CSM RESEARCH REPORT

TOP-TIER SPORTS PRODUCT AND ITS PRODUCTION IN 2030

WHU
Otto Beisheim School of Management

INTRODUCTION

Dear readers,

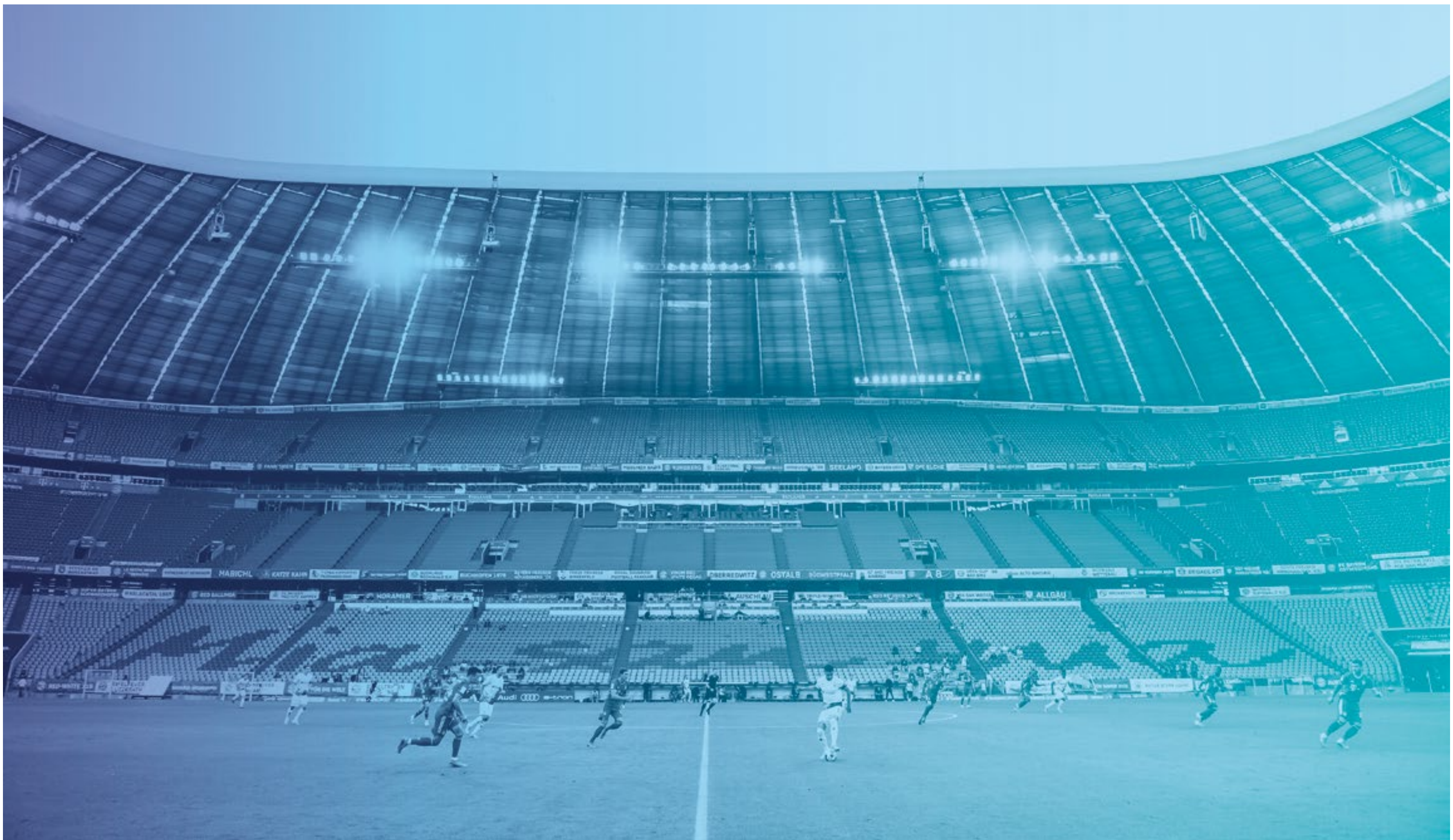
In 2020, we watched from our couches as the world's biggest athletes competed in empty stadiums. We were removed from the action and even the socialization that accompanied our sports consumption. It was our reality and became the "new normal"; society changed, and technology changed to support it. As the world opens again, there are many questions to be answered:

How do these shifts in consumer behavior, driven by new technological advances and societal changes, impact the broader media and entertainment industry? How must top-tier sports media products adapt to meet the next generation's needs – without losing existing fans? Will we continue to consume live sports and, more importantly, socialize in a stadium in the future? Or will we meet with friends in the metaverse – dialing in from home using virtual reality headsets? Will we continue to watch a relatively standardized tv product? Or will we be able to direct it ourselves, selecting (camera) perspectives and the commentary options, perhaps even supported by artificial intelligence automatically catering to all our needs and preferences? And what effects do these changes have on the production of a sporting event?

TWO DELPHI STUDIES, 25 PROJECTIONS, AND 99 EXPERTS

To get answers to these critical questions, we asked 99 experts to envision the near future of the top-tier sports product and its production in 2030. More specifically, using the well-established Delphi approach (e.g., Beiderbeck et al., 2021; von der Gracht, 2012; von der Gracht et al., 2010), our first expert panel assessed 14 projections on the future of the top-tier sports product, while – at the same time – a second expert panel evaluated 11 projections on the production of top-tier sports. To ensure a holistic perspective, we put together an interdisciplinary panel of experts, including representatives working for broadcasters and (sports) producers, sports associations, clubs, and leagues, media companies, sports consulting agencies, tech companies, as well as universities. Between February and April 2022, each of the 99 experts determined the expected likelihood of a given projection, the desirability of its occurrence and the potential impact in the case of occurrence.

It's important to note that DFL Deutsche Fußball Liga and Amazon Web Services (AWS) supported this Delphi project financially and idealistically. For instance, we drew on both companies' expertise in several expert workshops during the pro-



jection development. However, these two highly committed partners have not – in any way – influenced the interpretation or presentation of our results.

We would like to take this opportunity to thank Dr. Steffen Merkel, Robert Klein, and Andreas Heyden and their teams for the excellent collaboration. Naturally, our sincere gratitude also goes to the 99 experts who participated in these two studies and made valuable contributions to this report. In addition to their quantitative assessments, the experts provided 47,000 words of qualitative comments, which is an indication of their commitment and contribution to the high quality of the two Delphi studies.

