

THE FUTURE AIN'T WHAT IT USED TO BE, NOR WHAT MOST PEOPLE AND INSTITUTIONS EXPECT

By Randy White

Yogi Berra gave us “The future ain’t what it used to be.” In the Covid-19 era, to that Yogi-ism, I’d add “The future ain’t what most people expect.”

That “future” I’m referring to is the expectation that a Covid-19 vaccine will be the magic bullet that brings us to a normal without all the coronavirus disruptions and restrictions that have dramatically transformed our lives, work and leisure. Unfortunately, all indications are the post-crisis future isn’t going to arrive when a vaccine does.

There continues to be hope that by early 2021 an effective and safe vaccine will be developed. However, there’s no guarantee it will be effective enough.

The purpose of a vaccine is not only to reduce a person’s risk of catching Covid-19, but more importantly, to get us to herd immunity. Herd immunity is achieved when a high enough percentage of a population becomes immune to a disease, such that person-to-person spread is unlikely. This provides indirect protection—or herd immunity—to those who are not immune to the disease, so everyone, not just those immune, are protected.

To achieve herd immunity, a high percentage of the population needs to become immune, either through prior infection and/or vaccination.

Dr. Anthony Fauci, head of the National Institute of Allergy and Infectious Diseases, said he would “settle” for a coronavirus vaccine that’s 70% to 75% effective taken by two-thirds of Americans, as that would bring the United States to “herd immunity level.”

Different vaccines offer different levels of protection, their effectiveness. If 100 people are inoculated with a vaccine that is 60% effective and then exposed to the virus, on average, 60 of them will not get infected, but 40 will get infected. Flu vaccines have only achieved an effectiveness of 20% to 60%. The 2017-2018 flu vaccine was only 38% effective.

Dr. Fauci says it is “unlikely” that the US will achieve sufficient levels of immunity to quell the outbreak, as it appears too many people will refuse to get the shot when it’s available because of a “general anti-science, anti-authority, anti-vaccine feeling. . . I don’t think really see us

eradicating it.” Rather, even after a vaccine is available, the coronavirus will still be around, infecting and killing people. The numbers will just be lower.

An August 2-4 Economist/YouGov poll found that over one-quarter of U.S. adults (27%) will not get a coronavirus vaccine. Only 40% answered they would get the vaccine. The remaining 33% answered they were “not sure.” Some of those are sure to eventually fall into the “not” category.

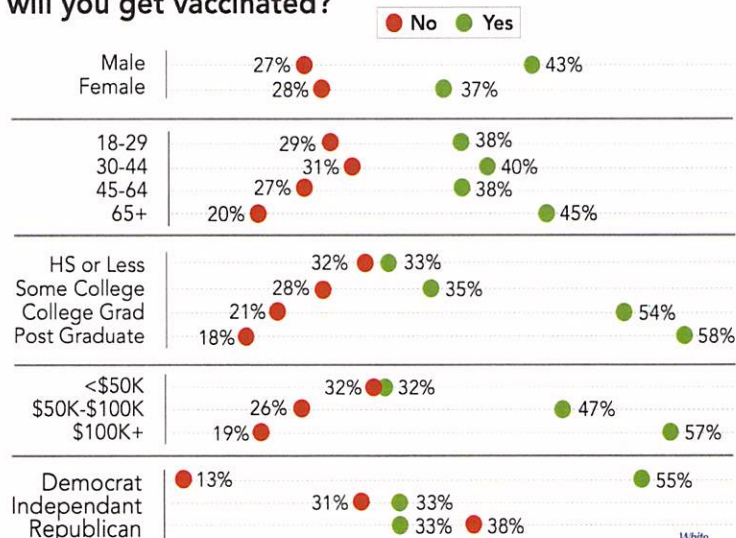
If and when a coronavirus vaccine becomes available, will you get vaccinated?



