively selling the VR experience to their guests. That means staffing it when nobody is playing, which is the investment required to succeed. You're playing the long game, building a base of players who will share their experience with their friends and come back to play again.

Turning spectators into ticket buyers is the biggest challenge with multiplayer VR arcade systems

Beat Saber with Mixed Reality from LIV

An excellent spectator experience is another piece of the puzzle. Look for attractions that have created amazing spectator modes. First person viewpoints of what players see in their headsets projected onto a monitor are not good enough. Ideally, you want a mixed reality composition of the player inside the virtual experience to create the context for the spectator to get a sense of what to expect. There are not many multiplayer products with this integration on the market yet, but I expect them coming in 2020.

ARENA SCALE SYSTEMS

Arena scale systems are more like a barrelling reef break, requiring a high level of skill and preparation. The successful operation of these attractions require all the capabilities of the multiplayer arcade systems and then some.

These attractions come with higher ticket prices, so converting curiosity to commerce takes a better sales pitch and closing skills from your employees. You also need to invest in on-site point-of-sale material like video trailers of customer testimonials and strong imagery to support the sales process. Unlike with the Arcade systems, you cannot rely on live viewing alone. Most of these attractions are in closed rooms, so spectators don't have visibility. The higher price also leads to more dark times where nobody is playing.

Kelly Slater deep in the barrel at Teahupo'o in Tahiti

"A robust corporate training and team-building business is an essential pillar of profitability among best operators

You also need to be proficient at groups sales. A robust corporate training and team-building business is an essential pillar of profitability among the best operators. Creating a training curriculum is a crucial driver of group sales. Just saying you have a team building game will get some groups to bite, but backing it up with a well-designed facilitation process will get you access to corporate learning and development dollars which are 10X higher than entertainment budgets.

Birthday parties are also critical to success. Building this business can be a challenge with the smaller Arena Scale systems that allow only 4, 6, or even eight players. If your average birthday party is 10 or more, the potential solutions narrow significantly.

The most successful arena-scale VR attractions sell a large portion of their tickets online in advance. If you don't have a robust digital marketing capability and a high-conversion website, you will need to hire talent or find a good agency. Facebook, Google, YouTube, and Instagram marketing campaigns have proven successful when run by professional digital marketers with great creative. If you try it yourself and it hasn't worked, I suggest giving the right agency a go before suggesting that digital advertising doesn't work.

MULTISENSORY VR SYSTEMS

Multi-sensory attractions are the big wave surfing of VR and come with the highest level of risk and capability requirement. They're the most capital intensive, costing hundreds of thousands of dollars. Most of these solutions incorporate sophisticated motion control and special effects. If your technical prowess isn't top notch, these probably are not for you.

Your marketing also needs to be spot-on. The ticket price has to be 2-3X higher per minute for these attractions over the Arcade versions to yield a return on investment, so every transaction has elevated stakes. To sell a $30 ticket for a 10-minute session, you need to understand how to market an evocative experience. It's not about VR; it's about where this experience will take them emotionally. It's a very different type of marketing than what most amusement operators are familiar with.

It would be best if you also made these attractions part of your anchor attraction marketing mix. You can't just rely on walk-by traffic from your facility. These are destination attractions, but quite-short in duration, which makes them challenging to market. There's an inherent contradiction in a short duration high-priced entertainment experience as a destination. Getting people off their ass and into a car to drive across town to spend 15 minutes doing anything is hard. Moreover, getting people to pay

$30 as an impulse purchase in a facility that might offer 2 hours of entertainment for $20 comes with its challenges. If you don't have a strategy to deal with this, proceed slowly.

Multi-sensory attractions are for the most sophisticated operators committed to offering the absolute best experiences for their customers. You must be willing to pay the price not just in dollars invested, but in building capabilities you don't possess.

By taking a hard look at your capabilities, you can narrow down your selection process to the best category of attraction for you. Evaluate your employee engagement, technical prowess, sales, and marketing skillsets before narrowing down your categories, and you will dramatically increase your likelihood of success.

Bob at Toastface Grillah in Perth, Australia

VR and Your Location

Now let's turn the lens towards the different locations and unpack how your existing physical business and product mix matches with the various concepts available today. There are so many location-based entertainment venues adding virtual reality these days that it will be hard for me to cover them all in great detail.

VR ARCADES

VR arcades started the third wave of virtual reality around the launch of the HTC Vive. VR enthusiasts rushed to build retail arcades with anywhere from 3 to 20 or more room-scale VR "booths," renting them by the half-hour. These locations attract both the curious and those dedicated to VR gaming. At some point, if VR becomes a product of widespread consumer adoption, these locations will need to pivot their product offerings to something that consumers cannot experience at home, or they will go the way of the mall arcades of the 1980s. Most VR arcades are limited in space, so need to focus on capacity and revenue per square foot. They need compact attractions with high utilization rates, which is why most offer a full selection of games in a single booth.

No matter what time of day, the consumer can play anything they want in whatever station is available at the time.

Because of this space limitation, arcade owners often ignore single-concept games and attractions, thinking that more variety will lead to a bigger audience. This is a typical fallacy in marketing and is disproven all the time. Many restaurants offer one thing on the menu and routinely have lines around the block. In Perth, Australia, I recently visited Toastface Grillah, a sandwich shop that only sells grilled cheese sandwiches.

In Melbourne, there's a place called Very Good Falafel. Can you guess what they sell? There's always a line around the block. Have you ever been to Ess-A-Bagel in NYC? Grab a cup of coffee before you get there so you can enjoy it while you wait half an hour for a takeout bagel and smear.

There are a few arcades out there that only offer one great game, Tower Tag, and they do very well. Virtual Room in Los Angeles has ten stations and provides a single time-travel game. They're packed all the time and are expanding.

One reason single-game arcades work is that it's easy to communicate to the market what you do. "Tower Tag – It's like laser tag but in a space-aged stadium" is a clear value proposition.

"Travel through time, from the age of the dinosaurs to ancient Egypt, to the moon landing in the 1960s, uncovering mysteries and unlocking puzzles with your friends."

Bob and an old friend at Virtual Room in Los Angeles

People get that; it's evocative. You can more easily sell the experience when you know what it is.

If you're offering 100 games, it's hard not to fall back to selling "VR"

Many arcades have tried to offer driving simulators due to their compact nature, but none are well-executed, so they lead to motion sickness. Without a well-synchronized motion base, the constant acceleration and deceleration is a recipe for nausea. Most racing games available for a commercial license are high-end simulators, not arcade games, and come with steep learning curves. Players crash more frequently, adding to their discomfort.

