Alive & Kickin’: How Qatar can host a successful 2022 World Cup given COVID-19 concerns & limitations

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Alive & Kickin’
How Qatar can host a successful 2022 World Cup given COVID-19 concerns & limitations

By: Majd Steitieh, MPP 2022
April 5, 2022

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PAE seminar leader: John Haigh

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This PAE reflects the views of the author and should not be viewed as representing the views of the PAE's external client, nor those of Harvard University or any of its faculty.
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Juliette Kayyem, Belfer Senior Lecturer in International Security at the Harvard Kennedy School and faculty chair of the Homeland Security and Security and Global Health Projects

My Seminar Leader:
John Haigh, Co-Director of the Mossavar-Rahmani Center for Business and Government and Lecturer in Public Policy at the Harvard Kennedy School

Expert interviewees:
Frank Supovitz, President & CEO at Fast Traffic Events & Entertainment
Massimiliano Montanari, CEO at International Centre for Sport Security
Jonathan Wackrow, COO at Teneo Risk & Global Head of Security

Soccer enthusiast interviewees:
58 interviews with young adults aged between 22 to 43 from 24 countries spanning 5 continents
EXECUTIVE SUMMARY

On September 29, 2021, the International Olympic Committee (IOC) shocked the world by announcing that only spectators living in mainland China would be allowed to attend in-person events at the 2022 Winter Olympics in Beijing. By virtue of banning all foreign visitors to the Winter Olympics, it will now be FIFA’s World Cup in Doha, Qatar set to kick off in November 2022, nearly 3 years after the Coronavirus pandemic began, that will be the first and largest global gathering in a post-pandemic world.

In this study, I focus on one main research question central to this policy analysis: How can Qatar host a successful World Cup given COVID concerns and limitations in a vaccinated post-pandemic world?

In consideration of Qatar’s portfolio of work, I developed a clearly defined scope of analysis. Throughout this study, I focused on investigating:

1. What a successful game experience means and what factors drive it;
2. How to mitigate against COVID outbreaks during mega-events;
3. Ways to ensure the fan experience is uninterrupted; and
4. Lessons learned from the FIFA Arab Cup: the official pilot of the 2022 World Cup.

In order to determine the criteria to assess the different options for how Qatar can host a successful World Cup given COVID concerns and limitations in a vaccinated post-pandemic world, I relied on the following approaches to gather information and evidence: literature reviews; conducting interviews; case studies; and observation.

Given the learnings I assembled from my various evidence gathering activities, I arrived at three options to address the main research question:

<table>
<thead>
<tr>
<th>OPTION 1</th>
<th>OPTION 2</th>
<th>OPTION 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>DON’T WORRY, BE HAPPY</td>
<td>SHAKE IT OFF!</td>
<td>DANCING ON MY OWN</td>
</tr>
<tr>
<td>Significantly relax COVID procedures</td>
<td>Replace burdensome COVID procedures by leveraging technology</td>
<td>Maintain &amp; intensify COVID procedures to avoid global super-spreaders event</td>
</tr>
<tr>
<td>Example: Boston’s current COVID regulations: Wear Masks</td>
<td>Example: HIA’s thermal screening metal detectors</td>
<td>Example: Tokyo &amp; Beijing Olympics</td>
</tr>
</tbody>
</table>
After assessing these options against my decision criteria, I recommend Qatar adopt an integrated solution leveraging all three options at varying levels of risk, depending on the current threat environment. This will require regular monitoring of COVID cases in and around Qatar as well as global trends in vaccination rates. Depending on the country’s risk assessment and risk appetite at any given point in time, they should adopt one of the aforementioned options they believe will best achieve the proper balance of safety and experience in alignment with physical security needs. The figure below illustrates a high-level view of the recommended course of action.

![Figure showing recommended course of action]

<table>
<thead>
<tr>
<th>COVID Procedures</th>
<th>Low Risk</th>
<th>Medium Risk</th>
<th>High Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Masks</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Hand washing/ sanitization</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Vaccines</td>
<td>x</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Thermal screening</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>PCR testing</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Social distancing</td>
<td></td>
<td></td>
<td>x</td>
</tr>
</tbody>
</table>

The Threat Environment

A summary detailing which COVID procedures are recommended at each risk level is outlined below:

- **COVID Over OR V. weak strain**
- **New moderate variant arises & vaccination rate is not above 70%**
- **New high-risk variant arises that is very contagious**
Based on the integrated solution recommended above, the following actions comprise my **full set** of recommendations. A detailed discussion can be found on page 48.

<table>
<thead>
<tr>
<th>Risk Level</th>
<th>Characteristics of Threat</th>
<th>Option to Adopt</th>
<th>Procedures to Adopt</th>
<th>How to Adopt Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOW</td>
<td>COVID declared over by WHO or new weak strain emerges</td>
<td>Don’t Worry, Be Happy</td>
<td>-Encourage masks &amp; hand washing/sanitization</td>
<td>-Place hand sanitizer stations and branded disposable free masks around the stadium</td>
</tr>
<tr>
<td>MEDIUM</td>
<td>Moderate variant emerges and fan vaccination rate is not above 70%</td>
<td>Shake It Off</td>
<td>-Vaccinate all fans -Use elevated body temperature stations -Encourage hand washing/sanitization &amp; require masks</td>
<td>-Issue free vaccine doses to unvaccinated fans -Purchase and install body temperature stations that double as metal detectors -Place branded disposable free masks and hand sanitizer stations around the stadium</td>
</tr>
<tr>
<td>HIGH</td>
<td>New high-risk and contagious variant arises</td>
<td>Dancing On My Own</td>
<td>-Limit stadium to 50% capacity -Require all previous COVID procedures -3-day quarantine</td>
<td>-Block-off seats to allow for social distancing -Issue free vaccine doses to unvaccinated fans -Enforce antigen testing once per week -Enforce a 3-day quarantine upon arrival to Doha regardless of vaccine and testing status -Place hand sanitizer stations and branded disposable free masks around the stadium</td>
</tr>
</tbody>
</table>
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INTRODUCTION

Problem Statement

On September 29, 2021, the International Olympic Committee (IOC) shocked the world by announcing that only spectators living in mainland China would be allowed to attend in-person events at the 2022 Winter Olympics in Beijing.\(^1\) By virtue of banning all foreign visitors to the Winter Olympics, it will now be FIFA’s World Cup in Doha, Qatar set to kick off in November 2022, nearly 3 years after the Coronavirus pandemic began, that will be the \textbf{first and largest global gathering} in a post-pandemic world.

In this study, I focus on one main research question central to this policy analysis:

- How can Qatar host a successful World Cup given COVID concerns and limitations in a vaccinated post-pandemic world?

This policy analysis serves as a guide for organizations involved in organizing, managing, and orchestrating mega-events post COVID-19. These organizations will need to use data-driven analysis to make a compelling case to policymakers and other key stakeholders about the types of health and safety policies to maintain, adopt or transform in order to ease the tension between security and the fan experience. These organizations will also need to take into account the political feasibility of different approaches in relation to their present-day health threats and challenges.

This policy analysis provides several recommendations on how to achieve these twin goals of ensuring health security at the World Cup and doing so in a way that does not significantly diminish or impinge on the fan experience.

Ultimately, gaining a better understanding of the health security policies that led to the spectator friendly 2021 FIFA Arab Cup (the official pilot of the 2022 FIFA World Cup), may provide insights on whether these models can be exported globally for any mega-event.

Scope of Analysis
In consideration of Qatar’s portfolio of work, I developed a clearly defined scope of analysis. Throughout this study, I will focus on investigating:

1. What a successful game experience means and what factors drive it;
2. How to mitigate against COVID outbreaks during mega-events;
3. Ways to ensure the fan experience is uninterrupted; and
4. Lessons learned from the FIFA Arab Cup: the official pilot of the 2022 FIFA World Cup.

Below I explain these four scope areas in further detail.

First, I focus on what conditions and elements comprise a successful game experience and detail what factors drive it. This is critical because these elements and conditions will form the basis of my decision criteria when evaluating different approaches to ensure health security at the World Cup.

Second, my analysis focuses on how to mitigate against COVID outbreaks during mega-events. For this component of my research, I will lean heavily on what best practices have emerged to limit the spread of COVID, and will draw heavily on two case studies: the 2022 Winter Olympics in Beijing, and the 2021 Indy 500 in Indianapolis. The focus of these case studies will be on how implementation of COVID protocols at large sporting events have been successful in containing the spread of the virus while also not hindering the fan experience. This is a central piece because it would offer an array of global tried and tested strategies that can be customized and further iterated to cater to Qatar’s specific geographical, cultural and political needs.

Third, I focus on methods to ensure the fan experience is uninterrupted. For the purposes of this policy analysis, I have limited the fan experience to include spectator movement and admission to the venue. This includes crowd management, screening for COVID-19, and seating in the stadiums. This is a key consideration as there is an inherent tradeoff between security and the fan experience as Frank Supovitz, President & CEO at Fast Traffic Events & Entertainment shared with me during an interview. It is therefore fundamental to assess the added burdens placed on spectators in their relation to enhanced security to determine whether the health security protocols are founded.

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2 Interview with Frank Supovitz, President & CEO at Fast Traffic Events & Entertainment
I will use the 2004 Summer Olympics in Athens as a case study to exemplify how Greece was able to navigate organizing a mega-event in a changed world, where the business-as-usual frameworks had to be thrown out as it was set to host the first Summer Olympic Games post 9/11. This case study will be useful in understanding how the fan experience was uninterrupted given the added security measures.