THE TOP-TIER SPORTS PRODUCT WILL BE MORE IMMERSIVE AND INCREASINGLY PERSONALIZED TO MEET FUTURE CONSUMER NEEDS

From the first Delphi study, we see product experts expect future audiences to prefer participative top-tier sports over passive production (projection #05, probability of 69%), with an importance placed on the addition of more immersive features (#10, 76%) and effectively moving closer to the action. As such, future consumers might increasingly augment their feeds digitally (#04, 75%), most notably by adding (and switching between) digital overlays, while also routinely choosing their preferred camera angles – including an athlete's, a head coach's, or referee's Point of View (PoV) – and even the color commentator. Interestingly, this increasing personalization does not stop at the sidelines, as our experts expect audiences not to mind watching ads as long as advertisers tailor those ads to their preferences and needs (#02, 70%).

Notably, while our product experts predict that audiences, and especially next generation audiences, will prefer an active and immersive top-tier sports product, supplemented by serialized spin-offs (#11, 69%), most audiences will not experience such a product in a strict virtual environment (#06, 52%) – at least not as early as 2030. This assessment is mostly in line with the uncertainty about whether most audiences will own sport-related digital collectibles, (#3, 58%) despite the recent hype around Non-Fungible Tokens (NFTs). In contrast, our experts envision an increase in mobile consumption (#07, 64%) and more demand for 9:16 formats on-the-go (e.g., vertical clips, behind goal camera, PoV).

Turning to our second Delphi study, our production experts envision a similar future of immersion and personalization like the product experts. They expect the production of top-tier sports content to allow for personalized virtual advertising (#16, 86%) and the integration of specific demands from participatory audiences (#17, 75%), primarily to increase the engagement of younger audiences. Somewhat similarly, with audiences from the mobile-only generation becoming more and more important commercially, producers might also gear more toward mobile consumption (#18, 62%), though not exclusively.

ARTIFICIAL INTELLIGENCE IS LIKELY TO PLAY AN ESSENTIAL ROLE IN SUPPORTING CONSUMERS AND PRODUCERS ALIKE

In the future, sports content consumers will face the challenge of making the most of their experience. Accordingly, our experts repeatedly stressed the importance of algorithms in supporting audiences. Even though audiences are likely to indulge (and engage with) sports content featuring constantly visible live data (#01, 73%), an algorithm and customizable overlays might help them separate the wheat from the chaff seamlessly or compile preference-based highlights among others. Our experts also expect artificial intelligence to support content production units, most notably by automatically navigating cameras using artificial intelligence solutions (#20, 65%) or planning the logistics more efficiently (#21; 67%); that might even lead to fully automatized sports productions (#23, 54%), though beyond 2030. Against this background, it does not seem very surprising that our production experts believe that the production of top-tier sports content is possibly remote, meaning wholly off-venue and location-independent (#22, 69%) and exclusively IP-based (#19; 74%). As a consequence, production will emit significantly less carbon dioxide by 2030 (#24, 73%).

EXPERTS STRESS POTENTIAL DIFFERENCES BETWEEN FAN GROUPS, SPORTS, AND THE COMPETITIONS WITHIN

We invited a wide range of international experts with deep knowledge of the business of sports such as American football, basketball and cycling as well as of football leagues beyond the Bundesliga to explore the future of top-tier sports. Our product and production experts routinely stressed geographical and generational differences, arguing that both foreign and younger audiences, might be more open to interacting with a sport's product digitally, and between sports. While nearly all predict a more personalized product, regardless of sport, our experts agree that personalization might be more natural in sports such as Formula 1 or golf, where audiences cannot follow all athletes simultaneously like in football or tennis. Similarly, audiences might want to rather explore 9:16 feeds in these sports, despite the exciting idea of watching a Bundesliga match through the eyes of Jude Bellingham, Jamal Musiala, or Christopher Nkunku while listening to conversations with the referee, their coach, and fellow teammates.