Some bigger arcades are offering dedicated group experiences on a limited-time basis, rotating new attractions every couple of months. VR World in NYC recently hosted Ayahuasca: Kosmik Journey, a curated social experience in which guests joined a shaman in a virtual hallucinogenic experience. It ran for two months in a room themed like a native hut in the Amazon jungle.

Ayahuasca: Kosmik Journey at VR World NYC

There's way more that can be offered inside an arcade than just a series of booths with a large selection of VR titles. If you believe that VR is going to become a mainstream consumer technology, now is the time to start experimenting with some different attraction models that cannot be replicated at home.

FAMILY ENTERTAINMENT CENTERS

FECs are rushing to add VR attractions to differentiate themselves from their competition, stay relevant in a time of massive demographic shifts and limitless in-home entertainment options, or offer their customers the latest and greatest entertainment experience. FECs have anchor attractions like bowling, skating, go-karting, laser tag, rope courses, and increasingly high-quality food and beverages. They have built-in traffic from reputation, marketing, group and birthday party sales, and a critical mass of activities.

Since FECs already have anchor attractions and range in size from 20K–100K square feet (2K–10K square meters), they can consider almost the entire range of attractions. However, most FEC operators are looking at VR as something to check off their equipment list. "I need VR, what should I buy?" is the most frequent question I get asked. The question I long to hear is, "I want to offer my customers the most amazing experiences. How can VR help me do that?"

Bob at the Boxblaster booth at Bowl Expo

Too often, FECs are just buying what they see everyone else buying, which today is Hologate. As former clients, I could not be happier for Leif, Armando, and the teams at Hologate and Creative Works for their success. However, buying something because that's what everyone else is doing is uninformed. There are dozens of great VR products on the market today, and more coming every quarter. One advantage of this VR wave is the multitude of opportunities to differentiate from your competition. Buying the same thing as everyone else throws that out the window. (I realize this is because operators don't have an evaluation framework, which is why I am offering this guide.)

With their business based around large birthday parties and groups, FECs should be looking at a range of VR attractions offered at various price points. Two to four single-player VR arcade games can give customers a taste of what VR offers at a low price point. Multiplayer arcade systems demonstrate the fun of social immersion, where they play with their friends and family, at a mid-price point. Once customers get a taste of VR, they will be easier to graduate into the higher priced and mind-blowing arena-based systems. These larger systems also offer the ability to have parties and groups play together, with some of the higher capacity systems using new hybrid tracking technology, allowing a higher density of players per square foot for increased throughput during the critical peak operating hours.

FECs need to build VR arcades within their facilities if they want to stay relevant. Those that move first will enjoy a competitive advantage and a brand lift. Creating a VR arcade inside an FEC also solves one of the most significant issues of VR – labor costs. Most attractions require an attendant, which can inflate your labor costs during off-peak times. Many operators foolishly decide not to staff the attraction when they aren't busy, missing the opportunity to convert their customers to players. Staffing is critical to your success. Having multiple attractions means you can staff them with one or two employees during slow times, run a more cost-effective labor rate, but still offer the service and conversion you need to succeed.

Staffing is critical to your success

Randy White recently blogged about the overbuilt nature of traditional FECs. Whether or not you agree with him, the number of experiential entertainment attractions is increasing at a time when consumers have more reasons to stay home than ever. FEC's that get in early to the VR craze stand a better chance of cementing relationships with a new breed of consumer that's looking for something different and amazing.

TRAMPOLINE PARKS

Trampoline parks are also jumping in (sorry, can't resist a pun) to the VR wave. Most position themselves as a place for active, healthy entertainment, and parents embrace them to break their kids away from electronic media. Adding VR to a trampoline park business without undermining your brand positioning is challenging. Many operators are struggling to maintain revenue growth and profitability due to the high level of competition. They're adding arcade games and getting away from their core value proposition, which will only erode their positioning further.

Trampoline parks are best advised to find VR attractions that encourage kids to be active. New tracking tech with lighter headsets will soon enable people to run in VR. For example, Spree Interactive (formerly HolodeckVR) allows up to 20 kids to play in a 1000 to 2000 square-foot space, with no backpacks or cords. Treadmill systems also get players' heart rates up, with the recently launched OmniArena from Virtuix offering a best-of-breed turnkey attraction for this market.

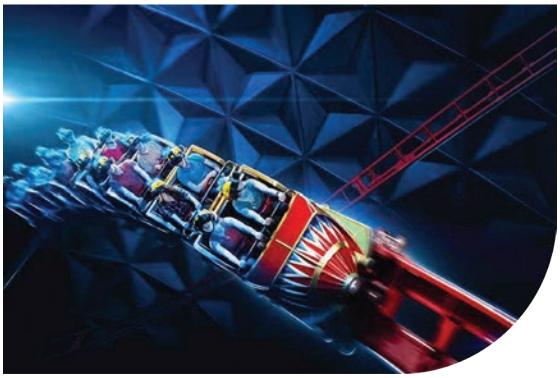
Even great games in the single-player arcade catalogs are proven to burn calories. Check out the VR Health Institute website (https://vrhealth.institute/) to see how VR games compare to exercise regimens like ellipticals, running, and tennis, and determine which games to offer that leave parents feeling good about bringing their kids to your location.

THEME PARKS

Theme parks were early adopters of VR, despite the inherent throughput limitations of the technology. VR Coaster, a division of Mack Rides, was the first to roll out a system with a great value proposition: upgrade your old, depreciated coaster to a modern attraction and continue to change the experience with software.

At last count, nearly 50 coasters have been fitted with VR upgrades since late 2015. Almost all have made VR optional for the guest. VR Coaster did the vast majority, and most are still operating. But a few notables have removed VR, including the Kraken Unleashed at Sea World Orlando, after long lines, technical challenges, and poor guest reviews. The strain on their staff of running a high-volume ride, combined with customer frustration at long lines, offset whatever novelty virtual reality offered.

Europa-Park, owned by the Mack family, last year unveiled a first. Roam & Ride, a joint effort between VR Coaster and Holodeck VR, allows players to don VR headgear in the queue and enter an immersive free roam pre-show. They then remain in the virtual environment as they board the coaster. The creators based the entire experience on the 2017 movie Valerian and the City of a Thousand Planets by visionary director Luc Besson. The ride has received rave reviews.