Fourth, I focus on the lessons learned from the 2021 FIFA Arab Cup: the official pilot of the 2022 FIFA World Cup. The FIFA Arab Cup took place between November 30 and December 18, 2021 when the Omicron variant of the Coronavirus began to make headlines. There were 60,456 attendees at the final match between Algeria and Tunisia which was higher than the average attendance per game in the 2018 Russia, 2014 Brazil, 2010 South Africa and the 2006 Germany World Cups to name a few. As the Arab Cup drew massive numbers of attendees that were on par with previous average World Cup attendance figures, it is helpful to analyze the fan journey to help understand which elements of health security are necessary to emphasize in developing a viable strategy to limit COVID outbreaks during the World Cup whilst preserving the fan experience.

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QATAR’S COVID-19 RESPONSE TO DATE

According to the Lowy Institute, an international policy think tank in Australia, a number of criteria are relevant when measuring the comparative effectiveness of a country’s handling of the COVID-19 pandemic. These criteria include:

- **Fewer reported cases and deaths**, both in aggregate and in per capita terms. These indicate a better response to the virus.
- **More tests conducted** on a per capita basis. These reveal a more accurate picture of the magnitude of the pandemic, with lower rates of positive tests signifying greater degree of control in the transmission of COVID-19.

Throughout the coronavirus pandemic, Qatar has been praised for having one of the lowest fatality case rates in the world, with Doha scoring amongst the top 50 cities in respect to its performance in managing the COVID-19 pandemic. The London-based analytical agency, Deep Knowledge Analytics, gave Doha the thirty-sixth ranking among the top 50 cities in their COVID-19 City Safety Ranking in September 2021.

Qatar’s success in managing the Coronavirus has been predominantly attributed to the Qatari government’s ability to introduce rigorous health measures; limit travel; utilize idle hospital capacity; and develop isolation centers.

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5 https://interactives.lowyinstitute.org/features/covid-performance/
6 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7899009/
7 https://analytics.dkv.global/COVID-19-City-Safety-Ranking/Analytical-Study.pdf
8 https://www.worldometers.info/coronavirus/country/qatar/
9 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7899009/
Three keys areas have been paramount in Qatar’s prompt health response to COVID-19. These included:

1. Border control for early detection of cases
2. Increased laboratory capacity for PCR tests and vaccines
3. EHTERAZ: a mandatory public health mobile application

1. **Border control for early detection of cases**

Hamad International Airport (HIA) in Doha, has taken several measures to protect Qatar’s borders against COVID-19. In terms of sanitization and disinfection procedures, 265 hand sanitizer dispensers have been disbursed around various terminals for passengers to use. Moreover, HIA installed UV disinfection tunnels in order to disinfect all inward passenger luggage. Qatar has even rolled out autonomous mobile disinfection robots which emit concentrated UV light to eradicate infectious microbes around the airport.

![UV Luggage Disinfection](image1)

![Mobile Disinfection Robots](image2)

*Source: Hamad International Airport*¹⁰

In terms of social distancing, 258 Plexiglas shields, queuing barriers, blocked seating and 3558 physical distancing floor stickers have been utilized to ensure passengers maintain a safe distance apart while in various terminals.

In terms of thermal screening, HIA has opted to use smart screening helmets that enable contactless temperature measurement, and 38 thermal screening cameras to screen passengers entering the country through HIA, as well as at seaports. These technologies were rolled out as early as January 2020 and are still in use presently.

HIA has also introduced various contactless technologies such as contactless elevators and advanced carry-on luggage screening, to further protect against the spread of the virus.

The Qatari government additionally opened its first quarantine facility in February 1, 2020 for all travelers entering Qatar, but has since relaxed these isolation requirements depending on a passenger’s vaccine status; COVID test results; and whether they disembarked from a country Qatar deems ‘high-risk.’

Finally, the Qatari government has mandated a mobile application named EHTERAZ to screen passengers’ health statuses before arriving to Qatari borders at HIA and at the Abu Samra border. More information about this application can be found in point 3 below.

2. Increased laboratory capacity for PCR tests and vaccines
Qatar understood the necessity of frequent testing and was quick to increase its laboratory capacity during the onset of the pandemic. Qatar was able to process 20,000 PCR tests per day during the height of the first wave which resulted in a daily testing rate that was among the highest in the world at over 2/1000 people/day.

On December 23, 2020, Qatar began its national BNT162b2 (Pfizer vaccine) rollout program which initially prioritized healthcare workers, individuals over the age of 50, and those with serious medical conditions. By April 29, 2021, 18.94% of the Qatari population (approx. 501,315 individuals) were fully vaccinated against COVID-19. By October 11, 2021 Qatar had fully vaccinated 76% of its population which was more
than double the World average at 35%, representing its extraordinary ability to obtain and effectively administer vaccines as shown in the figure below.

According to Johns Hopkins’ Coronavirus Research Center, 5,412,717 doses of the COVID-19 vaccine have been administered in Qatar as of January 16, 2021, representing 78.33% of the Qatari population being fully vaccinated. Hamad Medical Corporation estimates that these interventions have reduced 76% of the peak number of infections, which resulted in a 74.6% reduction in potential acute-care admissions and a 65.1% reduction in potential ICU care admissions at the height of the epidemic, which mitigated the occurrence of cases over time.

3. EHTERAZ: a mandatory public health mobile application
On April 9, 2020, the EHTERAZ app was first introduced to both Qatari citizens and residents. EHTERAZ, the Arabic word for precaution, is a mandatory mobile application designed to assist the Qatari government’s mission in fighting the spread of COVID-19 through contact tracing.

The application is able to display when an individual’s last negative PCR was administered along with their health status by virtue of

18 https://ourworldindata.org/covid-vaccinations?country=OWID_WRL
19 https://coronavirus.jhu.edu/region/qatar
20 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7899009/
their QR Health Code. A green QR Health code indicates an individual has tested negative for COVID-19. A yellow QR code indicates that an individual is in quarantine; while a gray QR code indicates that an individual may have been exposed to the virus. A red QR code indicates that an individual has tested positive for COVID-19.

Only individuals with a healthy QR health code i.e., green, are able to access public facilities. This includes but is not limited to: restaurants, malls, the metro, pharmacies, and in November 2022, the World Cup stadiums. The mobile application also enables registration of passengers before arriving to Qatari borders at HIA and at the Abu Samra border, and is set to be utilized when registering travelers for the 2022 World Cup.

As the mobile application is considered the first line of defense in protecting Qatar’s borders during November 2022, as well as the primary method to screen attendees’ health statuses during the games, it is critical that this technology works successfully. Unfortunately, recent data has not been comforting.

As of January 12, 2022, Doha News reported a number of technical issues with the EHTERAZ application as COVID numbers surged due to the Omicron variant and overwhelmed the system. Amongst the issues reported to the publication were slow turnaround times in displaying negative COVID tests on the application or incorrect yellow health codes appearing when a negative test result was received, which in turn restricted Qatari residents’ movements. This would be a major issue during the games as these delays would prevent healthy and deserving spectators from attending the games.

Equally as problematic were reports that while some individuals received a positive COVID result, their mobile application still displayed a green QR health code, allowing individuals to abuse the system if they chose to do so. This would be catastrophic during the games as it would prevent proper screening of spectators’ health statuses and could allow the virus to spread among game goers.

Another point of contention with the application is the readiness of foreign travelers coming into Qatar to accept to download a tracking application on their personal devices, as made evident during my interviews with 58 soccer enthusiasts about their concerns regarding COVID and the games. For Qatari citizens and residents, heavy surveillance is a norm that predated the pandemic, with private security guards and ever-present cameras part of daily life, Forbes explains. This is not the standard elsewhere around the world, and so a coordinated communication and information

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campaign should be front of mind for World Cup organizers, especially as previous versions of the application had security flaws which left over one million individuals’ sensitive personal data vulnerable, Amnesty International found.²⁵

WHAT A SUCCESSFUL GAME EXPERIENCE MEANS AND WHAT FACTORS DRIVE IT

This section will explore what conditions and elements comprise a successful game experience and detail what factors drive it. This is critical because these elements and conditions will form the basis of my decision criteria when evaluating different approaches to ensure health security at the World Cup.

Fan satisfaction is thought to be driven by a multitude of factors that are impacted by the environment, such as stadium characteristics; as well as the personnel, such as the security staff at the stadium. My literature review highlights 7 categories that are believed to drive spectator satisfaction at a sporting event. These are:

- **Team Characteristics** include aspects that make the team appealing to a fan. They include factors such as how many star players are on the team; the team’s history and founding; the team’s historical performance; the team’s track record and perceived future success; the team’s coach; and the team’s positioning in their league.

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**Competitor Characteristics** include aspects that make games against the home team more exciting to a fan. They include factors such as the quality of the opponent team; the opponent team’s success track record; and the opponent team’s number of points behind first place.

**Sportscape Characteristics** include aspects of the stadium and supporting functions that make the overall game experience more enjoyable to a fan. They include factors such as how comfortable the seats are; the number of restrooms available; the cleanliness of the facilities; the number of parking spots available; the quality of the audio experience; the quality of the scoreboard; and general accessibility.

**Stadium Security** includes aspects that make a fan feel safe and respected. They include factors such as perceived crowding; how spacious the facility is; the presence and behavior of security personnel; and the security inside and outside the stadium.

**Peripheral Services** include aspects that enhance the game experience for a fan that are not directly attributable to the game itself. They include factors such as the selection and quality of food and beverage services; the selection, quality, and cost of souvenirs and team merchandise; the behavior of service personnel; and any pre-event activities, such as raffles and fan photobooths.

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Fan-based activities include aspects that enhance the sense of community to a fan beyond game day. They include factors such as exclusive events for club members; special events for families; social events for fans; and the organization of away journeys.

Club Characteristics include aspects that make a fan proud to be associated with a team. They include factors such as the club’s reputation; the club’s heritage and tradition; and the club’s quality of club management and board members.

Moving away from academic journals and into industry reports, a 2018 report by Deloitte entitled, “The Stadium Experience: Keeping sports fans engaged—and loyal,” outlined that fans have four core expectations on game day accompanied by other basic needs. Deloitte attests that fan satisfaction is directly attributable to how well an organization can deliver on these expectations.