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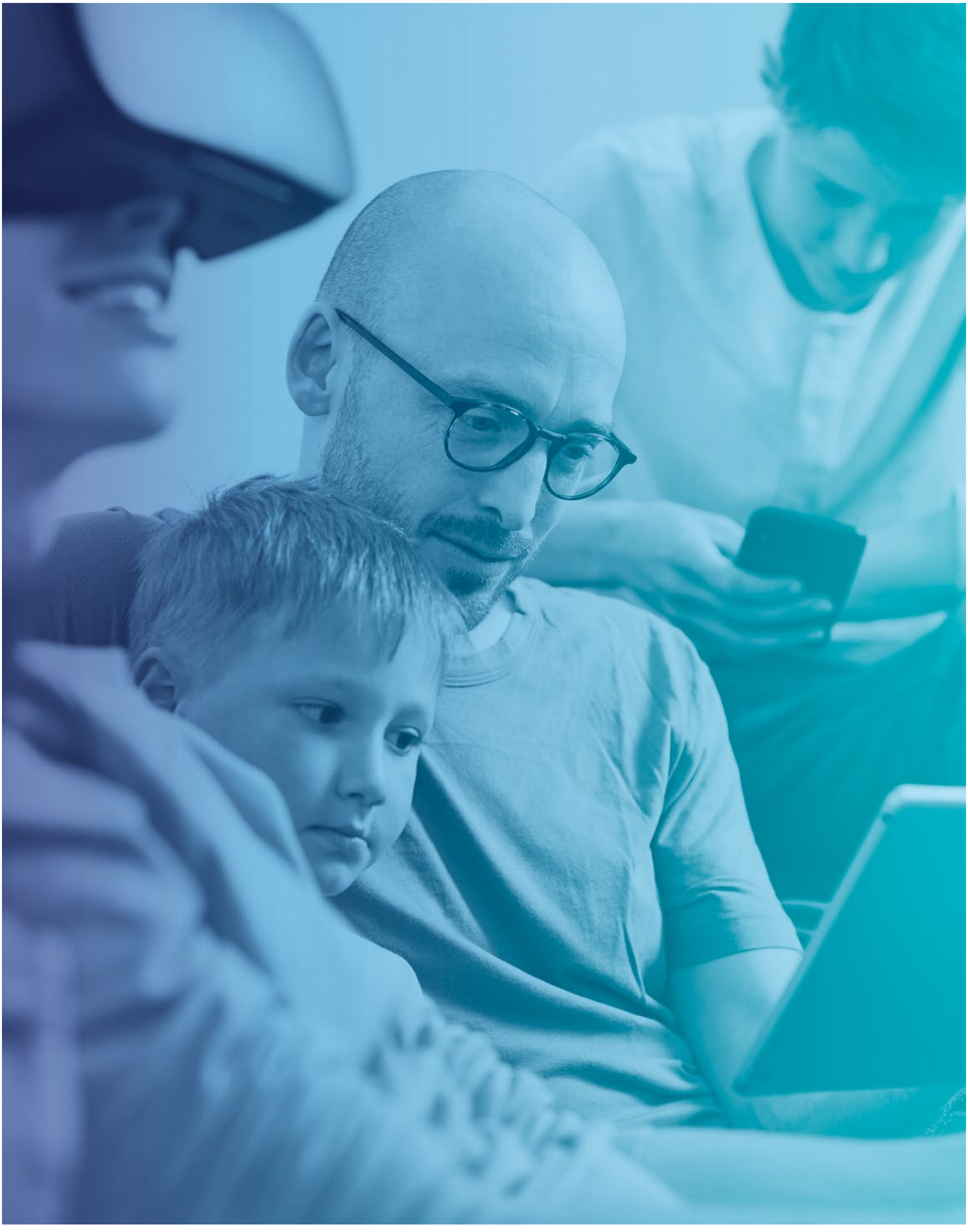
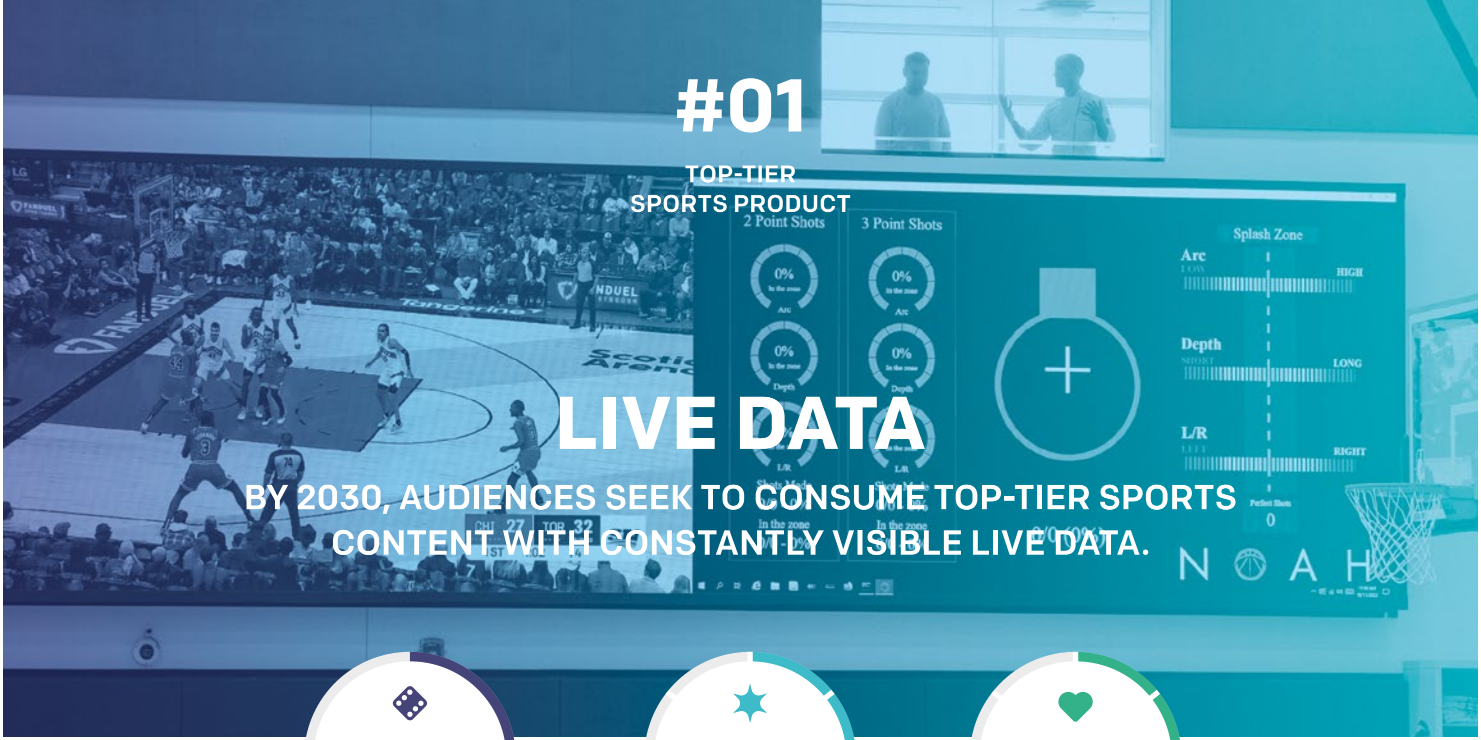
In this report, the generic masculine is used for better readability. However, this includes all genders.



CONTENT

14 PROJECTIONS ON THE FUTURE OF THE TOP-TIER SPORTS PRODUCT

CONTENT



#01

TOP-TIER
SPORTS PRODUCT

LIVE DATA

BY 2030, AUDIENCES SEEK TO CONSUME TOP-TIER SPORTS CONTENT WITH CONSTANTLY VISIBLE LIVE DATA.

73 %

EXPECTED LIKELIHOOD

4.9 of 7

IMPACT

5.0 of 7

DESIRABILITY

"IF TOP-TIER SPORTS WANT TO GROW, WANT TO ATTRACT NEW AUDIENCES AND WANT TO SERVE THE DEMAND OF VIEWERS RATHER THAN PROTECTING OLD THINKING, THERE IS NO DOUBT THAT THIS WILL BECOME VERY IMPORTANT."

"IN TIMES OF INFORMATION OVERLOAD THE PURE EXISTENCE AND AVAILABILITY OF (MORE AND MORE) DATA IS NOT WHAT MAKES IT DESIRABLE. FANS ARE SEEKING GUIDANCE IN ORDER TO HAVE MORE IN-FORMED CONVERSATIONS ABOUT SPORTS."

PRO ARGUMENTS

AS TECHNOLOGY IMPROVES, NEW DATA POINTS (E.G., HEALTH DATA) WILL AUGMENT TOP-TIER SPORTS CONTENT, ALLOWING FOR MORE COMPELLING, LESS INTRUSIVE NARRATIVES.