Valerian Coastiality at EuropaPark

Another concept just unveiled from a collaboration between VR Coaster and Holodeck VR is a virtual bumper car ride. Riders immerse themselves in a cyberpunk world, where they get to drive up walls and ride across a computer-generated landscape with their friends. We're likely to see more classic rides updated with virtual reality in the coming years as patrons continue to expect more immersive experiences. The concept of moving from one experience to another while staying immersed in VR is the future of theme parks. Imagine driving across the Tatooine desert in your land speeder (a bumper car), strolling into Chalmun's Cantina to take in some alien jazz, battling stormtroopers in Mos Eisley (in a free-roam VR game), then narrowly escaping the Empire's grasp on the Millennium Falcon (a VR rollercoaster).

Sami's Workshop at Disneyland

The rap against VR in theme parks is the low throughput, but higher prices can offset this. Disneyland demonstrates this with their new lightsaber crafting experience at Sami's Workshop. Only 14 guests can participate at a time. At four groups per hour, throughput is limited to about 720 per day, compared to almost 20,000 for Millennium Falcon: Smugglers Run. The experience costs $225, including tax, which is double the price of admission to the park. Sure, the guests get a souvenir, but even the most expensive lightsabers you can buy at high-end boutique Dock-Ondar's Den of Antiquities are under a hundred bucks.

Dock-Ondar's Den of Antiquities at Disneyland

Another glimpse that Disney "gets it" is their under-construction Star Wars-themed hotel. The nerds at The Points Guy used their knowledge of hotels and permit applications to work out that the hotel might only have around 100 rooms. For a resort that sees more than 10 million guests per year, and typically charges $600 per room for resorts that have between 600 and 2000 rooms, you can imagine what they're prepared to charge for this. Rumors are that a room that sleeps five will cost $3300.

We're likely to see more classic rides updated with virtual reality in the coming years as patrons continue to expect more immersive experiences.

SHOPPING CENTRES

Shopping centers are also looking to add VR attractions to drive traffic and remain relevant. The paradox is that VR is generally a low-traffic business. Some operators have been able to negotiate rock-bottom rental rates from landlords of distressed properties, but higher-end centers are still demanding rents that undermine the business models of location-based VR businesses.

"Real-estate developers need to shift their perspective on how to do deals that make sense for everyone.

The VOID operated a pop-up in Westfield London during the 2017 release of Star Wars: Episode VIII—The Last Jedi. They found that 70% of the people who purchased tickets had never been to the mall before. This new traffic is excellent for the mall developer but it hardly makes it worth the exorbitant rent required.

Since VR is mostly a destination business and stands to bring in Millennial customers eschewing bricks and mortar for online shopping, real-estate developers need to shift their perspective on how to do deals that make sense for everyone.

The VOID popup at Westfield London

Too many developers seem stuck in the 1990s when anchor tenants took huge footprints and low rents and drove traffic into the mall, which fed customers to smaller tenants. Today those tenants are like boat anchors, and the smaller local businesses are driving the traffic.

I saw this play out in the 1990s when Edison Brothers, then the largest tenant of mall real estate in the US, with over 1000 retail stores under brands such as J.Riggings, Wild Pair, and OakTree, started a mall entertainment division. Mall operators were begging them to fill their rapidly declining malls with what they called "anchor entertainment centers." Soon I was building Laser Storm arenas with Virtuality VR pods in malls across the country.

Edison Brothers' mall FECs were taking up large footprints and driving traffic. Today's VR businesses are small and generate relatively small amounts of customer traffic. They cannot drive the number of visits that a large FEC can. A new business model needs to emerge if shopping centers want to play the VR game and leverage the buzz that comes with hosting businesses like Dreamscape, The VOID, Nomadic, or Zero Latency.

Meydan One, which will soon become the third mega-mall in Dubai, has announced an incubation district. The three-phase program offers new brands, competitive leasing incentives, positioning, and mentoring. Companies that succeed can move to more premium space in the shopping center and achieve a platform for global growth.

Progressive FEC operators know they need to give emerging attractions a chance and offer their locations as testbeds for experience developers to test their solutions. Shopping center developers need the same attitude. Their survival depends on innovative startups, and choking them with high rents in a business-as-usual leasing model is short-sighted.

Meydan One in Dubai

CASINOS

Casinos have been dabbling in VR lately, with varying levels of success. Like shopping centers, they're fighting for relevance among a generation of Millennials who are not interested in gambling. The current generations are the most fiscally conservative of the last century, having grown up during the global financial crisis. Acres of slot and poker machines sit idle in casinos, while Millennials crowd into mega-clubs like Hakkasan and Omnia in Las Vegas, both of which boast top-tier DJs like Calvin Harris and Tiesto.

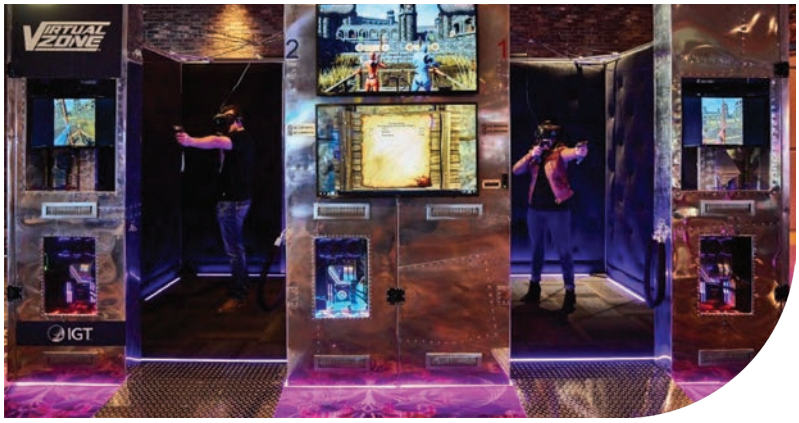
Global slot manufacturer IGT recently concluded a test at the Orleans Casino in Las Vegas. Partnering with VR infrastructure provider Exit Reality, they installed a two-player HTC Vive-based arcade game, encouraging players to enter a tournament. Players needed to join the "slot club" to be eligible, which required standing in line at the service counter. Considering their target audience didn't play slots, not surprisingly it failed.

MGM Grand partnered with Zero Latency to build a free-roam virtual reality center in the Level Up Lounge at their flagship resort on the Vegas Strip. A joint venture with Hakkasan Group, Level Up was supposed to be a prototype of the casino of the future, mixing classic arcade games with a bar, a mini-bowling alley, and some skill-based gaming machines. While Zero Latency has succeeded, Level Up is just an arcade with a bar. Skill-based gaming is still not catching on.