In order to analyze fan satisfaction, Deloitte conducted a survey with over 15,000 sports fans across the United States within seven major leagues, namely: MLB, MLS, NASCAR, NBA, NFL, NHL, and the WNBA. As a result of this survey, the four core expectations of fans were concluded to be:

<table>
<thead>
<tr>
<th>Core Expectation 1</th>
<th>Core Expectation 2</th>
<th>Core Expectation 3</th>
<th>Core Expectation 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>The stadium is safe, comfortable &amp; clean</td>
<td>The view from fans’ seats match their expectations</td>
<td>The game is one of high-quality</td>
<td>The atmosphere within the stadium is exciting</td>
</tr>
</tbody>
</table>

The report goes on to highlight that while these four characteristics may not be surprising, the degree to which they outpace other attributes is. As seen in the figure below, these four core expectations are over 50 percent more important than the next closest aspect studied in Deloitte’s 2018 survey, and hence have the most significant pull-on customer satisfaction.

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The relative importance/satisfaction with the core four

The innovative global sponsorship and experiential leader, GMR took a different direction with their 2018 report entitled, “FUTURE-PROOFING THE SPORTS FAN EXPERIENCE: UNDERSTANDING WHY FANS ATTEND LIVE SPORTS—AND HOW YOUNGER FANS ARE CHANGING THE GAME.” Through over 2,000 field interviews and surveys, as well as online panels at 15 different event types, GMR utilized a framework of emotional need states and experience territories to answer the question: “Why do people seek out live events?”

Through their research, GMR classified four primary emotional need states that encourage people to seek out experiences at events. These are: belonging, identity, enrichment and release. The four need states can be represented on a spectrum as outlined below. More details on this framework can be found on page 59.

56 file:///Users/user/Downloads/future-proofing-the-sports-fan-experience_web_final.pdf
Given the above three differing methods of measuring game experience and satisfaction from a fan’s standpoint, I have created the framework below to consolidate the most important factors across these three methods for my research’s central question: “How can Qatar host a successful World Cup given COVID concerns and limitations in a vaccinated post-pandemic world?”

Essentially, I have developed a framework of important factors to consider when balancing security and the fan experience given COVID as a limiting factor. The aim is to ensure fans are safe, but also able to enjoy the game and not feel overly panicked or burdened by safety protocols. My suggested framework to measure the success of the game experience is the 7 P’s:

**People:** This driver of satisfaction pertains to the presence and behavior of security personnel. Fans expect security personnel to be on hand but to treat them with respect and provide accurate and timely information.

**Process:** This driver of satisfaction pertains to the length of time it takes to get checked in to the stadium, i.e., how long it takes to go through various screening procedures such as ticket scanning and vaccine card verification.

**Protocols:** This driver of satisfaction pertains to the number of things fans need to do to get screened for COVID either at the stadium or prior to their arrival. These include: temperature checks; negative COVID tests; vaccinations; and downloading the EHTERAZ app.
**Place:** This driver of satisfaction pertains to the general cleanliness of the facilities. These factors include how clean the seats and bathrooms are.

**Promise:** This driver of satisfaction pertains to the extent to which fans feel they have been transported to a dream-like reality pre-COVID. This includes factors such as: how well the ambiance makes fans feel like they are at a premier sporting event without COVID; if seats are not blocked; the proximity to other fans; and whether fans are wearing masks.

**Path:** This driver of satisfaction pertains to how well crowd management is handled at the game. This includes factors such as: how safe fans feel walking amongst a crowd; how long the queues are for screening; and how clear the signage is.

**Perception:** This driver of satisfaction pertains to how anxious fans may feel at the stadium. This includes their anxiety induced by seeing fans wear masks or their apprehension around testing positive for COVID.

While my 7 P’s framework and my central research question center entirely on the fans and their experience, it is important to note that a successful game experience will mean different things to various stakeholder groups. For example, a successful game experience to a member of the Ministry of Public Health may define success as the World Cup not being labeled a super spreader for COVID. Success to a TV producer may mean that the stadiums are packed and look lively. So, while the above analysis is helpful in understanding what factors drives satisfaction and success at the games, the analysis is only limited to the fan journey and experience.
HOW TO MITIGATE AGAINST COVID OUTBREAKS DURING MEGA-EVENTS

For this component of my research, I leaned heavily on what best practices have emerged to limit the spread of COVID, and drew heavily on two case studies: the 2022 Winter Olympics in Beijing and the 2021 Indy 500 in Indianapolis. The focus of these case studies was on how implementation of COVID protocols at these large sporting events have been successful in containing the spread of the virus while also not hindering the fan experience. This is a central piece because it offers an array of global tried and tested strategies that can be customized and further iterated to cater to Qatar’s specific geographical, cultural and political needs.

When it comes to minimizing the spread of COVID at sporting events and other mega-events, a number of tried and tested practices have proven to be effective at slowing the spread. Below I have summarized the recommended protocols from an array of resources representing different levels of government, academia and the private sector. The findings summarize best practices derived from: The Center for Disease Control and Prevention; LA County; the British Journal of Sports Medicine; and Gatorade Sports Science Institute. Measures that are common across all sources have been highlighted in bold.

<table>
<thead>
<tr>
<th>Recommended Measure</th>
<th>CDC57</th>
<th>LA County58</th>
<th>British Journal59</th>
<th>Gatorade60</th>
</tr>
</thead>
<tbody>
<tr>
<td>Require vaccinations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Require facial masks</td>
<td>X</td>
<td>X *</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limit crowding</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ensure proper ventilation</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Require testing</td>
<td>X</td>
<td>X *</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Enforce social distancing</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Enforce regular hand washing</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Screen guests for symptoms before they attend the event</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communicate your COVID-19 safety policies to the public</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monitor local conditions</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

59 https://bjsm.bmj.com/content/55/8/417
### Case study: 2021 Indy 500

With over **135,000** fans in attendance at the 2021 Indy 500, which represented 40% of the stadium’s capacity, it was the **largest in-person gathering** since the pandemic began.\(^{61}\) Despite the large influx of fans, the organizers were able to **limit the spread** of COVID by taking a set of minimally invasive precautionary measures. These included:\(^{62}\)

- Maintaining a channel of regular communication with local, state and federal health officials to ensure the Indianapolis Motor Speedway’s health precautions were on par with the community’s;
- Increasing the frequency of cleaning and disinfection of high touch surfaces;
- Ensuring cleaning products met EPA and CDC standards;
- Training all personnel on proper hygiene techniques related to handwashing;
- Increasing the prevalence of contactless transactions;
- Wide availability of hand sanitizer stations throughout the stadium; and
- Enforcing the use of masks when not actively eating\(^{63}\)

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As the focus of my research paper is on how to balance security and the fan experience, the most relevant measures would be ones related to crowd management; COVID screening procedures; and seat proximity. With these things in mind, I have developed the below framework that can be used as a checklist for mitigating against COVID outbreaks at the games:

**Masks:** Wearing a mask covering both the nose and the mouth helps reduce the spread of COVID-19 between individuals.\(^{64}\) According to the CDC, high-quality N95 and K95 face masks provide the best protection against COVID-19 infection\(^{65}\) and should be passed out during the games free of charge.

**Testing & Vaccinations:** Widespread testing is essential to detect asymptomatic presentations of COVID-19. If an attendee is required to show a negative test result for COVID-19, best practices indicate that a PCR test be taken within 2 days of the event, whereas an antigen test be taken within 1 day of the event.\(^ {66}\) The guidance further outlines that proof of full vaccination against COVID-19 be presented to enter the games with the exception of children under the age of 2. Further, when checking vaccine cards and negative tests, each staff member should cross-check the names and dates of birth of attendees with a government issued ID that includes a photograph of the individual.

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\(^{65}\) https://www.cdc.gov/mmwr/volumes/71/wr/mm7106e1.htm?s_cid=mm7106e1_w%20[cdc.gov]

Social Distancing & Signage: Physical distancing can help reduce contact between any individuals who have been infected with the virus but are asymptomatic. For physical distancing to be conducted well, individuals should keep six feet (~2 meters) apart. This can be best carried out by placing stickers on the floor to outline to gamegoers how close they should be to others around them. Signage is also instrumental in enforcing social distancing and limiting overcrowding by instituting one-way traffic areas.

Hand Washing & Sanitization: An essential way to limit the spread of COVID is to encourage regular and correct hand washing. In order to make it clear what correct hand washing entails, it is recommended that posters be hung up (in the most common languages), at all washing points to illustrate the necessary steps. The CDC further recommends that individuals scrub their hands for at least 20 seconds to ensure they get rid of the most harmful microbes. While washing with soap and water is the most effective way to rid the viral content, an alternative is to use an alcohol-based hand sanitizer containing at least 60% alcohol and hand sanitizer stations should be placed around the facility ubiquitously.

Certify Adherence: With the constant change in the threat environment and by extension, protocols used to combat the spread of COVID, it is recommended to communicate COVID safety policies in advance to attendees so they are clear on what actions are required on their part before arriving to the games. One effective way to ensure fans have a smooth experience when checking into the stadium, is to enforce adherence to preventive measures by requiring gamegoers to certify their adherence to COVID conditions before arriving to the stadium. This is best done by asking fans to complete a short online form a few days before the event. By requiring fans to certify their adherence, it leaves no room for confusion on what actions are necessary on their part and should limit disagreements with personnel at the gate.

Screen for Symptoms: In an effort to identify people who may be infected with COVID, it is advised to screen participants before they enter the stadiums. Screening means asking fans to fill out a questionnaire about whether they are experiencing any common COVID symptoms. An efficient way to carry out this self-reported screening is through mobile applications or online forms. The main drawback of this approach is that it heavily relies on the honor system, and so some fans may exploit this vulnerability. To hedge against this risk, it is advised to still conduct temperature checks in-person as fans check into the stadiums.