DATA-SAVVY YOUNGER AUDIENCES, IN PARTICULAR, WILL INCREASINGLY DEMAND EXTENSIVE LIVE DATA INTEGRATION TO UNDERSTAND TOP-TIER SPORTS CONTENT BETTER AND DISCUSS IT ONLINE.

WITH THE ADVENT OF LIVE AND MICRO- BETTING, AUDIENCES WILL ROUTINELY SEEK LIVE DATA TO BETTER ANTICIPATE FUTURE EVENTS.

CON ARGUMENTS

DATA PROTECTION REGULATIONS WILL LIKELY HALT EXPLOITING MANY NEW DATA POINTS AT THE INDIVIDUAL LEVEL, DECREASING THE POTENTIAL OF DATA-HEAVY ATHLETE NARRATIVES.

AUDIENCES WILL PREFER CONTROLLING THE LEVEL OF LIVE DATA INTEGRATION OVER CONSTANTLY VISIBLE DATA.

It is the consensus of our experts that future audiences will seek to consume top-tier sports content enhanced with live data. However, as the appetite for live data may vary significantly between the different audience groups, most panelists suggest that live data integration is optional, allowing for increased personalization of top-tier sports content. While technological progress, for instance, in the form of artificial intelligence (AI)-supported data visualization, may allow for the seamless augmentation of the TV feed, some experts expect live data to shine on the second screen, potentially even as a premium feature. Intriguingly, our experts also differentiate between sports, arguing that tech-heavy top-tier sports such as Formula 1 are more likely to keep pushing for innovative live data integration. In addition, our experts expect live data to also spin off into new product offerings in the future, including data-heavy audio commentary and highlights, as well as near-live shows, again emphasizing the desire of audiences to be educated and entertained simultaneously.

#02

TOP-TIER
SPORTS PRODUCT

PERSONALIZED ADS

BY 2030, AUDIENCES DO NOT MIND SEEING ADS WHILE CONSUMING TOP-TIER SPORTS CONTENT, AS LONG AS THEY ARE TAILORED TO THEIR PREFERENCES.

70 %	5.1 of 7	4.4 of 7
EXPECTED LIKELIHOOD	*IMPACT*	*DESIRABILITY*

PRO ARGUMENTS

WITH ADVERTISEMENTS ARE ALREADY WELL-ACCEPTED IN SPORTS BROADCASTING, MORE PERSONALIZED ADS ARE LIKELY TO FURTHER INCREASE THIS ACCEPTANCE.

AS ACCESS TO TOP-TIER SPORTS CONTENT BECOMES INCREASINGLY COST-PROHIBITIVE, AUDIENCES MIGHT ROUTINELY OPT FOR AD-HEAVY AND, THEREFORE, RELATIVELY INEXPENSIVE ALTERNATIVES IF AVAILABLE.

AS TECHNOLOGY IMPROVES, ADS WILL BECOME MORE ENGAGING AND NATURALLY INTEGRATED, THEREBY OWING FOR BETTER AUDIENCE EXPERIENCES.

"IF THAT ENABLES PEOPLE TO SEE MATCHES, THEY WOULD OTHERWISE NOT BE ABLE TO SEE, THIS MAY BE A MODEL TO BRING TOP-TIER SPORTS BACK FROM PAYWALLS TO THE MASS AUDIENCES."

CON ARGUMENTS

AS AUDIENCES BECOME INCREASINGLY DATA-PROTECTIVE, THEIR ACCEPTANCE OF PERSONALIZED ADS, IN PARTICULAR, IS LIKELY TO DECREASE.

STILL A DISTRACTION, AUDIENCES MIGHT PREFER CHOOSING AD-FREE ALTERNATIVES, EVEN IF IT MEANS ADDITIONAL COSTS.

"THERE WILL BE AUDIENCES WHO WANT TO HAVE AD-FREE TOP CONTENT AND WHO ARE WILLING TO PAY MORE FOR THIS."

It is the consensus of our experts that by 2030, audiences of top-tier sports content will increasingly accept ads if personalized. Still, with a probability of 70 percent, the expected likelihood of occurrence for projection #02 is only slightly above average, with impact and desirability slightly above and below the average, respectively. Based on the experts' qualitative comments, one reason for this relatively cautious assessment is the potential of ads to distract, which might increase if these ads become ever more personalized and engaging.

Considering potential price increases when accessing top-tier sport content, our experts recommend offering an increasing range of options to cater to different audiences. More precisely, while some audiences might tolerate (personalized) ads that allow them to access the content for free or at a lower price point, others, perhaps a significantly smaller audience group, might opt for ad-free offers, allowing media rights holders a more direct refinancing of their investments.

#03

TOP-TIER SPORTS PRODUCT

DIGITAL COLLECTIBLES

BY 2030, MOST AUDIENCES OF TOP-TIER SPORTS CONTENT OWN SPORT-RELATED DIGITAL COLLECTIBLES.

58 %

EXPECTED LIKELIHOOD

4.8 of 7

IMPACT

4.4 of 7

DESIRABILITY

"THESE TECHNOLOGIES WILL HELP RIGHTS-HOLDERS, SPONSORS, CLUBS, AND MEDIA COMPANIES TO CREATE A MUCH DEEPER FAN ENGAGEMENT AND CLOSER ACCESS TO FANS. FOR EXAMPLE, EXCLUSIVE PLAYER STATEMENTS OR BEHIND THE SCENES RECORDINGS."

"I THINK THERE IS A PLACE FOR DIGITAL COLLECTIBLES IN THE SPORTS ECOSYSTEM SIMILAR TO BASEBALL CARDS AND OTHER COLLECTIBLES. I DON'T SEE IT BECOMING A MAINSTREAM ASSET BUT RATHER A NICHE PRODUCT FOR A GROUP OF COLLECTORS."

PRO ARGUMENTS

THE VALUE WILL BE MORE IN EXCLUSIVE CONTENT LIKE SPECIAL QUOTES FROM EXPERTS OR LOCAL HEROES RATHER THAN IN NON-EXCLUSIVE CONTENT LIKE MATCH HIGHLIGHTS WHICH ARE UNIQUE TECHNICALLY BUT NOT EXCLUSIVE.