The latest to throw some VR spaghetti at the wall is Caesars Entertainment, who partnered with Survios, the VR game developer out of Los Angeles. In another casino-of-the-future trial, eight room-scale HTC Vive stations sit unplayed next to a new sports lounge and some Mario Kart arcade game. Around the corner, buried next to the bathrooms, is an esports lounge with about 20 PC gaming stations. It's only just opened, but I can't imagine it will work.

The casino industry is among the worst I have seen at implementing virtual reality. The only success has come through their real-estate leasing arms, where The VOID have opened up a storefront in the mall at The Venetian, and smaller operators are running pop-up attractions in high-traffic corridors.

Products that incorporate tournaments and head-to-head competition make more sense here.



IGT Virtual Zone at Orleans Casino in Las Vegas

Their attempts to integrate VR into the on-premise consumer experience have been reactive, experimental, and entirely non-strategic. Products that incorporate tournaments and head-to-head competition make more sense here. The Virtuix OmniArena and PowerPlay from VRstudios, when wrapped around an esports tournament with cash prizes, plus a bar with high-end spectator experiences, would likely attract an audience on the casino floor.

Part of the problem is that general managers of casinos still value square footage of the slot floor based on gaming revenue. However, even a farm animal could tell you that they could remove 25 games (or 100) and the total coin-drop would not change an iota. In the last two years, I've spent countless hours watching slot play and have never seen even 10% of the games occupied at one time.

If casinos want to use VR to stay relevant and attract a new demographic, they need to be more strategic and consider the context of the consumer, and what might make sense when at their property.

VR@The Linq Casino in Las Vegas

Zone of Hope, Barcelona

AQUARIUMS, ZOOS, AND SCIENCE CENTERS

Zoos and aquariums are large, with both indoor and outdoor exhibits. The spaces are often oddly shaped and themed to evoke the natural environments of the animals on display. It's challenging to repurpose these spaces for a VR attraction, but done well it can be powerful, especially when employing hand tracking and mapping the physical environment to the virtual one in a multisensory experience like The VOID.

In Barcelona, the Zone of Hope, a free-roam multisensory attraction developed for Aigues de Barcelona by MediaPro Exhibitions, aims to raise awareness of climate change by letting people experience its effects. From mass flooding and bitter cold to extreme heat, guests walk through caves of ice, flooded cityscapes, and ultimately a barren wasteland as they time-travel into a possible future. Retrofitting an attraction of this type into an existing hardscape exhibit would be an excellent use of space and materials.

Many zoos and aquariums have theaters designed for screening educational films. These can be easily repurposed to use virtual reality to deliver a much more immersive and meaningful experience to guests. New technology enables the synchronization of many headsets with surround sound to create a 3D, 360-degree experience that's more immersive than a dome theater.

I recently experienced a VR theater at the Western Australia Maritime Museum in Perth, Australia. The Antarctica Experience used Oculus Go headsets in a typical theater environment to provide a more immersive experience. One hundred people at a time sat in a theater and instead of watching a 2D screen wore headsets for a 360-degree film.

Unfortunately, the video didn't take advantage of the 3D nature of the headsets and instead showed a flat image. The filmmaker also didn't create compelling reasons to look around over 180 degrees. This film would have presented better in a half dome or widescreen configuration. VR felt like a novelty, and the employees were harried trying to keep everything working.

Innovations in waterproof VR systems could be an excellent fit for zoos and aquariums. Pools that now house captive mammals can be repurposed to enable guests to swim with virtual dolphins, orcas, and even sharks, with none of the associated risks or trauma to the animals. BallastVR operates these at waterparks like Kalahari in the Poconos.

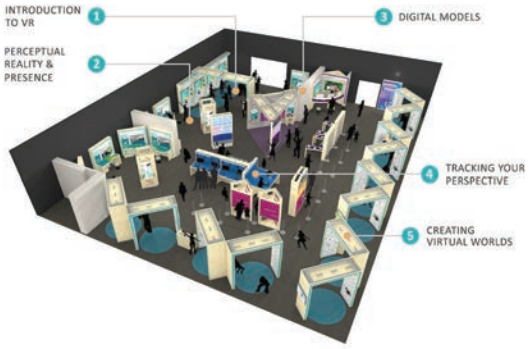
"I think there's a little more of a suspension of disbelief when you're in a radically different environment," said Stephen Greenwood, director of creative development at Discovery Digital Networks. "When you don't have a sense of the ground or gravity or what's up or what's down, it makes it that much more believable."

Using underwater experiences to simulate flying or floating in space is now within reach for innovative venues looking to repurpose pools and other aquatic attractions.

Last year I traveled to London Zoo to discuss how they could use virtual reality technology to reduce their dependence on captive animals, further their conservation agenda, and attract and retain new visitors. I sat in sadness in front of the lowland gorilla exhibit, where the zoo had to put grass-like decals on the windows to keep them from freaking out as visitors stared at them. I could barely see the animals, and the only empathy it created was for the poor creature trapped in a children's playground for the rest of its life.

"Using underwater experiences to simulate flying or floating in space is now within reach

Why not put guests behind that glass enclosure in VR goggles and have them watch lowland gorillas strolling by outside, enjoying their freedom and maybe gawking at the humans, banging on the glass to get their attention? Zoos don't want to traumatize their guests, and this is the entertainment business after all, but there is a legacy of successful entertainment created to trigger deep emotions. Remember Schindler's List? There's no reason we can't have experiences that are mind-blowing, deeply satisfying, and also confrontational. The first zoo that does this would have the longest queues you can imagine and garner international media attention.



Reinventing Reality Concept

Science centers and discovery museums have an even more significant opportunity to embrace VR. Not only can the experiences educate, but the technology itself is also an example of applied science. Some VR arcades are using VR to teach STEM courses to kids. Google has many free resources, and companies are creating edutainment programs to engage young audiences while they learn about everything from math and science to history.

Some centers are even creating entire exhibits based around virtual reality. Virtual Science Center has created a touring exhibition called Reinventing Reality, where visitors learn about how perception, displays, digital models, tracking, and engineering bring virtual and augmented reality to life.

Since these facilities often change out their exhibits, a modular setup is critical. With the breadth of VR systems now on the market, almost anything is possible. Many have theaters, which I have covered above. Room-scale is an option too, as you can repurpose any space as small as 7 x 7 feet.

The Museum of Pop Culture in Seattle trialed an idea incubated by the museum's owner, Paul Allen of Vulcan Ventures. Holodome is a small projection dome that holds three people at a time, housed in a repurposed back-of-house area I presume was previously unused.