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69 https://bjsm.bmj.com/content/55/8/417
**Ventilation:** As the World Cup will be held outdoors, ventilation is less of an immediate concern but is still an important factor to consider inside the stadiums as fans are getting checked in. Maximizing ventilation is an effective mechanism to slow the spread of COVID and can be achieved by “installing portable high-efficiency air cleaners and upgrading the building’s air filters to the highest efficiency possible.” The use of carbon dioxide monitors can also be helpful in observing the effectiveness of a facility’s ventilation.

The best way to ensure all staff and personnel are up to date on what actions they should be taking to mitigate the risk of COVID outbreaks during the World Cup is through a checklist. It is imperative to compile a checklist of all preventive measures and allow teams to systematically go through the list and attest they have completed the tasks outlined. A sample checklist is included in the implementation section on page 54.

**Case study: 2022 Winter Olympics**

Approximately **13,000** athletes and journalists arrived in China amidst the contagious Omicron variant, yet the infection rate at the games stayed at **0.01%**. China and the IOC were successful in keeping infection rates low by deploying a number of strict safety measures at the Olympics that included:

- Creating a closed loop
  - Participants competed, worked, ate and slept disconnected from the wider Chinese population
- Designating cars to transport athletes and journalists
  - Residents were told to avoid contact with Games vehicles even if involved in a crash and people inside needed help
- Mandatory daily COVID testing
  - 1.8M+ COVID-19 tests were administered. Masks and contract-tracing apps were mandatory as well
- Restrictions on spectator engagement
  - IOC’s official guidelines asked spectators to clap rather than shout, cheer or sing to minimize the spread COVID-19 pathogens

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WAYS TO ENSURE THE FAN EXPERIENCE IS UNINTERRUPTED

For the purposes of this Policy Analysis, I have limited the fan experience to include spectator movement and admission to the venue. This includes crowd management, screening for COVID-19 and seating in the stadiums. This is a key consideration as there is an inherent tradeoff between security and the fan experience as Frank Supovitz, President & CEO at Fast Traffic Events & Entertainment shared with me during an interview. It is therefore fundamental to assess the added burdens placed on spectators in their relation to enhanced security to determine whether the health security protocols are founded.

Screening for COVID-19

According to a 2019 survey by Tappit, the global cashless payment & data ecosystem for live events, one of the most prominent pain points fans experience is queueing. As gamegoers want to maximize their time at sporting events to watch the game, or savor the joy of being in the crowd, allocating their time to go through security checks, and now COVID screening, is a major downer. This sentiment is shared by 62% of football fans who listed queueing as the worst thing about attending a match.

In order for COVID screening procedures to be less burdensome and time consuming for fans, they must be administered quickly and conveniently. One way to do this is to combine COVID screening with physical security checks by leveraging screening technologies such as Passive Security Scan’s elevated body temperature station. This device is part of a walk-through metal detector that you see at airports but simultaneously screens for elevated body temperatures as well as weapons, meaning that fans will have to walk through just one detector to satisfy the temperature checks and the physical security checks.

Source: Passive Security Scan

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75 https://tappit.com/resources/blog/sport-fan-gripes/
Another screening technology that can be leveraged is SmartCone Technologies’ SYMP2PASS. This two-step technology utilizes the loss of smell as a predictor of COVID infection. At home, individuals are asked to complete a smell test and answer a routine screening questionnaire, after which they will receive a QR code indicating they have passed the first stage of screening. Once they arrive at the stadium, their QR code will allow them to enter a SYMP2PASS Smart Kiosk which includes a sensor that tests for fevers and mask-image recognition, which makes sure all individuals entering the stadium are in compliance with mask mandates. 

With the added screening precautions COVID requires, it is nearly impossible to completely rid fans of burdens induced by the pandemic. The aim should not be to limit these tests however, but for them to be acceptable burdens to fans.

**Crowd management**

The 2021 Arab Cup, FIFA’s pilot for the 2022 World Cup, saw over 60,000 people attend the final match on December 18th. While the vast majority of those attendees were Qatari residents who were familiar with the stadium set up, the same cannot be said for the crowd expected to attend in November 2022. A significant chunk of attendees will not know where to check-in; where to find bathrooms or how to get to refreshment stalls. There are four best practices mega-event organizers can utilize for effective crowd control that will not seem overbearing by excited game goers:

1. **Know your audience**
   When devising your crowd management plans, take time to figure out the multiple and diverse profiles of your audience. Why are they there? How tolerant are they to being directed by personnel? What is their relationship to authority? What’s their temperament like? What type of guidance would they prefer?

2. **Event staff and security personnel are your friends**
   Event staff play a key role in helping attendees find their way around the venue and to their seats. Ensuring that your event staff are knowledgeable of the facility’s floor map is essential to effective crowd control during COVID as they will

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79 https://everwall.com/blog/best-practices-for-controlling-a-crowd/
be prepared to suggest alternative routes if certain walkways seem too packed. It is advised to place your ushers near critical areas prone to crowding such as registration and security checks.\(^{80}\)

According to Vigilant Tiger Security, a security guard service in Colorado, the general rule of thumb for the best security ratio for events is to have one security guard for every 100 guests.\(^{81}\) Security’s role should be to keep the peace and order of traffic flow. They should be the ones tasked with enforcing the designated routes are followed by all guests at all times to avoid the risk of COVID spreading.\(^{82}\)

Finally, to the average game goer, they may not differentiate between ushers, event staff, security or volunteers and so it is important that each team member be clear on what their role entails and where they should be at all times.\(^{83}\) This will ensure that staff are not overwhelmed and are able to focus on their specific duties. To achieve this, it is essential for event planners to anticipate what needs game goers may have and when and strategically place each team member at the points along the attendee’s journey where they may need each respective team member’s help.

3. **Have plenty of signage around the facility**  
Any event goer knows how frustrating it can be to feel lost in a large event space with thousands of people swarming around. With COVID concerns on some attendees’ minds, this can quickly become a major source of panic. One of the easiest ways to overcome this is to ensure signage is displayed prominently to keep the crowd moving in an orderly fashion.\(^{74}\) The most helpful signs an event planner can display are ones pertaining to where the line begins for registration; and the directions to the nearest restroom.\(^{74}\)

With crowds expected to span hundreds of meters, it is important for them to get advance information on where to go, and so signs should be large, easy to read, and in multiple languages if the crowd profile necessitates this.\(^{72}\)

4. **Ensure a clear flow of people at all times**  
One of the best ways to mitigate the spread of COVID is by ensuring attendees are moving in the right direction in a loop.\(^{84}\) This can be achieved by placing barriers and/or having event staff hold up signs to guide attendees.\(^{85}\) Another tactic that

\(^{80}\) https://www.safetysticklers.com/manage-event-crowds-tips-for-crowd-control/  
\(^{81}\) https://vigilanttiger.com/blog/security-requirements-for-events/#:~:text=What%20is%20the%20best%20security%2C%20your%20specific%20event%20and%20venue.  
\(^{82}\) https://www.socialtables.com/blog/event-venues/crowd-control-tips/  
\(^{83}\) https://everwall.com/blog/best-practices-for-controlling-a-crowd/  
\(^{84}\) https://www.excellsecurity.com.au/3-tips-for-effective-crowd-control/  
\(^{85}\) https://www.safetysticklers.com/manage-event-crowds-tips-for-crowd-control/
can be leveraged is having event staff hold up “stop” and “go” signs to regulate how crowded certain areas of the attendee path are. In order to keep crowds managed at all times, it is advised to keep access points scarce so event staff can remain in control and focus their efforts.86

**Seating in the stadiums**

As we have seen previously, one of the largest draws to live sporting events is the atmosphere and a fan’s ability to lose themselves in the experience. A huge part of that is derived from how lively and crowded the stadiums are. This of course presents an inherent COVID risk as mathematician John E. McCarthy at Washington University in St. Louis found. While designing a tool to help fans return to stadiums that are as safe as they can be, he and his team found that “the single most important risk factor in a fan experience is seating; and, with mitigation, the risk in everything else is relatively small.”87

The suggested methods to mitigate this salient risk is to play around with seating configurations where you may block a middle seat or an entire section of seats; and use Plexiglas between seats. The diagram below highlights further details:

![Diagram showing seating configurations](source: Washington University in St. Louis)

While having packed stadiums goes against research finding from the CDC and Kansas State University, which found that leaving middle seats empty may reduce COVID-19 spread88, wearing a mask remains the single most effective way to stop the spread of COVID-1979, and so blocked seats are not necessarily the only way to return to sports safely. This certainly seems like the trend going forward as the 2022 Super Bowl in Los Angeles was played before a full stadium.89

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86 [https://everwall.com/blog/best-practices-for-controlling-a-crowd/](https://everwall.com/blog/best-practices-for-controlling-a-crowd/)
Case study: 2004 Summer Olympics

The 2004 Summer Olympics were the first Summer Games to be held following the September 11 attacks.\(^9^0\) A record $1.5 billion\(^9^1\) was spent on ensuring the safety and security of spectators and athletes. The advanced security measures that could be relevant to our research question included:

- **International cooperation**
  - An international committee was instigated to advise on security efforts and exchange information on terrorism threats\(^9^2\)

- **Tabletop exercises**
  - 170+ operational readiness exercises were carried out\(^9^3\)

- **Larger event teams with defined responsibilities**
  - Greece formed a command-and-control center made up of 25,000 police officers; 7,000 military troops; 3,000 coast guardsmen; 1,500 firefighters; 3,500 private security personnel; and 5,000 trained volunteers\(^9^1\)

- **Hiring experts**
  - Greece engaged the world’s top terrorism security experts to run risk assessments of all venues and identify potential vulnerabilities\(^8^8\)

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\(^9^1\) [https://www.nbcnews.com/id/wbna5490540](https://www.nbcnews.com/id/wbna5490540)


\(^9^3\) [https://www.everycrsreport.com/files/20040728_RL32497_b74364fa9ede91fe41f49f49ab6230b1ce219d37.pdf](https://www.everycrsreport.com/files/20040728_RL32497_b74364fa9ede91fe41f49f49ab6230b1ce219d37.pdf)
LESSONS LEARNED FROM THE FIFA ARAB CUP: THE OFFICIAL PILOT OF THE 2022 FIFA WORLD CUP

The FIFA Arab Cup took place between November 30 and December 18, 2021 when the Omicron variant of the Coronavirus began to make headlines. There were 60,456 attendees at the final match between Algeria and Tunisia which was higher than the average attendance per game in the 2018 Russia, 2014 Brazil, 2010 South Africa and the 2006 Germany World Cups to name a few. As the Arab Cup drew massive numbers of attendees that were on par with previous average World Cup attendance figures, it is helpful to analyze the fan journey to help understand which elements of health security are necessary to emphasize in developing a viable strategy to limit COVID outbreaks during the World Cup whilst preserving the fan experience.