Source: The Economist/YouGov August 2-4, 2020 Poll n=1,500 U.S. adults

The poll found variations in willingness to get vaccinated based on gender, age, education, income and political party affiliation. The higher socioeconomic and Democrats are the most willing to get a Covid-19 vaccine. The highest percentages saying they will not get vaccinated are age 30-44, high school or less education, under \$50,000 income and Republicans.

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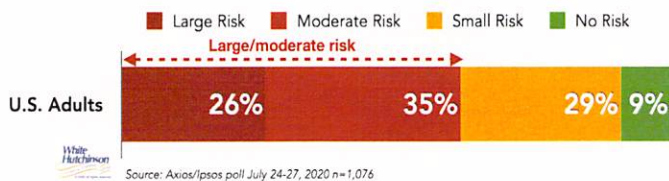
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According to the CDC, during the 2019- 2020 flu season, less than half of adults (45.3%) got the flu vaccine. The CDC found that general vaccine hesitancy, distrust of vaccine safety, and vaccine novelty are among the most important deterrents to vaccination.

In addition to general vaccination distrust, many people are doubtful that the coronavirus vaccine will be safe due to the U.S.'s vaccine development program's name "Operation Warp Speed," as going "warp speed" suggests that safety will be a secondary consideration. If a vaccine is licensed or even given an emergency use designation by the FDA before this November's election, that could add fuel to the propaganda that the vaccine was a political decision, not a scientific, medical one.

A clear majority of Americans (61%) view the potential first-generation vaccines as too risky.

How much of a risk to your health and well-being do you think taking the 1st generation COVID-19 vaccine as soon as it's available is?



It's unknown whether even a highly effective vaccine given to a large enough segment of the population will get us to herd immunity. We don't know how long immunity lasts and how soon people can be reinfected with Covid-19.

Both recovery from coronavirus and a vaccine produce antibodies to fight off infection. The shelf life of the Covid-19 antibodies may not protect people with long enough immunity. Until the vaccine is in use for a long enough time, there is no way to determine how long it will be effective, Natural immunity against other coronaviruses, like the common colds' OC43, are short-lived. Preliminary studies show that not all patients develop Covid-19 antibodies after infection and antibodies decline in patients after a few months. There are some reports of Covid-19 patients getting reinfected. If it took one year to vaccinate the needed percentage of the population, the people vaccinated at the beginning could lose their immunity mid-way through the roll-out, thus defeating the Holy Grail of achieving herd immunity and stamping out Covid-19.

All this doesn't mean that a vaccine with a lower effectiveness or a low vaccination rate would not be useful, as it will lower infections. But it would mean that social distancing, mask-wearing, restricted group size, and other restric-

tions on public activities will likely have to continue until a vaccine that is actually "good enough" arrives, along with the required rates of inoculation to achieve herd immunity.

Bill Gates, co-chairman and co-founder of the Bill & Melinda Gates Foundation, said, "In order to stop the pandemic, we need to make the vaccine available to almost every person on the planet. We've never delivered something to every corner of the world before." The consideration is that if other countries, especially low-income ones, don't get sufficiently vaccinated, coronavirus will keep getting reintroduced into the high-income ones.

The critical timeline for a Covid-19 vaccine is just not to get to its licensing, but how long it will take for a sufficient percentage of the population to be vaccinated. It's not a small feat to manufacture a vaccine for billions of people and then rapidly get it to all of those people throughout the world. Most of the vaccines already in trials require two doses 28 days apart, further complicating the length of a rollout.

A number of vaccine developers are already manufacturing their unproven vaccines, so if they prove safe and effective, there will already be a supply to start distribution. It is anticipated one or more vaccines will be ready for distribution by early 2021. If everything falls in line, it still wouldn't be sooner than late 2021, and possibly later, that everyone who is willing to get vaccinated will be.

Companies and governments are racing to scale-up machinery to address a critical shortage in the automated capacity of putting the vaccine into vials or syringes, sealing them and packaging them up for shipping. Adding to the challenge is that glass vials are in short supply. A medical-glass shortage was looming before the coronavirus crisis hit.