Since many of these businesses focus on kids, and most have a classroom environment for groups,

mobile headsets might make more sense. They're lighter and easier to use, there are no cables to get tangled, and no heavy backpacks. There's now plenty of educational content that would enable STEM camps using Oculus Go, Pico Goblin, or even Google Cardboard.

Kids learning STEM in VR at Centertec VR Experience Center

Pulseworks out of Atlanta, Georgia recently installed a VR motion simulator at St Louis Science Center, enabling guests to float in space around the International Space Station. Simulators can offer higher throughput in a smaller footprint, and decent operational efficiency for high-volume locations.

ESCAPE ROOMS

Escape rooms are the newest location-based entertainment segment to embrace virtual reality, and one where the value proposition is the strongest. Escape rooms harken back to ancient Greece, where labyrinths were a part of mythology. The Athenian hero Theseus had to navigate a labyrinth to find and kill the Minotaur. Hedge mazes were popular with royalty from the 16th century onwards, found in elaborate English gardens.

In more recent times, escape games came in video game form, such as the 1988 text-adventure game Behind Closed Doors by John Wilson. Puzzle games with rich graphics followed in the 1990s, with games like Myst. Toshimitsu Takagi released Crimson Room in 2004, generating hundreds of millions of plays.

The world's first real-life escape room is widely credited to Takao Kato, who in 2007 opened Real Escape Game in Japan. By 2011 they were expanding into Asia, Europe, and North America.

In the 2010s physical escape rooms popped up in Asia, Europe, and the Americas. By 2018 there were more than 5000 escape rooms in more than 1000 cities across 88 countries. It's become a global phenomenon.

Escape rooms are part of the trend of Millennials, having grown up with a preponderance of digital entertainment, being attracted to analog and physical experiences. From vinyl records to pinball and even a physical recreation of the game Pong, tactile experiences are the new rage.

Crimson Room, the first escape game circa 2004

However, entertainment businesses built around physical props, lock-and-key mechanisms, and brain-teasers have their limitations. The physical resetting of puzzles after every round is time-consuming. The reliability of puzzle elements is often sketchy, causing player frustration. Once a puzzle is solved, there's no reason to play it again, limiting repeat play and forcing frequent redesign of rooms to keep things fresh.

From vinyl records to pinball and even a physical recreation of the game Pong, tactile experiences are the new rage

Second generation escape rooms use sophisticated show controllers

More sophisticated entrepreneurs are turning to advanced show control systems to create more immersive and automated rooms. Special effects like spark showers, and even flames, can be controlled with computer and DMX systems, automating the process and relieving strain on employees. These rooms can cost $100K or more each, not including design. I recently visited a new escape room at Crown Casino in Melbourne called Red Herring. Behind the wall lies a rack of computers, switches, and cables that network into a highly sophisticated DMX control system. This Gen 2 room, as they call it, represents the next level of escape room technology.

There's another way to automate escape rooms while providing an unlimited number of puzzle variations, themes, and storylines. Virtual reality technology is perfectly suited to be the ultimate escape game solution.

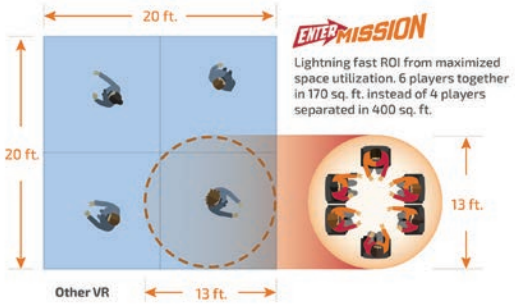
The first wave of VR escape experiences emerged using HTC Vive room-scale setups. These four-player games employed puzzles, co-operative gameplay, action, and storytelling. As so often with new media, the results were mixed but promising. Virtual Room from France expanded into about 20 locations. Their flagship in Los Angeles has nine Vive booths in about a 3000-square-foot location. The games run for about 45 minutes, and up to four people can play in each game. Other companies in this four-player, room-scale category include EXIT VR from Germany, VR Cave from Canada, Arvi Lab out of Ukraine, and Escape VR out of California. More recently, video game giant Ubisoft entered the market with games based on the Assassin's Creed universe.

In talking to escape room owners, the problem with these games is that they take up too much space for the number of players. Eighty-five percent of escape rooms have a capacity of 7–12 players. Corporate events and parties make up a large portion of escape room revenue. Four-player systems don't fit the requirements of the location. The economics just don't work.

VR technology is perfectly suited to be the ultimate escape game solution.

A new company out of Australia seems to have a solution to this problem. Founded by a four-year veteran escape room operator, Entermission promises a higher-capacity VR experience for their guests. Their flagship location has six rooms, each accommodating six players in only 170 square feet. The automation inherent in the software enables them to run at peak times with only two employees. It's certainly one of the more profitable location-based VR solutions I've come across.

Entermission uses environmental haptics in the room to create an astonishing multisensory experience, similar to what you would experience in The VOID. Wind, heat, vibration, and even scents are used to blur the fantasy/reality line, so players are quickly immersed in the virtual experience. Players are seated in custom-fabricated chairs with LED effects and a high-impact ButtKicker that vibrates at key moments in the games. Hand tracking uses Leap Motion, so players can solve puzzles and grab items using natural movements.



I expect to see more VR in the escape room segment over the next few years as the technology improves and business matures. You'll also see standalone VR headsets added as features in traditional rooms.

The Customer is King

Operators need to consider their mindsets, the capabilities of their organization, the types of attractions, and the physical attributes of their business. But the thing I see most ignored by location-based entertainment venues is the consumer context.

Many operators look at demographics when choosing a VR solution. They focus on age and gender, looking for family-friendly options, or something that will attract Millennials. But what they never seem to consider is the context of the consumer who walks through their door. What might they expect to see? What might they be 'in the mood for'? What will make sense and not seem out of place?

A great example of this is VR in karting centers. The current high-end indoor-karting craze is rife with opportunities to add VR. They have plenty of space, and long wait times on weekends, sometimes stretching to three hours. K1 Speed, Intel, and BlackTrax tested a VR karting experience in Gardena, CA. Other companies have been experimenting with AR on karts to add gamification to the experience, trying to create Mario Kart in real life. Does a go-kart traveling at 60mph in a high-intensity race become a better experience when you add the distraction of VR or AR? And are you going to increase the price of the race to offset the cost of deployment and maintenance? What about the slower throughput? Most karting centers already run two-hour waits during peak times. This integration of VR is an example of shiny-object product design driven by FOMO but not economics.