**Observation: My fan journey map**

In order to get a better sense of the experience an average attendee had at the games, I mapped my own fan journey for the Qatar Vs Iraq game on December 6, 2021 to gain insights into what aspects worked well and which did not go so well to preserve the fan experience and limit the spread of COVID. My fan journey was as follows:

![Fan Journey Diagram](image)
As not all aspects of my journey are relevant for this research paper, I will only focus on the parts of my journey that related to crowd control, COVID screening, and/or seating at the stadium. These parts are highlighted in blue, and my specific observations and experiences are further detailed below.

**Download EHTERAZ**
When I arrived to Qatar, I downloaded the mobile application EHTERAZ. As I was fully vaccinated and had a negative COVID test upon arrival, the application should have given me a green QR code meaning I was eligible to go about my usual activities in Doha. This was not the case. I completed a second COVID test the next day and continued to receive a yellow QR code meaning I had to quarantine. I called the helpline (109) over 26 times over a span of 3 days and my QR code did not change over. It changed to a green QR code 8 days after I arrived in the country.

This technical glitch and the lack of personnel available to assist with the error would have large adverse impacts on Qatar’s reputation as a capable host of a global event as prominent as the World Cup. If EHTERAZ or a similar technical platform is to be used at the games, personnel should be able to resolve the issue within 24 hours to ensure fans do not miss the games they flew to see.
Cross walkway twice (on arrival and departure)
After parking, there was a walkway all attendees had to cross to get to the stadium. The walkway was incredibly wide and allowed for fans to distance comfortably. The stairs leading up to the walkway however were very packed and could have used more event staff to usher fans at a steady rate. The same was true when leaving the stadium.

Arrive to and leave stadium
Once off the walkway, fans were required to walk for about 10 minutes to get to the stadium’s gates. The path cleared was also very wide and allowed fans to distance appropriately. Barriers were set up to indicate the correct traffic flow for fans and it was easy to orient myself even though it was my first time at the stadium. Signage was heavily leveraged and further contributed to my feelings of comfort as I made my way to the stadium. Event staff regulated the traffic flow with green “Go” signs that were also labeled in Arabic. When event staff felt the pathways were sufficiently clear, they displayed the green sign and allowed fans to cross to the walkway.

Although there was ample security on hand, I observed some fans defy them and cross the barriers out of sync by going across the barriers as opposed to around them. This is a common phenomenon at mega-events as not all authority figures will be able to control fan behavior. This is something that will need to be looked at closer for the World Cup to limit the number of fans causing disruptions at the event.
Pass though COVID screening
There was a bit of a bottleneck when it came to undergoing the COVID screening checks which consisted of reviewing the EHTERAZ app to ensure every fan had a green QR code. Because of the bottleneck and the shortage of staff, the check was done hastily, and many vulnerabilities were observed.

First, no one checked to see if I was actually vaccinated. As I was vaccinated outside of Qatar, my EHTERAZ does not have a golden box around the QR code indicating that I am vaccinated. When the staffer checked my EHTERAZ, he did not ask to see proof of vaccination since I was missing the golden box.

Second, the staffers were clearly pressed for time and so only asked each fan to hold up their phones and show them a green QR code from afar. No staffer checked to see if the name on my ID matched the name on the EHTERAZ app. Further, as they only checked the QR code from afar and not the timestamp, they would not have been able to tell if I merely screenshotted an old QR code or used someone else’s code entirely. For the final, I tested this theory and presented a screenshotted QR code from 3 days prior and it was undetected by the staffers. This is a dangerous vulnerability because it means fans who test positive or who should be in quarantine can use someone else’s phone to gain admission to the stadium and bypass COVID screening.

Pass through security check
The security check was very routine and operated smoothly. There was an adequate number of security personnel on hand, and they completed their checks in a timely fashion.

Pass though ticket check
The ticket check was also heavily staffed, and each scanning station was manned by one staff member to resolve any issues; answer questions; and provide directions to a fan’s seat.
**Get directed to my seat**
There were 3 staff members that I interacted with while walking from the ticket scanning area to my seat. There was no need for me to ask for directions because all three staff members were positioned strategically on the determined path. The abundance of staff members made the experience seamless.

When I got to my seat, most fans had removed their masks even when they were not eating or drinking. As the stadium was open-air, this did not make me feel uneasy. The staff by contrast, always had their masks on.

There were no blocked seats, and the stadium was packed, as it would have been pre-COVID. The packed stadium definitely added to the fan experience and made the game much more lively and real.

**Interviews: What 58 soccer enthusiasts had to say about COVID safety VS experience**
In addition to my own fan journey, I sought to hear what concerns other game goers had who attended the event regarding COVID safety and the fan experience. I also complemented this by hearing from other soccer fans who were not in attendance but considered themselves soccer enthusiasts and so could potentially be in attendance in 2022.

I conducted a total of 58 interviews with young adults aged between 22 to 43 who described themselves as football enthusiasts. For the purposes of this research paper, I have defined these as people who play soccer (football) themselves, and/or watch the game live or on television consistently throughout the season. I interviewed 39 of these individuals outside Gate 8 at Al Bayt Stadium in Doha, Qatar on December 18, 2021. The remaining 19 individuals were students who were part of soccer (football) intramural sport groups on their college campuses across North and South America and Europe.

These interviews were conducted to better understand what factors mattered to potential World Cup attendees in terms of preserving the fan experience, as well as to appreciate what their tolerance was for COVID protocols. Each interview lasted about 15 minutes and 5 questions were asked. Below are the five key takeaways from those interviews.
Takeaway 1: Young adults are not worried about getting COVID at the World Cup
On average, most soccer fans interviewed did not see COVID as a cause for concern for attending the World Cup mainly due to their vaccination status, general health, and the fact that they have already contracted the virus. As one interviewee put it, “I’m okay with potentially getting it, since I have had 3 vaccinations [and] already recovered once without any symptoms and generally feel very healthy.” Further, many pointed to the fact that “after two years we got used to it so there is no fear from it, and we have adapted within [our] environment so it's not much of a concern anymore.” Others however are worried about contracting COVID and have mentioned that they are “not planning to go because getting Covid is one of the reasons.”

Takeaway 2: Most young adults believe vaccine and testing requirements will best protect them at the World Cup
On average, most soccer fans interviewed believed vaccine and testing requirements will best protect them at the World Cup. While they were happy to have these measures in place, they did express certain conditions. The most cited factors in adhering to these measures included that testing be free and convenient (i.e., fast turnaround for results and abundant testing centers). They also expressed that if testing were to be frequently required (i.e., for every game), and they tested positive, they would expect to get a refund for their travel expenses. Others were very opposed to testing requirements for this exact reason. As one interviewee put it, “it would make me nervous to buy tickets knowing I may end up being positive and have to waste all my money for nothing.”

Another theme that arose was that young adults felt that it would be appropriate to block off seats for senior citizens and individuals who are immunocompromised, but not for the general public.
Takeaway 3: Most young adults believe stringent COVID protocols are a good thing

On average, most soccer fans interviewed believed stringent COVID protocols are a good thing and encouraged them to attend the games as it made them feel safe provided there were free or “included with the price of tickets”. One interviewer attested that “stringent procedures will make me more likely to attend.” Interviewees did however oppose measures they felt were invasive such as contract tracing apps where they were concerned about their privacy.

A majority also expressed that they would be annoyed (but not opposed to) frequent testing. Some interviewees were skeptical about the implementation of such measures. As one interview put it, “negative PCRs don’t make practical sense for every game because the only authorized lab is Hamad, and they don’t have the capability to test everyone and get results out in time.”

For those that see these measures as holding them back from attending cited the added complications around “travel and border restrictions”; “fear of getting COVID and getting stuck”; and “I already would have paid for tickets and flights, not going to risk that money” as the primary reasons. Others were worried about the long lines that these screening measures would create.
Takeaway 4: Most young adults are willing to show a negative test before every game
On average, most soccer fans interviewed expressed willingness to show either a negative PCR or rapid antigen test before every game. The main conditions however were that these tests be free; readily and conveniently available; and that getting them does not result in long queues.

A majority expressed that between rapid antigen tests and PCR tests, they would prefer rapid antigen tests as they are less of a hassle. A minority expressed that having rapid antigen tests would be meaningless as they “don’t seem to be accurate enough to determine anything.”

There was a subset of fans that strongly opposed this suggestion and stated that “if there is a risk I might be prohibited from entering the stadium due to a positive test, I probably would refrain from going to Qatar in the first place.” Others stated that having daily tests was not practical and a waste of resources, with one fan explaining that “this sounds hectic!” Other fans expressed that “going to get tested at the pharmacy is not what I expect to do at the World Cup,” further highlighting how this procedure would ruin the fan experience.