Another distribution issue involves refrigeration. Some vaccines will need to be maintained at 35.6 to 46.4 degrees Fahrenheit throughout the shipping process. Some newer technology vaccines could require keeping them at minus 112 degrees Fahrenheit. Most pharmacies, clinics and doctor's offices don't have that cold storage ability. One company is working on producing vials that won't shatter at super-cold temperatures. From managing steady cold storage conditions, and even inventing and manufacturing new kinds of vials and syringes, the path forward is strewn with formidable hurdles.

When a vaccine is ready, there will be major supply chain challenges for widely distributing the shots worldwide. Bloomberg reports the industries that shepherd goods around the world on ships, planes and trucks acknowledge

they aren't ready to handle the challenges of shipping an eventual Covid-19 vaccine from drug makers to billions of people

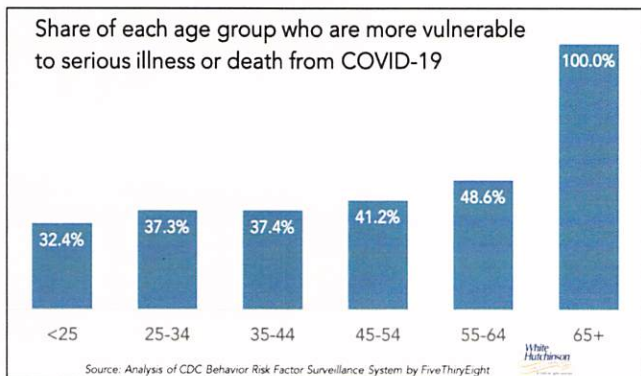
There is one more unknown about the coronavirus. Will it mutate so that the current vaccines under development won't be effective when they are ready or soon after they are deployed?

More than 6 months into the pandemic, the virus' potential to mutate is unclear. At some point early in the pandemic, one of the 30,000 letters in the coronavirus' genome changed from an A to a G. Today, that mutation has spread around the world. It's unknown whether the mutation helps the virus spread faster or is just a coincidence.

We don't know whether we'll be able to vaccinate for Covid-19 only once (setting aside the issue of how long immunity lasts and the need for booster shots), or will a new vaccine for mutated viruses have to be developed that people periodically get to keep their immunity up to date, just like needing an annual flu vaccine.

Covid-19 is a very serious and deadly disease. Research estimates that Covid-19 has a fatality rate roughly 50 to 100 times higher than influenza. In other words, between 1 and 10 of 100,000 people who get the flu will die, but between 500 and 1,000 of 100,000 people who get Covid-19 will pass away.

A large portion of the population is highly vulnerable to severe Covid-19 illness or death. In addition to everyone over age 65, nearly 40% of all Americans under 65 have a medical condition that makes catching coronavirus very dangerous to them.

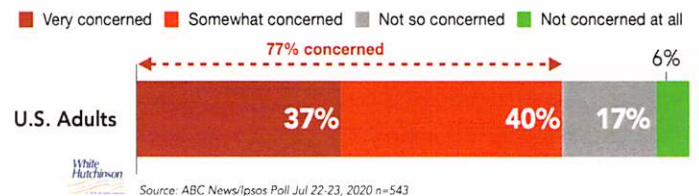


The CDC now warns "that among adults, risk increases as you age, and it's not just those over the age of 65 who are at increased risk of severe illness."

The coronavirus isn't like the regular flu where everyone recovers quickly in a couple of weeks. Even after surviving the initial infection, Covid-19 can bring severe illness that takes a long recovery time. The CDC finds that more than one-third of Covid-19 patients (35%) do not recover quickly, and instead experience ongoing symptoms, such as brain fog, fatigue and difficulty in concentrating. This includes people, some never sick enough to be hospitalized, including young adults with a milder illness, who have debilitating symptoms that persist for months, known as "Covid-19 long-haulers." Some survivors may end up with lifelong debilitating effects.

Understandably, people are very worried about catching the coronavirus. A late July poll found that more than three-quarters of U.S. adults (77%) are worried they or someone they know will get sick from the coronavirus.