What makes more sense is looking at the mindset of customers who come to race. I've studied the arcade game earnings at a few karting centers, and competitive games almost always outperformed. Air hockey, two-player basketball toss, and even Skee-Ball earned more than single-player arcade games that would be the top-earning machines at a regular FEC. The success of these types of games speaks to the competitive nature of people who go to race karts.

Virtual Reality while driving? Really?

Racers enter a karting center in a competitive mindset. They're either competing against friends, the track, the other racers, or their own best time. Here, offering a competitive VR attraction creates the perfect consumer fit.

Karting operators should be passing on family-friendly cooperative VR titles, and instead choosing newer competitive systems and esports platforms. At the high-end, Zero Latency's Sol Raiders is an excellent player-vs-player game for locations with hundreds of thousands to invest and over 2000 square feet of space. It offers a player database that tracks scores and statistics over the lifetime of the player. Neurogaming also makes a high-end system called Polygon that fits in a 1000-square-foot space and incorporates esports streaming video capability.

Karting customers just want to win

VRstudios has a new flexible free-roam system that can fit in multi-purpose spaces like meeting rooms. It comes with a full suite of esports titles and supports

video streaming to Twitch and YouTube. They even offer a "shoutcasting" console to run live competitions with play-by-play announcers to ramp up the excitement level. (Shoutcasting is live, play-by-play announcing in esports, similar to what you would see watching a televised baseball or football game)

OmniArena from Virtuix is a compact VR esports platform with continuous tournaments run by the company. Operators need not do anything other than put up some posters promoting the tournaments. They offer $50K in prizes sponsored by HTC and HP, with contests always ongoing.

Zoos and aquariums are another example where the consumer and their context need to be carefully considered. Obviously an attraction involving shooting zombies doesn't make sense at a zoo, and would seem out of place. Conversely, attractions that drive empathy towards animals and spur conservation efforts are in line with what people would expect to see at a zoo or aquarium.

Beyond the context of the visit, there's an opportunity to make a deeper connection with the consumer using VR. Many zoos and aquariums have been under fire lately from the younger generations who, being highly conscious of environmental conservation, are increasingly intolerant of keeping animals in captivity. This movement has shifted beyond fringe activism into the mainstream – and things are changing.

"Let me out of here, please!"

SeaWorld repositioned its entire brand in 2016 after protests and Californian legislation forced it to stop its whale shows and captive breeding programs. SeaWorld's home page is now all about conservation, featuring the headline "See it Here. Save it There." They boast of 35,000 bird, reptile, and marine mammal rescues, and how ticket sales fund research, rehabilitation efforts, habitat protection, and ocean health initiatives. This repositioning seems to be working – ticket sales have bounced back after several years of double-digit decline. Yet the struggle is not over, as Virgin Tours recently announced they would cease ticket sales to SeaWorld and other parks that offer captive dolphin and whale shows.

Zoos and aquariums can now create even better experiences to build empathic connections between humans and wildlife.

Zoos are also feeling the heat, hitting fever pitch in 2016 when Harambe, an endangered lowland gorilla, was shot and killed at Cincinnati Zoo after a three-year-old child fell into the enclosure. The public were outraged, with some saying that the gorilla's life was no less valuable than the child's. Thousands showed up at a candlelit vigil for Harambe at Hyde Park in London.

Candlelight vigil for Harambe in London

"Don't eat me!"

Many zoos and aquariums have had conservation at the heart of their mission for the last 50 years. Their thinking has been that exposing people to animals creates awareness and empathy, leading some to take up the conservation mantle. But times have changed, and technology with it. Zoos and aquariums can now create even better experiences to build empathic connections between humans and wildlife.

Two years ago I tried the new StarVR 8K headset at an offsite demo at IAAPA. They sat me in an office chair, strapped on the HMD, and next thing I know I'm inside a zoo enclosure with a leopard. As it paced around me, my heart rate accelerated. The leopard noticed me and slunk my way. As it got closer and closer, I pushed back into the chair to gain some distance. The big cat stopped and stared at me from what seemed like a few inches away. It was breathtakingly beautiful, better than any zoo experience I've ever had – and it took place in the safety of a hotel conference room.

Legendary conservationist Jane Goodall gets it. She recently backed Wild Immersion, a virtual reserve with a mission to reconnect people with nature by creating a sense of wonder, empathy, and curiosity through virtual reality. Goodall says that virtual reality sometimes "beats being there."

Imagine the experiences we can create with VR that would drive the conservation mission forward. Chris Milk, the famous film director, calls VR "the Empathy Engine." We can create games where instead of shooting zombies, players are shooting poachers (with non-lethal ammo, of course). How about an escape room where you help orangutans break out of captivity? Or a motion simulator where you fly with bald eagles? There's no limit to what's possible.

"Virtual reality sometimes "beats being there"

Dreamscape Immersive show some of what's possible with their Alien Zoo attraction. Travelers in this experience board a transport to an alien spaceship that harbors nearly extinct interplanetary species. At the end is a powerful message about planetary conservation that hit me right between my jaded eyes.

I realize that zoos and aquariums can't just let all their animals loose tomorrow. I have no doubt that

many of the leading companies in that market care deeply about the animals in their guardianship. But even taking a solid first step towards showing the Millennial market that they are moving in the right direction will help foster a shift in the conversation. Merlin Entertainment has set the standard for this shift, building a 32,000-square-meter open-water sanctuary for captive beluga whales in Iceland, offering them a vastly improved quality of life.

Iceland beluga whale sanctuary by Merlin Entertainment

"It's time for zoos and aquariums to leverage the technology available to them

You don't need to spend millions of dollars building a marine sanctuary to get started on this path. There are low-cost attractions with off-the-shelf wildlife experiences that would thrill guests, inspire conservation, and inform generations. It's time for zoos and aquariums to leverage the technology available to them in a way that backs up their public relations efforts and makes a new connection with the consumers that care about their core missions.

How to Evaluate Content for Your VR Attraction

I've been encouraging you to take a 360-degree approach, considering things like mindset, staff capability, the physical attributes of your location, and the context of the consumer.

At the center of all this is the content. One of the great things about VR, compared to most other attractions, is that the content is flexible. Most VR products today are platforms that can switch content easily and frequently to meet a variety of guest desires.

The variety of content available in VR is already quite broad, but it will soon become staggeringly so. With tools like Unity, creating VR experiences is becoming something that almost anyone with basic programming skills can do. This has become a problem for the location-based entertainment market. With so many products flooding the market, how can an operator know what's good and what isn't?

Too many people focus on the quality of the graphics. While graphic quality is certainly something to consider, some of the best games of all time have used low-quality polygon or even vector graphics. Minecraft is an excellent example of the former, using crude graphics that look like they're right out of a 1980s arcade cabinet.