Takeaway 5: Most young adults would not be happy if some seats at the stadium were blocked to allow for social distancing
On average, most soccer fans interviewed expressed they would not be happy if some seats at the stadium were blocked to allow for social distancing. The majority of fans described this measure as “a buzz kill” and a sure way to “ruin the experience” as “the game is so much about the atmosphere” and they expect “a full packed stadium.” Others stated it would be “dumb since the games are outdoors and risk of infection is low.”

Supporters of blocking seats explained that while “it wouldn’t be as fun, the World Cup getting canceled because of COVID transmission would be worse” and so preferred to
play it safe. Others emphasized that at the bare minimum, there should be a “blocked off section for older adults or immunocompromised people.”
LIST OF OPTIONS TO ADDRESS THE PROBLEM STATEMENT

When deciding on options to address the problem statement of “how Qatar can host a successful World Cup given COVID concerns and limitations in a vaccinated post-pandemic world,” I decided to consider options based on varying levels of conservatism in COVID procedures depending on the current threat environment.

The three options proposed are summarized in the figure below and are detailed further thereafter:

**Option 1: Don’t Worry, Be Happy:** This option is a less conservative approach in terms of COVID procedures and assumes that COVID is a minor threat. It entails relaxing all major COVID procedures such as PCR testing; contract tracing apps; social distancing; and vaccinations but relying on less invasive procedures such as wearing masks and washing hands.

The best example of this policy option would be considering the city of Boston. On February 19, 2022, Mayor Wu announced that proof of vaccination is no longer required at Boston's restaurants, bars, nightclubs, fitness centers or indoor entertainment venues, such as stadiums. This lift of COVID restrictions was in line with the reduced number of positive cases reported in and around Boston, hence making COVID a non-threat. On March 5, 2022, Boston's indoor mask mandate for businesses was lifted, further steering the city back to normalcy.

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**Option 2: Shake It Off:** This option is a moderately conservative approach in terms of COVID procedures and assumes that COVID is a moderate threat. It entails replacing the most burdensome COVID procedures (namely PCR and antigen testing) due to their impacts on creating queues and straining resources, with supplemental screening leveraging technology. With this approach, vaccinations, hand washing, and mask mandates would be in effect, but PCR testing would be eliminated and instead replaced with metal detectors that double as thermal screening machines.

The best example of this policy option would be considering Hamad International Airport’s use of thermal screening cameras to screen passengers entering the country. By simultaneously screening passengers for fevers and metal possessions, they streamline the screening process and do not overburden passengers to queue in two different lines.

**Option 3: Dancing On My Own:** This option is a more conservative approach in terms of COVID procedures and assumes that COVID is a major threat. It entails remaining on high alert and maintaining all stringent COVID procedures including requiring vaccinations; antigen testing; masks; social distancing; and regular hand washing. It also entails having a three-day quarantine when fans arrive to the country. The objective behind this strict approach is to avoid a global super-spreader event and in turn tarnish Qatar’s reputation.

The best example of this policy option would be considering the 2021 Tokyo Olympics, where spectators were removed entirely; and the 2022 Beijing Olympics where spectators were limited to domestic fans only. These extreme stances ensured the safety and security of the athletes and the wider community the games took place in, but they significantly impaired the fan experience.
CRITERIA TO ASSESS THE SUGGESTED OPTIONS

Previously, I shared my 7 P’s framework that outlines the important factors to consider when balancing security and the fan experience given COVID as a limiting factor. The aim of this framework was to ensure fans are safe, but also able to enjoy the game and not feel overly panicked or burdened by safety protocols. The seven elements of this framework can be used to define the criteria I will use to assess my suggested options against.

**People**: This driver of satisfaction pertains to the presence and behavior of security personnel. Fans expect security personnel to be on hand but to treat them with respect and provide accurate and timely information.

**Process**: This driver of satisfaction pertains to the length of time it takes to get checked in to the stadium, i.e., how long it takes to go through various screening procedures such as ticket scanning and vaccine card verification.

**Protocols**: This driver of satisfaction pertains to the number of things fans need to do to get screened for COVID either at the stadium or prior to their arrival. These include: temperature checks; negative COVID tests; vaccinations; and downloading the EHTERAZ app.

**Place**: This driver of satisfaction pertains to the general cleanliness of the facilities. These factors include how clean the seats and bathrooms are.
**Promise:** This driver of satisfaction pertains to the extent to which fans feel they have been transported to a dream-like reality pre-COVID. This includes factors such as: how well the ambiance makes fans feel like they are at a premier sporting event without COVID; if seats are not blocked; the proximity to other fans; and whether fans are wearing masks.

**Path:** This driver of satisfaction pertains to how well crowd management is handled at the game. This includes factors such as: how safe fans feel walking amongst a crowd; how long the queues are for screening; and how clear the signage is.

**Perception:** This driver of satisfaction pertains to how anxious fans may feel at the stadium. This includes their anxiety induced by seeing fans wear masks or their apprehension around testing positive for COVID.
**ASSESSMENT OF THE SUGGESTED OPTIONS**

In order to assess my three suggested options, I decided to compare them against my seven criteria to see which option had the largest number of criteria met. I decided to equally weigh all criteria as I believe all seven components are equally as crucial to hosting a successful event in terms of the fan experience.

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<tr>
<th>People</th>
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<td>Removes most burdensome screening procedures</td>
<td>Very small likelihood of an outbreak</td>
</tr>
<tr>
<td>Cons</td>
<td>Globally seen as irresponsible</td>
<td>Midway solution with vulnerabilities on both ends</td>
<td>Fans will be less enticed to attend</td>
</tr>
</tbody>
</table>

The analysis revealed that all three options touch on equal parameters of the 7 P’s Framework, meaning they are all equally as robust in addressing the problem statement we set to resolve. This is expected as each approach would be ideal in different points of time depending on the threat environment. Having a multifaceted approach would be helpful to address our problem statement as the appropriate response and measures can change at any time and it is crucial to have all three options at our disposal.
RECOMMENDATIONS FOR THE WORLD CUP

It is recommended for Qatar to adopt an integrated solution leveraging all three options at varying levels of risk depending on the current threat environment. This will require regular monitoring of COVID cases in and around Qatar as well as global trends in vaccination rates. Depending on the country's risk assessment and risk appetite at any given point in time, they should adopt one of the aforementioned options they believe will best achieve the proper balance of safety and experience. The figure below illustrates a high-level view of the recommended course of action. Further details are outlined thereafter.

A summary detailing which COVID procedures are recommended at each risk level is outlined below:

<table>
<thead>
<tr>
<th>COVID Procedures</th>
<th>Low Risk</th>
<th>Medium Risk</th>
<th>High Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Masks</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Hand washing/ sanitization</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Vaccines</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Thermal screening</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PCR testing</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Social distancing</td>
<td></td>
<td></td>
<td>x</td>
</tr>
</tbody>
</table>
A summary detailing how to adopt COVID procedures at each risk level is outlined below:

<table>
<thead>
<tr>
<th>Risk Level</th>
<th>Characteristics of Threat</th>
<th>Option to Adopt</th>
<th>Procedures to Adopt</th>
<th>How to Adopt Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOW</td>
<td>COVID declared over by WHO or new weak strain emerges</td>
<td>Don’t Worry, Be Happy</td>
<td>-Encourage masks &amp; hand washing/sanitization</td>
<td>-Place hand sanitizer stations and branded disposable free masks around the stadium</td>
</tr>
<tr>
<td>MEDIUM</td>
<td>Moderate variant emerges and fan vaccination rate is not above 70%</td>
<td>Shake It Off</td>
<td>-Vaccinate all fans -Use elevated body temperature stations -Encourage hand washing/sanitization &amp; require masks</td>
<td>-Issue free vaccine doses to unvaccinated fans -Purchase and install body temperature stations that double as metal detectors -Place branded disposable free masks and hand sanitizer stations around the stadium</td>
</tr>
<tr>
<td>HIGH</td>
<td>New high-risk and contagious variant arises</td>
<td>Dancing On My Own</td>
<td>-Limit stadium to 50% capacity -Require all previous COVID procedures -3-day quarantine</td>
<td>-Block-off seats to allow for social distancing -Issue free vaccine doses to unvaccinated fans -Enforce antigen testing once per week -Enforce a 3-day quarantine upon arrival to Doha regardless of vaccine and testing status -Place hand sanitizer stations and branded disposable free masks around the stadium</td>
</tr>
</tbody>
</table>
Based on the integrated solution recommended above, the following actions comprise my full set of recommendations:

**Low Risk Environment 🟢 🟠 🟡

**Recommendation 1: Encourage fans to wash their hands regularly**
Make it easy for fans to access hand sanitizer stations by placing 100 hand sanitizer stations throughout the stadium, especially near major entry points, bathrooms, and food stalls. Display signs at all washing points that instruct fans to wash their hands with soap and water for 20 seconds. Display these signs in the FIFA languages (English, French, German and Spanish), as well as the remaining most spoken languages in the world (Mandarin, Hindi, Arabic, Bengali, Russian and Portuguese).

**Recommendation 2: Encourage the use of branded disposable surgical masks**
Encourage fans to wear masks by placing 6,000 free masks (10% of stadium capacity) throughout the stadium, especially near major entry points, and food stalls. The masks should be surgical masks as studies by a group of researchers from Yale and Stanford found that surgical masks are 95% effective at filtering out virus particles compared to cloth masks that only filter out 37% of virus particles. An alternative would be to package a 2022 FIFA World Cup Welcome Bag that would contain a bottle of branded hand sanitizer; several branded surgical masks; a box of tissues; and surgical gloves. These bags would be placed under each seat at the stadium for easy access. Sponsors of the World Cup could be asked to fund these welcome bags in exchange for their logos to be placed on the various items.