DESPITE EARLY PRODUCT ITERATIONS, THE FULL POTENTIAL OF SPORT-RELATED COLLECTIBLES, POTENTIALLY DRIVING FAN ENGAGEMENT ACROSS COUNTRY BORDERS, WILL ONLY GROW IN THE (NEAR) FUTURE AND ADDITIONAL WAYS OF DISPLAYING AND TRADING SUCH CONTENT WILL EVOLVE.

CON ARGUMENTS

ALTHOUGH THERE IS A RAISON D'ÊTRE FOR SUCH DIGITAL COLLECTIBLES, THE MARKET FOR THEM IS A NICHE UNTIL 2030, WITH MOST AUDIENCES OF TOP-TIER SPORTS CONTENT STILL STEMMING FROM THE LESS TECH-SAVVY GENERATIONS.

WHEN IT COMES TO MEMORABILIA LIKE BALLS OR JERSEYS, MOST AUDIENCES WILL STILL PREFER THE ORIGINAL – ABLE TO BE EXPERIENCED WITH ALL SENSES – OVER A VIRTUALIZED ITEM, SPECIFICALLY IF CONSIDERED AN INVESTMENT.

There is no consensus among our experts about future audiences' ownership of sport-related digital collectibles, despite the more recent trend around NFTs (OneFootball, 2022). It becomes evident in the experts' qualitative comments that our timeline was the primary reason for skepticism – 2030 is too soon. Accordingly, with a probability of 58 percent, the expected likelihood of occurrence for projection #03 is well-below average, with both desirability and impact also slightly below average. Intriguingly, however, this does not mean that our experts cannot imagine that audiences will own sport-related digital collectibles. Put differently, while tech-savvy younger audiences might increasingly develop an interest in such digital collectibles, engaging with features yet to develop, most audiences will be too old to move into and, more importantly, routinely express themselves in the digital environment. As such, at least until 2030, our experts expect digital collectibles to be niche products, catering to the needs of specific audiences, international sports fans among them. According to our experts, this must be taken into consideration by sports associations, clubs, and athletes when creating sustainable business models around digital collectibles, to harness the potential to increase fan engagement.

#04

TOP-TIER
SPORTS PRODUCT

AUGMENTED REALITY (AR)

BY 2030, AUDIENCES SEEK TO CONSUME DIGITALLY AUGMENTED TOP-TIER SPORTS CONTENT.

75 %

EXPECTED LIKELIHOOD

4.8 of 7

IMPACT

5.3 of 7

DESIRABILITY

PRO ARGUMENTS

GIVEN THE INCREASING DEMAND FOR LIVE DATA IN THE FUTURE, DIGITAL AUGMENTATION IS A PREREQUISITE TO VISUALIZE INFORMATION FOR AUDIENCES EFFECTIVELY WITHOUT CREATING TOO MANY DISTRACTIONS.

AS THE NECESSARY TECHNOLOGY IMPROVES, AUGMENTATION WILL BE A CRUCIAL FEATURE TO CATER TO THE INCREASING PERSONALIZATION NEEDS OF TECH-SAVVY AUDIENCES.

EVEN TODAY, MILDLY DIGITALLY AUGMENTED CONTENT IS A REGULAR PART OF MOST AUDIENCES' PRODUCT EXPERIENCES.

"AR OFFERS A NEW DIMENSION OF INTERACTIVITY, THUS CREATING A HIGHER POSSIBILITY FOR FANS TO ENGAGE WITH CONTENT AND HOPEFULLY A NEW ALLY FOR LOYALTY. THE KEY WILL BE THE CAPABILITY TO TAILOR THIS BY VIEWER."

CON ARGUMENTS

AS WITH INCREASING LIVE DATA, FOR SOME AUDIENCES, DIGITALLY AUGMENTED FEEDS MIGHT BE TOO DISTRACTING FROM THE CORE PRODUCT, THAT IS, THE SPORT, SPECIFICALLY IF EXPERIENCED ON A SMALL SCREEN.

WHILE DIGITALLY AUGMENTED CONTENT MIGHT BE INITIALLY APPEALING, MOST AUDIENCES WILL STILL PREFER PROFESSIONALLY CURATED SPORT-CONTENT OF THE BEST QUALITY POSSIBLE.

"IT WON'T BE AN ESSENTIAL FEATURE SOUGHT BY AUDIENCES BUT GIVEN AS OPTIONAL ADDITION."

It is the consensus of our experts that audiences will increasingly seek digitally augmented top-tier sports content in the future. Accordingly, with a probability of 75 percent, the expected likelihood of occurrence for projection #04 is well above average, with the desirability of occurrence, though not its expected impact, similarly high. In fact, within our set of 25 projections, our experts only rate three other projections as more likely. From the qualitative comments, it's clear that our experts consider the increasing demand for live data visualization a valid argument in favor of digital augmentation, but, in the end, it all comes down to increasingly personalized experiences. Although audiences can already experience some early forms of digital augmented sports content today (projected as an augmented graphic onto the pitch), our experts expect audiences to actively alter significant aspects of the product in the future.

#05

TOP-TIER SPORTS PRODUCT

ACTIVE ENGAGEMENT

BY 2030, AUDIENCES OF TOP-TIER SPORTS CONTENT PREFER AN ACTIVE ENGAGEMENT IN THE PRODUCTION OVER THE PASSIVE CONSUMPTION OF SUCH CONTENT.

69 %	4.7 of 7	4.7 of 7
EXPECTED LIKELIHOOD	*IMPACT*	*DESIRABILITY*

"ON MOBILE THIS WILL BE A NECESSITY AS WE SEE FANS MORE ENGAGED VIA LIVE VOTING ALREADY. MOBILE VIEWERS ARE MORE LIKELY TO PREFER ACTIVE CONSUMPTION OF CONTENT."

PRO ARGUMENTS

SOME AUDIENCES WILL DEMAND MOREACTIVE CONTROL OVER THE PRODUCT (E.G., BY ACTIVELY SWITCHING CAMERAS), THEREBY FORMING A DEEPER CONNECTION WITH IT.

AS SOCIAL MEDIA WILL BECOME EVEN MORE CRITICAL TO TOP-TIER SPORTS AND MEDIA RIGHTS HOLDERS, PRODUCTION WILL SEEK TO ENGAGE WITH YOUNG AND MOBILE-SAVVY AUDIENCES MORE ACTIVELY, DEVELOPING TOOLS TO LET THEM EDIT AND SHARE SPORTS CONTENT MORE EASILY.

BROADCASTERS HAVE ALREADY INVITED FANS TO ENGAGE WITH COMMENTARYTHROUGH LIVE Q&A SESSIONS ANDTO SHARE LIVE PERSPECTIVES.