How concerned are you that you or someone you know will be infected with the coronavirus?



A July 31-August 2 Harris poll found that more than half of adults (52%) fear they could die as a result of contracting the coronavirus. Two-thirds (66%) are very/somewhat concerned that leaving their home to go to non-essential businesses (e.g. bars, hairdressers, bowling, museums, etc.) would risk exposing them, their loved ones, or others to the coronavirus.

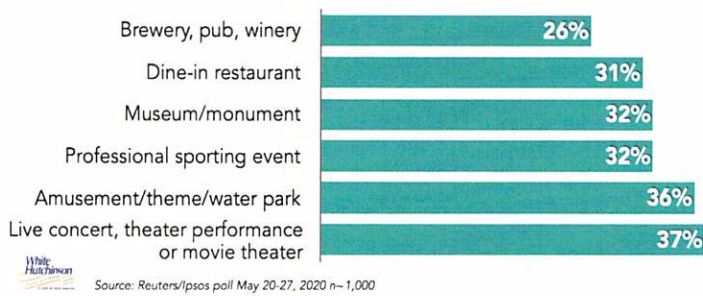
People increasingly know people who have tested positive for Covid-19 or died from it. One in five (21%) U.S. adults personally know someone who has died from the virus. Half (50%) know someone who tested positive (Axios/Ipsos August 7-10, 2020 poll).

As people increasingly have personal knowledge of people experiencing the virus and its severity, the percentage fearful they or a member of their family will catch the coronavirus will probably increase, negatively impacting their willingness to venture out into non-essential public places.

A Reuters/Ipsos poll found a third or more of adults said they won't attend entertainment and cultural venues until there is a vaccine, even if that's in a year or more.

All the people that say they won't do many things until there is a vaccine are really saying they won't do them

Don't expect to attend/visit until there is a proven Covid-19 vaccine, even if that's a year or more from now



until they get a vaccine that protects them or there is herd immunity. Unless a vaccine is nearly 100% effective, many probably won't consider themselves protected. If a vaccine is 60% effective, for the average person, that would only reduce the odds of dying from Covid-19 to 20 to 40 times more than the flu, still not very good odds. The older people are or if they have underlying medical conditions, the worse the odds remain. Plus, they would still have a high probability of catching it and infecting a family member. To assure the vast majority of people that they won't risk serious or fatal illness by going to public places will probably require both widespread vaccination and an effective treatment or cure.

All indications point to the post-pandemic world being much further in the future than hoped. With all the variables of developing a vaccine – its effectiveness, the length of immunity, whether the virus will mutate, the time it will take to manufacture, distribute and vaccinate enough people to get to herd immunity – the timing to eliminate the Covid-19 risk is uncertain. In the U.S., with so many people refusing to take a Covid-19 vaccine, we may never get to herd immunity. Even if all the stars perfectly line up, which seems unrealistic, it looks like the earliest we could get to herd immunity and close the book on Covid-19 is late 2021. It is much more likely we may have to learn to live with the coronavirus for a very long time.

In the meanwhile, life will continue to require social distancing, wearing masks, regular handwashing, no handshaking and avoiding crowds, to keep the virus under control. This will continue to place operating restrictions on businesses. And a large percentage of people, especially those most at risk or with family members at risk, will definitely continue to avoid many public places, including location-based entertainment, cultural venues and dining at restaurants. This means that all out-of-home (OOH) destinations need to plan to live with the negative impact of the coronavirus on their businesses for at least a year under the absolute best scenario, and realistically, a number of years.

Colleen Dilenschneider has forecast that if there were no longer coronavirus capacity restrictions and social distancing/safety precautions, attendance for exhibit-based cultural venues would not get back to 2019 levels until 2022. Since capacity restrictions and other precautions are sure to continue for some time, the horizon is probably more like 2023 or later. She also predicts, "Museums are unlikely to simply pick up where they left off in terms of attendance once there is a vaccine available."