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97 [https://mercedesbenzstadium.com/health-safety/](https://mercedesbenzstadium.com/health-safety/)
99 [https://www.berlitz.com/en-uy/blog/most-spoken-languages-world](https://www.berlitz.com/en-uy/blog/most-spoken-languages-world)
Recommendation 1: Encourage fans to wash their hands regularly
Same details as in low-risk environment.

Recommendation 2: Require the use of branded disposable surgical masks
Require fans to wear masks by placing 12,000\(^2\) free masks (20% of stadium capacity) throughout the stadium, especially near major entry points, and food stalls. The masks should be surgical masks as studies by a group of researchers from Yale and Stanford found that surgical masks are 95% effective at filtering out virus particles compared to cloth masks that only filter out 37% of virus particles.\(^3\) The masks should be made with at least two layers of breathable material and should fully cover the nose and mouth and secure under the chin.\(^4\) Security staff should check every attendee is wearing a mask as they pass through the physical security and COVID screening checks. Stadium staff should also patrol their designated seating areas to identify fans without masks and bring them some. They should implement a three-strike system where after two warnings, the fan will be removed for the remainder of the game. It is worth considering packaging a 2022 FIFA World Cup Welcome Bag that would contain a bottle of branded hand sanitizer; several branded surgical masks; a box of tissues; and surgical gloves. These bags would be placed under each seat at the stadium for easy access. Sponsors of the World Cup could be asked to fund these welcome bags in exchange for their logos to be placed on the various items.

Recommendation 3: Issue free vaccine doses to unvaccinated fans
Given some of the negative publicity Qatar has received with their hosting of the World Cup\(^5\), albeit misguided and grossly misrepresented, it would be in Qatar’s best interest to use the games as an opportunity to give back to the global community. One way to achieve this is by leveraging the nation’s abundance of resources to help attendees access vaccines they may not otherwise have in their home countries. In June 2021, Prime Minister Sheikh Khalid bin Khalifa bin Abdulaziz Al Thani stated that Qatar was “negotiating with a company to provide one million doses of COVID-19 vaccines in order to immunize and vaccinate some of those coming to Qatar.”\(^6\) Given that approximately 16.24\(^7\) million doses of COVID vaccines are administered each day, it is likely that most fans who plan to attend the games will already be vaccinated by November 2022 and so it would be a small lift for Qatar to vaccinate the few fans left as they arrive to Doha. This assumption is further corroborated when analyzing the vaccination rates to date of

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\(^{103}\) https://www.cnbc.com/2021/10/15/are-cloth-masks-effective-for-covid-surgical-masks-vs-kn95-explained.html
\(^{104}\) https://mercedesbenzstadium.com/health-safety/
\(^{107}\) https://ourworldindata.org/covid-vaccinations
the most likely nations fans will come from to attend the games. The most likely nations fans will come from to attend the games was based on two categories of people. First, the fans that will come from countries that have already qualified, namely: Serbia, Spain, Switzerland, France, Belgium, Denmark, Netherlands, Croatia, England, Germany; and the countries who still have a chance to qualify, namely: Portugal, Turkey, Scotland, Poland, Italy, North Macedonia, Ukraine, Sweden, Austria, Wales and Czech Republic. The second category is comprised of fans who will come from neighboring countries, the Arab World, and nationalities that largely make up the Qatari population, namely: Algeria, Bahrain, Egypt, India, Indonesia, Iran, Iraq, Jordan, Kuwait, Lebanon, Malaysia, Morocco, Oman, Pakistan, Philippines, Saudi Arabia, Sudan, Syria, Thailand, Tunisia, Turkey and the UAE. From the chart below, you will notice that all countries mentioned have fairly high vaccination rates that are above the world average. For the countries below the world average, they tend to be less economically developed countries and so it is likely that only the wealthier nationals from those countries (who also tend to have access to vaccines), will be able to afford the steep game tickets which are around a third more expensive for the cheapest available category for international fans when compared to Russia 2018.

Recommendation 4: Install body temperature stations that double as metal detectors
In an effort for COVID screening procedures to be less burdensome and time consuming for fans, they must be administered quickly and conveniently. One way to do this is to combine COVID screening with physical security checks by leveraging screening technologies such as Passive Security Scan’s elevated body temperature station. This

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110 https://ourworldindata.org/covid-vaccinations
device is part of a walk-through metal detector that you see at airports but simultaneously screens for elevated body temperatures as well as weapons, meaning that fans will have to walk through just one detector to satisfy the temperature checks and the physical security checks. It is crucial to note that this tool cannot be used in isolation as studies have shown that the majority of potentially infectious individuals are not detected by temperature monitoring, but is a useful line of defense to have in place.

**High Risk Environment**

**Recommendation 1:** Encourage fans to wash their hands regularly
Same details as in low-risk environment.

**Recommendation 2:** Require the use of branded disposable surgical masks
Same details as in medium-risk environment.

**Recommendation 3:** Issue free vaccine doses to unvaccinated fans
Same details as in medium-risk environment.

**Recommendation 4:** Operate at 50% capacity by blocking-off seats to allow distancing
In an event where the threat environment is severe, seats should be blocked off where only members from the same group sit in an area specific to them. At least 4 seats between groups and 2 rows in front and behind the group should be left empty to achieve a six-foot distance. It would also be advised to use Plexiglass to further close off areas with people with preexisting medical conditions and the elderly due to their heightened risk.

**Recommendation 5:** Enforce antigen testing once per week
In an effort to not strain resources from Hamad as the only lab authorized to analyze PCR tests, and to not overly burden fans by forcing them to wait for results for several hours, antigen tests should be administered at the stadium free of charge and should be incorporated as part of the screening procedures. 100 Antigen test kiosks should be erected outside the stadium with medical professionals who can administer the tests. Once the results are available, the fan should be alerted by getting a green barcode on a new 2022 World Cup app which ticketing staff can scan as the fans enter the stadium indicating they are cleared. This procedure should only be conducted once a week or as necessary if for example a fan is showing symptoms. In this case, ticketing staff should

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113 https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-021-11697-6
114 https://www.bbc.com/worklife/article/20200422-when-can-we-start-flying-again
direct the fan to one of the kiosks on a fast-track basis for them to additionally screen the fan.

**Recommendation 6: Enforce a 3-day quarantine upon arrival to Doha regardless of vaccine and testing status**
While the CDC recommends that individuals quarantine for 7 days post travel\(^{115}\), that is an unrealistic ask for travels that may not be able to afford enough time off work or have the means to find accommodation for 7 extra days. Instead, it is recommended to quarantine for three days as studies show that symptoms typically appear 2 days or more after exposure to the virus.\(^{116}\)

**Supplementary Recommendations**

While the last three years have shown us that the threat environment of COVID-19 is ever changing, there are items that need to be addressed irrespective of the risk profile, and so should also be part of the country’s robust response plan. The following actions comprise my **supplementary list** of recommendations:

**Recommendation 1: Increase legitimacy of authority**
A common phenomenon at mega-events is for fans to undermine authority figures. Examples of undermining authority at a stadium include fans ignoring signage when authorities are attempting to control crowds; using intimidation to skip screening procedures; and ignoring seating protocols. To mitigate these risks, it is advised that crowd control personnel, ticketing personnel and security personnel be people whose authority will be recognized by the crowd within the norms and culture of the society.

**Recommendation 2: Leverage signage to manage crowds**
Empower event staff to regulate traffic flows to and from the carpark, and to and from the stadium, with green “Go” signs and red “Stop” signs that are labeled in English and Arabic.

**Recommendation 3: Develop a 2022 World Cup app to replace EHTERAZ and set up pre-game validation kiosks to streamline COVID screening**
Due to EHTERAZ’s perceived violation of personal data, it would be best to discard the app and develop a new 2022 World Cup app that can be used to help streamline COVID screening and provide general information about the games. Use the app to display a detailed floor map of every venue so fans can identify how to get to the stadium and their seats ahead of time, which will limit the need for fans to wonder around the

\(^{115}\)https://www.healthline.com/health-news/p-holiday-travel-plans-heres-when-you-may-need-to-quarantine#Who-should-quarantine?

\(^{116}\)https://www.fda.gov/media/144638/download#:~:text=Symptoms%20may%20appear%202%20to%203%20days%20after%20exposure%20to%20the%20virus.
stadium and help event staff better control crowds. The app can also be used to alert fans of any last-minute changes due to the changing threat environment of COVID.

The app should also be used to streamline COVID procedures. This can be achieved through a two-tier approach. Alert fans that their vaccination cards and antigen tests (if required), need to be validated ahead of the games. Allow fans to use the app to upload a photograph of themselves along with their vaccine cards and passport bio pages for verification. Set up in-person validation kiosks for less tech savvy fans or fans needing further verification in-person. Once all information has been validated, fans will receive a “clear” QR code in their app that event staff can scan to clear fans of COVID screening.

**Recommendation 4: Develop ticket transfer agreements with FIFA 2026 World Cup organizers (Canada, Mexico and the United States)**

In the event that organizers must operate under a high threat environment and so must cut capacity down to 50%, there will inevitably be a number of unhappy fans who will demand refunds. As this is operationally and logistically infeasible, it would be recommended to agree with 2026 FIFA World Cup organizers that tickets that cannot be honored for the 2022 FIFA World Cup in Qatar, will automatically be honored for the 2026 FIFA World Cup in Canada, Mexico and the United States.