"I BELIEVE HUMANS LOVE STORIES, AND STORIES ARE TOLD BY A STORYTELLER. THIS STORY CAN BE IMPROVED WITH MORE DETAILS, BETTER CHARACTERS, OR MORE DRAMA; BUT I DON'T THINK THE AUDIENCE PREFERS TO CONSTRUCT THEIR OWN STORY FOR EVERY SINGLE GAME."

CON ARGUMENTS

WHILE INITIALLY APPEALING, MOST AUDIENCES WILL STILL PREFER PROFESSIONALLY CURATED SPORT-CONTENT OF THE BEST QUALITY POSSIBLE, DESPITE POTENTIAL INCREASES IN USABILITY.

According to our experts, it is possible, though there is no consensus, that, by 2030, audiences of top-tier sports content prefer an active engagement in the production over the passive consumption of such content. More specifically, with a probability of 69 percent, the expected likelihood of occurrence for projection #05 is slightly above average; with the desirability and impact of occurrence slightly above and below the average, respectively. From the qualitative comments, we can glean that our experts expect audiences to want to engage with the content more actively, reflecting the general trends for increased personalization of product experiences. As technology progresses, one way to drive such engagement is by offering interactive feeds or unique perspectives distributed over-the-top (OTT). As with other projections, our experts also emphasize potential differences between audiences, with younger audiences consuming on mobile devices more prone to active engagement. Similarly, in some sports, active engagement is more natural than in others, most notably in F1 racing, where, due to the lack of one dominant camera/perspective, switching between a specific driver's camera might be more engaging than in association football.

#06

TOP-TIER SPORTS PRODUCT

VIRTUAL REALITY (VR)

BY 2030, MOST AUDIENCES CONSUME TOP-TIER SPORTS CONTENT IN A VIRTUAL ENVIRONMENT.

52 %	4.8 of 7	4.0 of 7
EXPECTED LIKELIHOOD	*IMPACT*	*DESIRABILITY*

PRO ARGUMENTS

ACCELERATED DURING THE RECENT PANDEMIC, THE MOVE TOWARD COLLECTIVE DIGITAL EXPERIENCES (E.G., CONFERENCES, VIDEO CALLS) WILL LIKELY CONTINUE IN THE LONG TERM, DESPITE NOTICEABLE COUNTER-MOVEMENTS.

AS VR TECHNOLOGY MATURES, CURRENT PROBLEMS (E.G., HEADACHES, DIZZINESS, OR NAUSEA) WILL EVENTUALLY DIMINISH, THUS OFFERING POTENTIALLY SUPERIOR IMMERSIVE PRODUCT EXPERIENCES (E.G., VIRTUAL SEASON TICKETS).

CATERING TO A TRULY GLOBAL AUDIENCE IN MANY DIFFERENT TV MARKETS, SOME TOP-TIER SPORTS (E.G., F1 RACING) ARE LIKELY TO MOVE INTO VIRTUAL ENVIRONMENTS, THEREBY MOTIVATING OTHERS TO FOLLOW.

"I DO BELIEVE THAT YOUNGER AUDIENCES WILL DEMAND OFFERINGS IN A VIRTUAL SPACE."

CON ARGUMENTS

DESPITE A GENERAL MOVE TOWARDS DIGITAL EXPERIENCES, THE MARKET FOR VR BROADCASTS IS STILL A NICHE, WITH MOST AUDIENCES OF TOP-TIER SPORTS CONTENT STILL BELONGING TO THE LESS TECH-SAVVY GENERATIONS.

PRIMARILY A SOCIAL EXPERIENCE, IT REMAINS UNCLEAR WHETHER CONSUMING TOP-TIER SPORTS CONTENT IN A VIRTUAL ENVIRONMENT CAN KEEP UP WITH TRADITIONAL EXPERIENCES BOTH EMOTIONALLY AND SOCIALLY.

"FOOTBALL OR SPORTS IN GENERAL IS A SOCIAL EVENT WHERE PEOPLE WANT TO GATHER AND SHARE EMOTIONS. THIS IS DIFFICULT IN A VIRTUAL ENVIRONMENT. WE'VE SEEN SIMILAR IMMERSIVE TRENDS IN THE PAST THAT DIDN'T MATERIALIZE, E.G., 3D TVS."

There is no consensus among our experts that most audiences will consume top-tier sports content in a virtual environment, using some form of virtual reality (VR) device. More specifically, with a probability of only 52 percent, the expected likelihood of occurrence for projection #06 is well below average and the projection with the second-lowest approval. Similarly, our experts rated the desirability of the event and its potential impact below average, with only four other projections less desirable. Still, based on their qualitative comments, our experts mostly agree that a partial shift towards a virtual environment is likely, though not as early as 2030. As such, most audiences will continue consuming live sports at home or on-site, with many audiences globally not yet technologically prepared for consuming in virtual environments (e.g., fast enough internet connections). Nevertheless, despite the relatively low expected impact, some experts highlight the technology's potential as a disruptive force to the broadcasting industry if audiences move to a virtual environment earlier than expected and if a progress in hardware development enables a true virtual experience.

#07

TOP-TIER
SPORTS PRODUCT

MOBILE CONSUMPTION

BY 2030, MOST AUDIENCES CONSUME TOP-TIER SPORTS CONTENT ON MOBILE DEVICES.

64 %
EXPECTED LIKELIHOOD

4.9 of 7
IMPACT

4.6 of 7
DESIRABILITY

"ADVANCING MOBILE TECHNOLOGY, ESPECIALLY WITH FOLDING SCREEN PHONES, WILL MAKE THE MOBILE EXPERIENCE MUCH BETTER AND MORE VIABLE. MOBILE MIGHT BECOME THE KEY FACTOR BRINGING PEOPLE INTO THE METAVERSE EXPERIENCE BY LINKING IT TO A VR HEADSET. "

"THE EXPERIENCE IS BETTER ON BIG SCREENS AND THAT'S TRUE EVEN MORE FOR ALL VIRTUAL AND AUGMENTED SERVICES. I PERSONALLY BELIEVE CONSUMPTION WILL MOVE BACK TO THE BIG SCREENS."

PRO ARGUMENTS

WITH MANY YOUNG, MOBILE-ONLY AUDIENCE MEMBERS, THE SHARE OF TOP-TIER SPORTS CONTENT CONSUMED ON MOBILE DEVICES WILL LIKELY INCREASE IN THE FUTURE.