As people venture out of their homes to visit OOH leisure destinations, the perceived risk of catching the coronavirus will result in a changed competitive landscape with a redistribution of attendance among all the various OOH options compared to pre-crisis times.

Considerations that affect the perception of safety include:

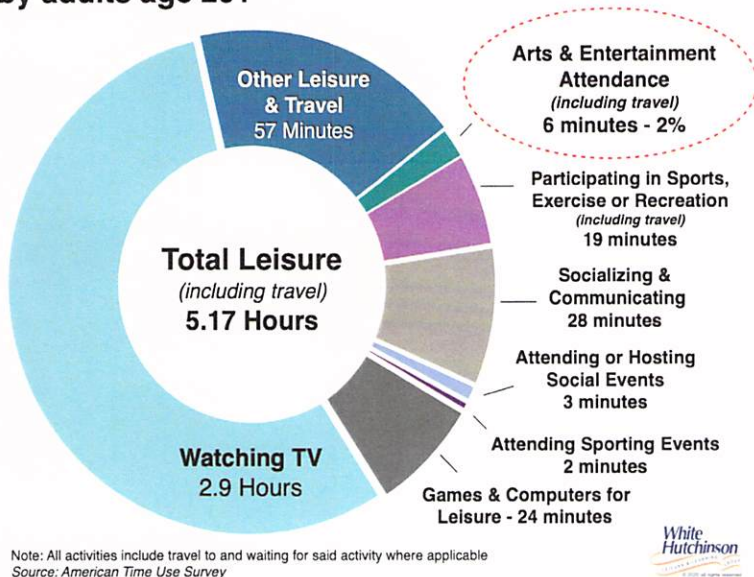
- Indoors is riskier than outdoors
- Places that allow freedom of movement vs fixed seating are safer as people have more control over their social distancing
- Risk increases with increased length-of-stay
- Communal, high-touch dependent experiences are risky
- The greater the crowding, the greater the risk
- How clean and regularly disinfected the business is
- The behavior of both staff and visitors (are they wearing masks, social distancing, washing their hands, etc.)

Peoples' priorities of what type of OOH experience to choose are likely to change. Having been socially isolated at home for so long, they will most likely be craving highly social experiences with their friends or family. They may prefer outdoor entertainment experiences that offer interactive social games such as miniature golf or social driving ranges such as Top Golf that also offer good social distancing from other attendees. Fall agritainment corn mazes and pumpkin patches may see a boost in attendance. Indoors, interactive social games such as bowling, where there is also the appeal of food and drink, may find preference. Outdoor recreation activities are seeing an increase in participation.

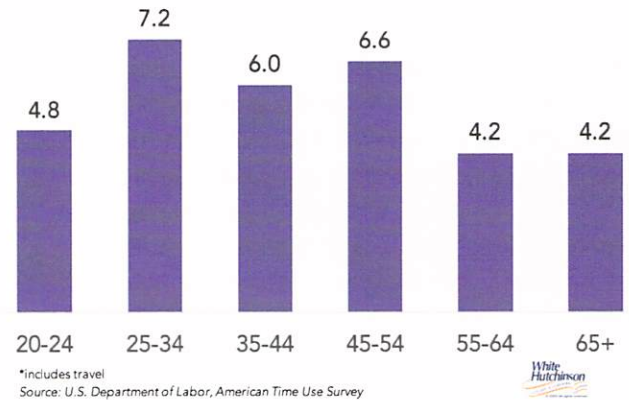
Informal learning venues (ILVs) need to recognize that they compete with every other OOH leisure option people have and they are competing amongst them all for a very small sliver of peoples' disposable leisure time and discretionary spending in a zero-sum game. ILVs may lose market share to all the other leisure options.

Pre-Covid, people age 20+ had an average of 5.17 hours of leisure time a day. But they only spent 2.0% of it, 6 minutes a day, attending all types of OOH cultural and entertainment.