One of the most popular VR arcade games is Super Hot, which is overly simplistic in its graphic design. Unfortunately, most developers are making up for lack of game quality with beautiful environments,

which, when displayed in VR, are stunning to view. However, once the novelty of the graphics wears off, one is left with a game that can be boring, repetitive, and with no replay value.

SuperHot

It seems like anyone who has ever played a game thinks they can design one. There is a job title of Game Designer, but very few of the companies I've spoken to in the game design business actually employ one. Game designers are math nerds. They know how to create compulsion loops, balance weapons, and enemies, and make sure that players of all skills have a consistent experience across all levels of the game. There's a great book called The Theory of Fun by legendary game designer Raph Koster. It provides a fascinating look at how game designers create fun experiences.

WHEN EVALUATING A VR GAME, HERE ARE SOME THINGS BEYOND JUST GRAPHICS THAT YOU MIGHT WANT TO CONSIDER:

Does the game offer different control mechanisms?
If it's a shooter, this can be a variety of weapons. If it's an exploration game, it might be various tools like a flashlight, a pickaxe, and a book of matches. While variety is critical, ease of use is more so. Is the control schema intuitive, or does it require you to think? The latter will break immersion and take people out of the experience. Long tutorials at the beginning of a game are useless – people don't pay attention and can't remember what they're told. Great games educate the player while they're playing. They start with one weapon, then let them discover additional ones, and instruct them the very first time they use it.

> **Great games educate the player while they're playing.**

This takes me to First-Time User Experience, or FTUE (say Fatooey).
Not enough games take the first-time user into account. The games are designed and tested by programmers, who are intimately familiar with the game and the way it plays. The deeper they get into the development process, the more expert they become at the game mechanics. This makes them unqualified to test the games for playability. Most studios employ little to no consumer testing, and when the games get to market, they can be incomprehensible to the first-time player. A good FTUE can drive higher replay rates, because if the player has fun the first time they're more likely to play a second, and a third. If their first experience is frustrating, you're likely to have lost them forever.

In arcade games, you can usually accelerate your way past this if you're an experienced player. With multiplayer VR games, it's more difficult, as it becomes more likely that someone will be a first-time player. Making the FTUE fun for everyone eliminates boredom for the more senior player. This is why tutorials and instructional videos are frowned upon and are a lazy way to teach players how to play a game.

Once the game starts, what's the pace of action like?
Great games, like movies, have ebbs and flows in intensity and pacing. Cutscenes are used to tell the story and give players a breather. Boss battles are often employed to give a game a sense of peak conflict and then resolution. Games that do not pace the action can feel repetitive and boring, even if the action is non-stop.

I interviewed game designer Joe Mares on my Deep Dive Webinar recently, and he said that fun is a combination of surprise and delight. How many times when playing the game were you surprised and delighted? Did it keep happening all the way until the end? A great game will spread the surprises

throughout the entire gaming experience, and layer them, so players continue to discover new things as they improve. This is one of the critical components of a highly replayable game.

Another thing I notice missing in many games is clear feedback.

This is critical, especially in VR, where the action can be taking place behind the player. If you're getting hit in the back, do you know it? To address this, some attractions employ vibrating vests. Using haptics is an excellent way of giving players feedback, but if the input is constant and overwhelming, players tune it out and it can become annoying. The best systems make sure the feedback is used to inform the player, and to create peak moments in the experience.

Another form of feedback is celebration, or what game designers call "juiciness."

When you accomplish a goal in a game, does it make you feel like you've really accomplished something? One of the things I loved about Chaos Jump is that at the end all the guns turn into confetti cannons, and everybody shoots confetti at each other. It's a great example of a juicy celebration that leaves players with a feeling of accomplishment and light-hearted fun.

It's been well documented that people want social experiences in VR.

Multiplayer games can create a social experience, but only if the players are interacting with one another in the game. There are many multiplayer VR games where it's almost like each player is playing their own game. If there's no cooperation or competition, it's not a multiplayer game. The worst are the games where you cannot even see the other players because the designer has put them back-to-back, and all the action takes place on the outside of the play space.

Most location-based VR systems are operating with a closed content model. The solution provider has a walled-garden for their content, and operators are locked into whatever content that company decides to make available. If they're great at making games and have the bandwidth to create enough quality games to satisfy the market, then this might be OK.

Other companies are incorporating the ability to add games from the massive library on STEAM or via arcade platforms like Springboard. Depending on the configuration of the hardware, this could be an excellent safety valve for operators who don't want to be locked into a closed content system.

The next time you evaluate a virtual reality game platform for your location, these are some of the things to consider. But what about non-gaming content?

There is lots of experiential content available. In this section I want to give you some things to consider when evaluating non-gaming content.

One of the raps against non-gaming content is that it's not replayable. Typically this content does well in tourist locations, with a low frequency of visitation. If you're in an FEC with an average of 3–4 visits per year, you either need an extensive library of experiences, with new ones coming out all the time, or something that is inherently replayable.

Ralph Breaks the Internet from The VOID

The VOID is an excellent example of non-gaming, experiential content. From Ghostbusters to Star Wars to their most recent Ralph Breaks VR, their experiences are deeply immersive but entirely on rails. Even though they tried to gamify their Wreck-It Ralph inspired experience by offering some lightly competitive elements and a scoring system, exit interviews show that while most customers enjoyed it, few were compelled to do it again.

Zero Latency developed an exploration puzzle "game" called Engineerium. It was good enough

to win Best New Product at IAAPA in 2018, and players rate it extremely highly. But it has little replay value and is the least played of their library of games.

Experiential content can be effective for seasonal attractions. Haunted walk-through experiences, like the Haunted Maze from Holodeck VR and Mack Media, can capitalize on the Halloween trend of haunted houses. VRstudios created a haunted VR attraction for Universal Studios Halloween Horror Nights in Orlando.

Virtual reality escape games also tend to be more experiential. Even though they're considered "games," once the puzzles are solved, there's little motivation to play them again. The latest entrant into the escape game market is Entermission, who combine puzzles with more traditional action gameplay. They've seen a high level of replay among a younger demographic, especially with birthday parties. Escape games tend to have lower throughput for a higher ticket price due to the longer experiences. Since fewer people can play, the games tend to last on location longer.

Dreamscape offers experiential content of the highest quality. When Hans Zimmer composes your musical score, it's almost an unfair advantage. Their games are highly engaging and emotional. This is a key to experiential content: if it doesn't trigger an emotional response, it's probably not worth investing in. There are lots of emotions to play with; Dreamscape does a great job creating a sense of awe with The Blu and Alien Zoo. But like The VOID, their experiences are generally rail missions.