WHILE AUDIENCES MAY STILL WANT TO WATCH LIVE SPORTS ON THE BIGGEST SCREEN POSSIBLE, THEY ARE LIKELY TO CONSUME HIGHLIGHTS, LIVE OR NEAR LIVE, ON THEIR MOBILE DEVICE, ALTERNATIVELY USING IT AS A SECOND SCREEN.

OFFERING AUDIENCES ACCESS TO TOP-TIER SPORTS ON THE GO, MOBILE OFFERINGS WILL BE ESSENTIAL TO KEEP UP WITH MOST AUDIENCES' INCREASINGLY BUSY LIVES.

CON ARGUMENTS

GIVEN THE LENGTH OF TOP-TIER SPORTS BROADCASTS, RELATIVELY LENGTHY LIVE EVENTS, IN PARTICULAR, ARE MORE CONVENIENT TO CONSUME ON THE BIG SCREEN.

PRIMARILY A SOCIAL EXPERIENCE, MOST AUDIENCES WILL CONTINUE WATCHING COLLECTIVELY IN FRONT OF A BIG TV SCREEN IF AVAILABLE.

In the view of our experts, it is possible, though there is no consensus, that, by 2030, most audiences will consume top-tier sports content on mobile devices. More specifically, with a probability of 64 percent, the expected likelihood of occurrence for projection #07 is slightly below the average, with the desirability and impact of occurrence roughly on average. Intriguingly, based on their qualitative comments, our experts mainly differentiate between the consumption of highlights and live events, with the former more likely to be consumed on a mobile device. Our experts also emphasize that an increase in sports consumption on mobile devices, effectively smartphones, tablets, and notebooks, does not necessarily call for 9:16-production. Quite the contrary, as most sports, again F1 racing and, perhaps, tennis and golf being notable exceptions, are best consumed in widescreen (e.g., 16:9), our experts are skeptical whether other innovative formats will ultimately prevail, despite an expected increase in demand for it. Intriguingly, the same is true for smart glasses, which our experts barely mention in their otherwise extensive comments.

#08

TOP-TIER
SPORTS PRODUCT

PREMIUM ADD-ONS

BY 2030, AUDIENCES OF TOP-TIER SPORTS CONTENT PAY HIGH PRICES FOR EXCLUSIVE PREMIUM ADD-ONS.

51 %

EXPECTED LIKELIHOOD

4.5 of 7

IMPACT

4.3 of 7

DESIRABILITY

PRO ARGUMENTS

AS TECHNOLOGY PROGRESSES AND ALLOWS FOR NEW PREMIUM FEATURES, THE WILLINGNESS TO PAY FOR SUCH FEATURES WILL LIKELY INCREASE, SPECIFICALLY AMONG AUDIENCES WITH HIGH DISPOSABLE INCOMES.

AFTER HEAVILY INVESTING IN IMMERSIVE PREMIUM EXPERIENCES, SOME MEDIA RIGHTS HOLDERS MIGHT BE FORCED TO CHARGE MORE FOR THESE FEATURES.

"SINCE THE MEDIA RIGHTS VALUE DRIVEN BY LINEAR BROADCASTERS HAVE REACHED ITS PEAK ALREADY, NEW WAYS TO MONETIZE WILL EMERGE AND THE WILLINGNESS BY MEDIA, LEAGUES AND TEAMS TO EXPLOIT THESE OPPORTUNITIES WILL INCREASE."

CON ARGUMENTS

WITH SEVERAL ENTERTAINMENT COMPANIES COMPETING FOR AUDIENCES, WILLINGNESS TO PAY FOR TOP-TIER SPORTS CONTENT WILL LIKELY REMAIN THE SAME. AT THE SAME TIME, THE VALUE-FOR-MONEY EXPECTATION IS LIKELY TO INCREASE.

"TOP-TIER SPORTS CONTENT MUST FIND WAYS TO DIFFERENTIATE BY PRODUCT WITHOUT FURTHER POTENTIAL FOR UPSELLING."

From the point of view of our experts, there is no consensus that audiences will be willing to pay high prices for exclusive premium add-ons. More specifically, with a probability of only 51 percent, the expected likelihood of occurrence for projection #08 is well below average, with the desirability of occurrence and its expected impact similarly low. In fact, within our set of 25 projections, our experts rate no other projections as less likely to occur and, if it should occur, deem it the least impactful. Similarly, our experts rate the desirability of occurrence relatively low, despite the potential to generate significant additional income from such premiumization. From the qualitative comments, our experts conclude that, even though some consumers might be willing to pay for premium add-ons, such product innovations are more important to keep existing audiences on board. Put differently, though of utmost importance, our experts, clearly aware of potential substitutes (e.g., Netflix, Peloton, Spotify), see new features – distributed for free – as a means to keep existing audiences with relatively less disposable income within their ecosystem, rather than exploit the few high earners who are willing to pay. In a similar vein, some experts even expect the opposite, urging media rights holders to offer simpler entry-level products to cater to those with a relatively low willingness to pay for top-tier sports content.

#09

TOP-TIER
SPORTS PRODUCT

CHANGING ROLES

BY 2030, AUDIENCES SEEK TO CONSUME TOP-TIER SPORTS CONTENT FEATURING INDIVIDUAL PLAYERS RATHER THAN TEAMS.

56 %

EXPECTED LIKELIHOOD

4.6 of 7

IMPACT

3.5 of 7

DESIRABILITY

"WITH INCREASING CONTROL OF THE VALUE CREATION AND CAPTURE WITH THE PLAYERS, THE UNDERLYING VALUE CHAIN OF CLUBS, LEAGUES, ASSOCIATIONS, AND MEDIA COMPANIES WOULD BE AFFECTED."

"WITH TEAMS, THERE IS A MUCH DEEPER CONNECTION AND MORE EMOTIONS THAN WITH INDIVIDUALS. INDIVIDUALS MAY BE IN FRONT FOR A WHILE BUT TEAMS FOR DECADES."

PRO ARGUMENTS

IN THE AGE OF THE SUPERSTAR, INDIVIDUAL ATHLETES ARE INCREASINGLY ACCUMULATING HUGE FOLLOWERSHIP THROUGH THEIR SOCIAL MEDIA ACTIVITIES, MOST OF IT LOYAL ACROSS TEAMS AND EVEN COUNTRIES.