Leisure time spent on an average day in 2018/2019 by adults age 20+



Average daily time in minutes spent attending arts & entertainment by age, 2019



Since the turn of the century, the time and money people spend on leisure has been shifting to at-home digital options. The at-home virtual technology evolution that took place over the last few months has exponentially accelerated this trend. In ordinary times, people tend to stick stubbornly to their habits, resulting in slow adoption, if any, of new innovations. The pandemic caused peoples' pre-Covid OOH normals to disappear. There was so much uncertainty, they sought a sense of routine and comfort by turning to at-home virtual options as replacements. Peoples' virtual experiences became their new normal.

People who previously didn't use at-home digital games and virtual options have adopted them; they are the "virtual immigrants." And the already digital and virtual natives have increased their use.

We're seeing the development of many improved and innovative at-home virtual experiences. To continue to reach out and stay connected with their audiences, many ILVs offered at-home virtual tours, webinars and other virtual learning experiences. Some are even using TikTok. The Getty Museum even created an Animal Crossing Art Generator that allows players in the highly popular Animal Crossing: New Horizons video game to collect famous pieces of artwork from the museum's archive and bring the artworks into their private island virtual homes.

People who were once limited to ILVs in their immediate geography, or when on vacation, now have access to hundreds of virtual experiences from museums, zoos, aquariums and other ILVs from throughout the world.

When people find the new virtual experiences enjoyable, those new behaviors and habits are likely to stick and continue even post-pandemic, permanently replacing some of the visits previously made to ILVs. Research on habit formation has found that it takes a minimum of 21 days to form a new habit and a little over two months (66 days) for a new behavior to become automatic. The at-home virtual options also pass the tests for a habit to continue – first it needs to bring some benefits, and second the constraints of keeping up with the habit need to be low, it is easy to continue.

Most ILVs were closed for at least three months with people limited to their at-home virtual options, now their behavior norms. Instead of asking, "Is there a reason to do this online?" people will now be asking, "Is there a good



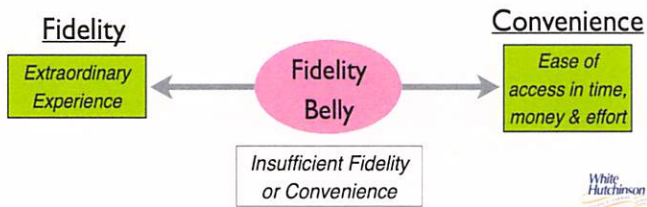
In Animal Crossing: New Horizons, you can decorate your home with art from the Getty Museum.

reason to do this in person?" Many OOH experiences that were attractive in the past will be less relevant and compelling compared to the at-home ones we have gotten comfortable with and are enjoying on a regular basis. The at-home options are far more convenient, less costly, and now definitely safer as long as the risk of infection continues.

The new virtual worlds, opportunities and habits will be formidable competition to the forms of OOH ILV that existed pre-corona. The virtual experiences have raised the bar for what is required to get people to again leave their homes to visit ILVs. The migration to all these new virtual worlds will reshape long-term our OOH leisure experiences even when the pandemic and all its restrictions on our OOH experiences have passed. We will not be going back to our 2019 normal. Many of the virtual behaviors and routines people developed during the pandemic will permanently replace some of the time they spent pre-Covid-19 away from home attending ILV experiences.

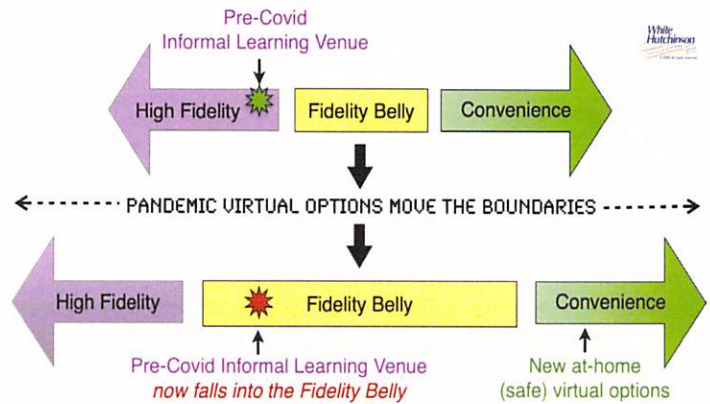
One way to understand this behavior shift is the trade-off people make for their OOH versus virtual experiences. It's a trade-off between the Fidelity, the quality of an OOH experience and the Convenience of their at-home virtual ones, measured and evaluated based on investment of effort, time and money.