The best non-gaming VR experiences give the player a sense of agency over the outcome, even if it's an illusion. Unlike movies where the viewer watches someone else's story unfold, virtual reality puts the player at the center of the story. This creates an innate expectation that the participant will have some control over their destiny. Without that feeling of power, players are left wanting more.

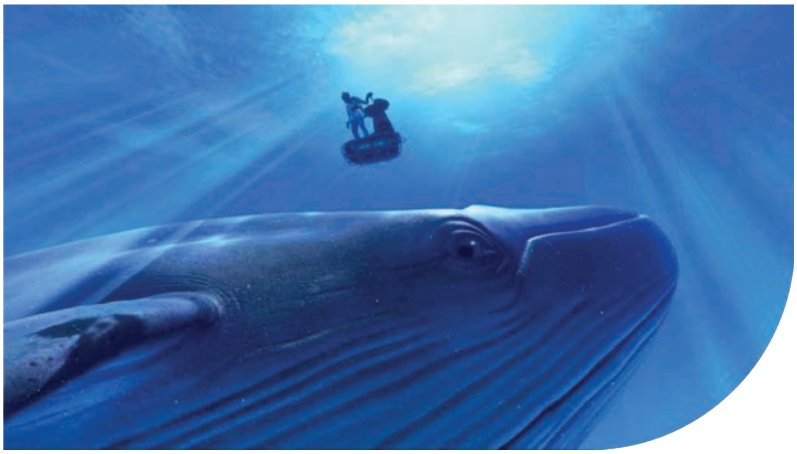
Too many VR experiences are relying on the novelty factor of virtual reality. It's been said that VR provides the ultimate tech demo. The first time someone straps on a headset, it's almost irrelevant what the experience is. People are blown away. But what happens when the novelty factor wears off? At some point, players will start demanding more. When that happens, just putting people through a walk-through VR experience where they don't have control of their story won't be good enough.

Too many VR experiences are relying on the novelty factor of virtual reality.

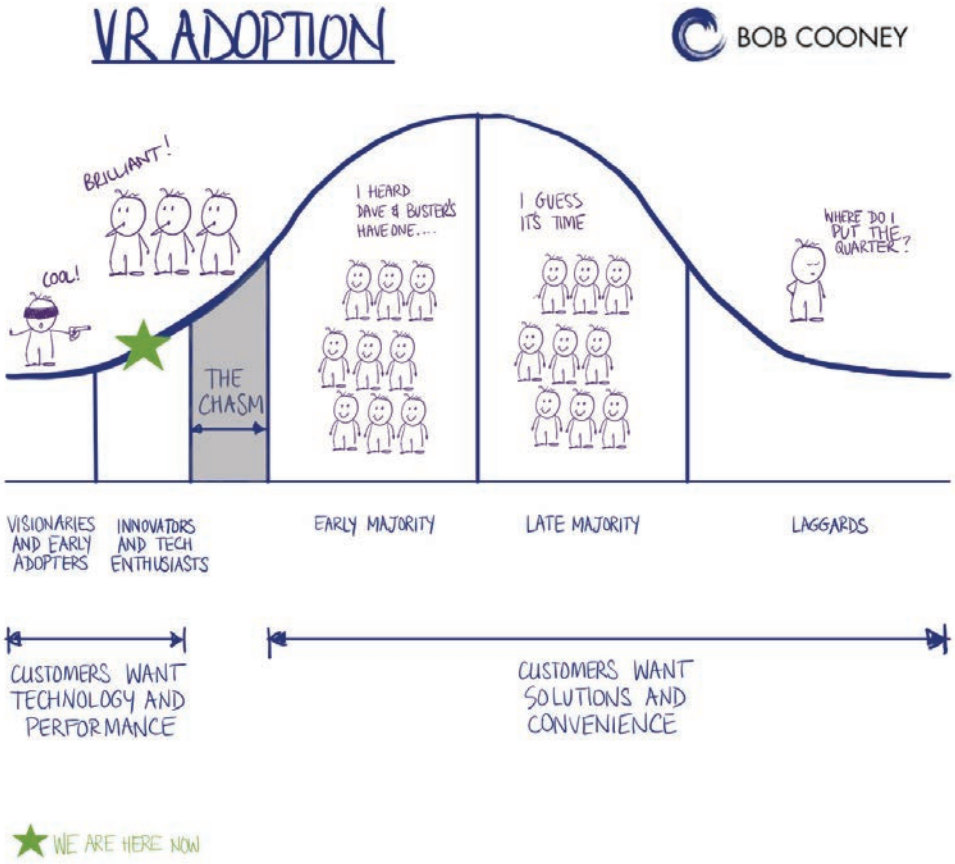
Fun is so subjective that I find it's good to have a qualitative framework with which you can measure it. When you are comparing content, you can rate each one on the following:

- Variety in the Experience
- First Time User Experience
- Simple Control Mechanisms
- Pace of Action
- Surprise and Delight
- Clear Feedback
- Celebration
- Social Interaction

An experience that ranks highly across these 8 criteria will be sure to delight your guests.



The Blu from WEVR and Dreamscape



As you can see, there's a lot more to selecting a VR attraction than buying what everyone else is.

Location-based entertainment venues are adding VR attractions at a staggering pace. For the last several years, VR was on the pre-chasm curve of the Crossing the Chasm model, with mostly Innovators and Early Adopters driving into this third wave of virtual reality attractions. At the annual IAAPA show last year in Orlando, there were over 65 virtual reality products on display. Large operators like Dave & Buster's rolled out VR to all their locations. Operators have shifted from asking "Should I have VR?" to "What VR should I have?"

"Going with the crowd means missing a fantastic opportunity to differentiate your business from everyone else.

Selecting the best VR attraction for your business is not as easy as it might seem. As a result, many operators are just buying what everyone else is buying. There was a saying in the IT world: "Nobody gets fired for buying IBM." There's reassurance in following the crowd.

However, going with the crowd means missing a fantastic opportunity to differentiate your business from everyone else. While the VR selection process can be daunting, with so much innovation at lightning pace, this is the best time to differentiate your operation with unique attractions. Hopefully, this 360-degree evaluation model helps to narrow down your options, so you go from cautious to confident in your virtual reality purchases.

If all of this still seems overwhelming, I have an executive mentoring program for select operators who want to deploy virtual reality in their business. Just email me at **vrbob@bobcooney.com** with the subject: confident.