**Recommendation 5: Run multiple tabletop exercises with ground staff**

While this report has outlined a number of risks along with their recommended mitigations, there may be more unexpected and unknown threats that may materialize leading up to November 2022. The organizing team should run a number of tabletop exercises that imagine any situation that could possibly arise no matter how unlikely, and draft a response plan outlining who will be responsible, and what their specific duties should be.
CONSIDERATIONS FOR IMPLEMENTATION

When rolling out a response plan for a mega-event, it is helpful to have a checklist prepared to signal what items need to be ready and what communications plan you will deploy if last minute changes need to be communicated to your fans. Below is a high-level set of such considerations when rolling out your plan to balance safety and experience at a mega-event:

Consideration 1: Prepare a checklist to prevent the spread of COVID-19

Prepare a checklist to promote healthy behaviors, sterile facilities, and smooth operations that reduce the spread of COVID-19 ahead of your event.117 Items on your checklist could include:

- What supplies you will need ahead of time. E.g., soap, hand sanitizer, surgical masks
- What procedures you will follow to ensure surfaces are sterile. E.g., frequency of disinfection activities
- What training you may need to provide to event staff.118 E.g., how to identify a fan that could be a carrier of the virus
- What procedures to follow if a fan or member of staff is COVID positive. E.g., How will you separate the individual from the crowd

Consideration 2: Develop a crisis hashtag strategy

During a mega-event, it is within the realm of possibility that a crisis may occur. As most fans tend to take to social media to either complain about an incident or to seek information about it, it is advisable to have a crisis hashtag ready.119 The ultimate goal of such a hashtag is to group pertinent information relating to a crisis on social media. The strategy should include:

- The role the hashtag will play;
- The procedures for using the hashtag;
- Which personnel or teams will monitor the hashtag; and
- How to combat the spread of misinformation pertaining to the hashtag.

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APPENDIX

Methodology

In order to determine the criteria to assess the different options for how Qatar can host a successful World Cup given COVID concerns and limitations in a vaccinated post-pandemic world, I relied on the following approaches to gather information and evidence:

1. Literature reviews
2. Conducting interviews
3. Case studies
4. Observation

Literature reviews:
I reviewed publicly available literature on crisis mitigation frameworks and global best practices for COVID safety at mega-events, with an emphasis on sporting events. This piece of data collection and analysis was critical to understanding how Qatar can mitigate against COVID outbreaks during an event of such magnitude.

Conducting interviews:
I conducted a total of 4 interviews with security and communications experts to gauge their insights on how Qatar can best host a mega-event within the confines of COVID in terms of security and preserving the fan experience. They included:

**Frank Supovitz, President & CEO at Fast Traffic Events & Entertainment**
For more than 25 years, award-winning event producer Frank Supovitz has been at the helm of some of the world’s most prestigious, widely-viewed and well-attended sports and entertainment events, first leading the National Hockey League’s Events & Entertainment department, and then as Senior Vice President, Events for the National Football League.

**Massimiliano Montanari, CEO at International Centre for Sport Security**
Massimiliano Montanari is an international civil servant who holds over eighteen years of experience in international affairs, diplomacy and social innovation. Prior to assuming his current role as ICSS Group CEO, Massimiliano served in various roles at the ICSS, including as Chief Executive Officer of the ICSS INSIGHT (2018-2020), Chief of Cabinet (2014 – 2016) and Executive Director of Save the Dream, a role he still holds.
Jonathan Wackrow, COO at Teneo Risk & Global Head of Security

Jonathan Wackrow is the COO of Teneo Risk and serves as the Global Head of Security for Teneo. Jonathan leads enterprise risk and crisis management engagements and advises CEOs, management teams and Boards on issues relating to risk intelligence, enterprise security risk management and crisis preparedness and response. Mr. Wackrow is an exclusive Law Enforcement Analyst for CNN, providing on-air analysis of risk, safety, and security matters for domestic and international events.

Further, I conducted a total of 58 interviews with young adults aged between 22 to 43 who described themselves as football enthusiasts. For the purposes of this research paper, I have defined these as people who play soccer (football) themselves, and/or watch the game live or on television consistently throughout the season. I interviewed 39 of these individuals outside Gate 8 at Al Bayt Stadium in Doha, Qatar on December 18, 2021. The remaining 19 individuals were students who were part of soccer (football) intramural sport groups on their college campuses across North and South America and Europe.

These interviews were conducted to better understand what factors mattered to potential World Cup attendees in terms of preserving the fan experience, as well as to appreciate what their tolerance was for COVID protocols. 24 countries of origin were represented in this sample.

Case studies:

I have developed 3 case studies for this research project. Two case studies (the 2021 Indy 500 in Indianapolis and the 2022 Winter Olympics in Beijing) focus on how implementation of COVID protocols at large sporting events have been successful in containing the spread of the virus while also not hindering the fan experience. The third case study (2004 Summer Olympics in Athens) focuses on how Greece had to navigate organizing a mega-event in a changed world as it was set to host the first Summer Olympic Games post 9/11. This case study helped assess how organizers can increase security and still preserve the fan experience.
In order to select the case studies to use, I outlined the following criteria:

<table>
<thead>
<tr>
<th>Criterion</th>
<th>2021 Tokyo Olympics*</th>
<th>2022 Beijing Olympics</th>
<th>2021 Super Bowl</th>
<th>2004 Athens Olympics</th>
<th>2021 Indy 500*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Event had spectators</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Event had 30k+ in-person attendees</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Event had global attendees</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Event runs similarly to World Cup i.e., many venues disbursed across the Country</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Event duration is similar to World Cup</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Event was first major sporting event post crisis</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Although the 2021 Indy 500 had equal weighting as the 2021 Tokyo Olympics, I chose to spotlight the Indy 500 as it had spectators which makes it more comparable to the 2022 World Cup.

It is important to note that while these case studies are comparable in many respects to the 2022 World Cup, they merely serve as a benchmark and suggestion for ways the World Cup organizers can help ensure security at the Games while maintaining the fan experience. The lessons learned from these case studies will also need to be contextualized to fit Qatar’s unique needs and these modifications and considerations were addressed in the recommendations section of this research paper.

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**Observation:**

In order to obtain a firsthand account of what a prospective 2022 World Cup attendee may face in terms of COVID protocols, I attended two games during the FIFA Arab Cup, the official pilot for the 2022 World Cup. I attended a game with the home team against Iraq on December 6, 2021 as well as the final game on December 18, 2021 with both games being held at Al Bayt Stadium.

While in attendance, I specifically looked out for three aspects:

- How the organizers controlled the crowd
- How the organizers screened for COVID
- How attendees sat and behaved in the stadiums (proximity to one another and if they wore masks)

I also engaged in the customer experience journey in terms of COVID and documented how I felt as a prospective attendee during the pre-attendance procedures. These primarily included:

- Downloading the EHTERAZ application
- Taking a PCR test
- Using the EHTERAZ application

From these observations, I documented areas of improvement and included them as action points in my recommendations section.
GMR’s four primary emotional need states

GMR has defined each emotional need state to mean the following:121

**Belonging**

“The acceptance as a natural member of a group, or part of a chosen collective with common tangible/intangible interests. This may be a uniting mindset, a shared passion, or a support system that emerges in an event setting. Belonging is the driver of tribalism, which we anticipated finding as the dominant force for sports attendance.”

**Enrichment**

“The growth that comes from digging in deep on a vertical, or simply discovering or learning something new. This may include novelty and surprise, knowledge and personal growth, and creativity and experimentation.”

**Release**

“The escape from daily life, using experiences to help cope with societal pressure, demands and stressors. Attraction to other fans or the lifestyle, simple fun, and just being present and in the moment are all forms of release.”

**Identity**

“The qualities, beliefs and values that make a person or group unique and different from others. Traditions, external proofs, and aspirations all fall into this category.”

Of these four emotional need states, release by far leads in driving fans to attend live events and by proxy, leads the fan experience. Sports fans ranked the need for release at 89% meaning that they ranked the need for release twice as important as belonging. GMR also found that sports fans were most excited about the atmosphere at the stadium, rewarding it 24 points higher than any other reason for wanting to attend an event.

121 file:///Users/user/Downloads/future-proofing-the-sports-fan-experience_web_final.pdf
Majd Steitieh is completing her Master in Public Policy degree at the John F. Kennedy School of Government at Harvard University. She comes from a multidisciplinary background that includes management consulting, financial services, public policy, and fashion design. Prior to the Kennedy School, she spent two years as a management consultant in Abu Dhabi and Jeddah. During this two-year period, Majd worked with governmental entities on issues centered around public safety. Majd also spent three years auditing banks and other financial institutions in Qatar. Majd has always had a passion for public service and started a socially motivated women's fashion brand specializing in a unique blend of traditional and modern wear for Middle Eastern dresses to support Post-Traumatic Stress Disorder (PTSD) treatment for Syrian and Palestinian refugees. Majd completed her undergraduate degree at McGill University where she majored in accounting.

In academia, the private sector, government and media, Juliette Kayyem is a national leader in homeland security, cybersecurity, resiliency, and safety. She is currently a Professor in International Security at Harvard's Kennedy School of Government, where she is faculty chair of the Homeland Security and Security and Global Health Projects. In this position, she teaches courses on homeland security and crisis management, and leads programmatic efforts across a broad range of security challenges including North America border management, climate change adaptation, and public health disinformation. She is affiliated faculty for Harvard’s National Public Leadership Initiative. She is co-editor of the book, “Beyond 9/11: Homeland Security for the 21st Century.” (MIT Press, 2020)

Kayyem is an innovative leader and consultant in the private sector. She is the CEO of Grip Mobility, a technology platform that provides audio and video capabilities for rideshare companies to increase the security for drivers and riders; Grip Mobility is now distributed globally, with several major pilots with Uber. She was named Inc Magazine’s top 100 Female Founders in 2019.
John Haigh is Co-Director of the Mossavar-Rahmani Center for Business and Government and Lecturer in Public Policy at the Harvard Kennedy School. He teaches a seminar on business and government interactions to second year Master in Public Policy students (BGP-150Y); a seminar on business and public policy for students in the second year of the Kennedy School and Harvard Business School joint degree program (HBS 5222); and a module on corporate citizenship and public policy (BGP-231M). He focuses on teaching general management skills along with addressing issues of competition, technology, innovation, and regulation. From 2005 through 2017 he served as the Executive Dean of the Kennedy School, engaging in strategic decisions and overseeing the operating and financial activities of the school.