Fidelity vs Convenience Trade-off



The more Convenient virtual at-home becomes, the higher the Fidelity of an OOH experience has to become to compete and attract attendance. And as virtual options improve in Convenience as they have during the pandemic and are sure to continue to, what used to be a High Fidelity experience is no longer considered High Fidelity and falls into what is called the Fidelity Belly, not a place any venue wants to find itself as it has minimal appeal.

To win, you need to be at one end of the axis or another, and ten times better than what you're aiming to replace. Which means ten times more high-impact and/or high-quality or ten times cheaper, less time consuming and easier to do.



Rock-concerts are not convenient (they take time, effort and money to attend), but they offer a High Fidelity experience. MP3's music on a smartphone is compressed and removes much of a sound quality, offering a low-fi experience, but is very Convenient. Attending a virtual concert within Fortnite now offers a better experience than just listening to music on a smartphone and is more appealing, raising the bar to get people to leave their homes for music concerts.

The coronavirus has introduced a whole new measure to the Fidelity-Convenience Trade-Off – safety. Convenient at-home virtual experiences not only require little effort and time and are very inexpensive, they are also safe from the coronavirus, whereas OOH experiences in public places have the risk of Covid-19 infection. And some of the highest Fidelity OOH experiences, such as attending a concert or theater, have the highest risk.

There is a small proportion of people who don't consider Covid-19 a risk, so their behavior won't change. But the vast majority will weigh their risk based on their individual risk profile of their health, any medical conditions and their age. And for the large portion of the population afraid of either catching coronavirus or bringing it to their loved ones, there is no level of OOH Fidelity that will get them away from their safe at-home options. And even after the risk of coronavirus infection is over, there is a percentage of people who have become extremely virus-phobic, fearful of public places, and may never return.

There is one other change due to the pandemic that is affecting the Fidelity-Convenience Trade-Off. Until there is a medical breakthrough, the Fidelity of OOH experiences has actually decreased due to social distancing, mask wearing and other Covid-19 related restrictions. Businesses can no longer offer the level of service practices and hospitality as in the past. Dining experiences are completely different.

Socialization, the primary reason most people visit OOH venues, is not the same when you can't see a person's whole face and their smiles. Always worrying about social distancing takes effort. It's stressful to be concerned about everything you touch. Half-full venues are not as exciting. Visiting an ILV will be not as enjoyable an experience as it was back in 2019.

In order to stay competitive and to offset the diminished appeal all the safety features and practices that ILVs require during corona-time, the potential greater appeal of social entertainment and outdoor recreational experiences, and the increased Convenience of the new and widely adopted at-home virtual options created by those very same ILVs, ILV experiences need to improve, they need to become Super-Fidelity. Their previous status quo is no longer a guarantee to succeed, as they could fall into the Fidelity Belly.

Essentially, potential guests are asking themselves, "Why is this OOH experience compelling, necessary, or valuable enough for me to take an infection risk (for myself, family, or friends) or to expend my (limited) budget and leisure time to have this experience? Why is this worth doing and why is this different from other choices? Why will this bring me, my family and my friends joy?" A Super-Fidelity

OOH experience is the answer to these "whys?"

ILVs that are reopening need to understand that they are now a startup in a new reality operating in a completely different competitive landscape with a completely transformed audience base. This will require an evolved and improved business model to make it through to the other side of the pandemic and beyond.

Make no mistake. One thing is certain. ILVs and their competitive landscape are forever changed.

* The data in this article was the most current available as of August 13, 2020.

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