IN AN ATTEMPT TO DIVERSIFY INTERNATIONALLY, MANY TEAMS EMPHASIZE INDIVIDUALS, SPECIFICALLY IF ORIGINATING FROM A TARGET MARKET, AND WILL LIKELY CONTINUE TO DO SO.

TODAY, FOR AUDIENCES, A TEAM ALREADY PLAYS NO OR ONLY A MINOR ROLE IN MANY TOP-TIER SPORTS (E.G., GOLF, TENNIS, AND F1 RACING).

CON ARGUMENTS

OFTEN AN ESSENTIAL PART OF SOCIALIZATION, YOUNG AUDIENCES STILL TEND TO FORM A STRONG BOND WITH A SPORTS TEAM, USUALLY A REGIONAL ONE, MORE QUICKLY THAN WITH AN INDIVIDUAL ATHLETE.

FROM A LONG-TERM PERSPECTIVE, FANS RATHER FOLLOW TEAMS THAN INDIVIDUAL PLAYERS SINCE PLAYERS ONLY HAVE A LIMITED TIME FRAME DURING WHICH THEY ARE ACTIVE.

There is no consensus among our experts that audiences, by 2030, will seek to consume top-tier sports content featuring individual players rather than teams. More specifically, with a probability of only 56 percent, the expected likelihood of occurrence for projection #09 is well below average, with the desirability of occurrence and its expected impact similarly low. Within our set of 25 projections, our experts only rate one other projection as less desirable and impactful, respectively. Intriguingly, based on the qualitative comments, our experts expect an undesired shift in relative strength of owning media rights to individual players. Still, even in such a scenario, our experts see potential benefits for teams if player transfers increase their reach efficiently and, therefore, sponsoring income, which the parties can share. Our experts also emphasize differentiating between live content, in which the focus might remain on a team, and near-live or highlight formats, as well as social relevance which might focus on the individual players.

#10

TOP-TIER
SPORTS PRODUCT

IMMERSIVE EXPERIENCE

BY 2030, AUDIENCES SEEK TO CONSUME IMMERSIVE TOP-TIER SPORTS CONTENT.

76 %

EXPECTED LIKELIHOOD

5.2 of 7

IMPACT

5.3 of 7

DESIRABILITY

PRO ARGUMENTS

EAGER TO LEARN MORE ABOUT THEIR FAVORITE SPORTS, AUDIENCES WILL LIKELY CONTINUE TO DEMAND INCREASED ACCESS TO ATHLETES AND TEAMS, EVENTUALLY RESULTING IN MORE IMMERSIVE EXPERIENCES.

IN SOME TOP-TIER SPORTS (E.G., F1 RACING, US SPORTS), MORE IMMERSIVE EXPERIENCES ARE ALREADY INCREASINGLY EXPLORED, AND THIS TREND, INCREASING AN INDIVIDUAL'S CONNECTION WITH A TEAM, WILL MOST LIKELY INTENSIFY.

AS TECHNOLOGY PROGRESSES, NEW, MORE IMMERSIVE CAMERA PERSPECTIVES (E.G., A PLAYER'S OR REFEREE'S POINT OF VIEW) WILL EMERGE, BRINGING AUDIENCES CLOSER TO THE LIVE ACTION.

"IMMERSIVE CONTENT IS ALREADY STANDARD IN SOME SPORTS (US SPORTS, RUGBY, FORMULA 1). AUDIENCES WILL EXPECT TO BE CLOSE AND FOR TOP TIER SPORTS TO BE AUTHENTIC."

CON ARGUMENTS

WHILE INCREASING THE LEVEL OF IMMERSION, MANY NEW FEATURES COME AT THE EXPENSE OF THE OVERVIEW, WHICH WILL LET AUDIENCES RECONSIDER THEIR CHOICES, RENDERING MOST SUCH OFFERS FINANCIALLY UNSUSTAINABLE.

THOUGH OF INTEREST TO MANY AUDIENCES, TEAMS WILL LIKELY INCREASINGLY VALUE THE PRIVACY OF ATHLETES, AND THEIR ENVIRONMENT, EFFECTIVELY LIMITING THE MOST IMMERSIVE CONSUMPTION OPTIONS.

"I AM VERY SURE THAT REFEREE COMMS OR COACH COMMS WILL REMAIN OFF THE TABLE ALSO IN 2030 IN TOP TIER SPORTS. THIS BECOMING PART OF THE ENTERTAINMENT PRODUCT WOULD SHAKE UP THE VERY FABRIC OF THE ACTUAL SPORT."

There is consensus among our experts that, by 2030, audiences will seek to consume immersive top-tier sports content. More specifically, with a probability of 76 percent, the expected likelihood of occurrence for projection #10 is well above the average, with the desirability of occurrence and its expected impact similarly high. In fact, within our set of 25 projections, our experts only rate two other projections as more likely, and two and three projections as more desirable and impactful, respectively. Turning to the qualitative comments, most of our experts stress the importance of creating more immersive content to keep audiences engaged, with new camera perspectives and additional sound options frequently mentioned. Accordingly, the desire to take an athlete's perspective and to be able to listen to other actors, including referees is of high interest. Especially with the continuous improvement of augmented reality technology (e.g., smart glasses), the immersive experience will be increasingly compelling. Still, our experts note that immersion often comes with a price (e.g., a decrease in the overview), which might make the ask unsustainable. As mentioned for previous projections, our experts emphasize differentiating between sports.

#11

TOP-TIER
SPORTS PRODUCT

NETFLIX EFFECT

BY 2030, AUDIENCES EXPECT ADDITIONAL TOP-TIER SPORTS CONTENT IN SERIALIZED FORM.

69 %

EXPECTED LIKELIHOOD

4.9 of 7

IMPACT

5.0 of 7

DESIRABILITY

"YES, THIS WILL BE THE THIRD ELEMENT NEXT TO LIVE AND HIGHLIGHTS. FANS WANT CLOSE AND AUTHENTIC STORYTELLING. BEST PRACTICE EXAMPLE IS DRIVE TO SURVIVE."

PRO ARGUMENTS

AS AN IDEAL TOOL FOR NECESSARY BRAND-BUILDING, DOCUMENTARIES, IN PARTICULAR, ARE LIKELY TO BECOME MORE POPULAR AMONG ATHLETES AND CLUBS INTERESTED IN EXPANDING THEIR AUDIENCE OR DEEPENING THEIR RELATIONSHIP WITH IT.

WITH LIVE EVENTS AT THE HEART OF THE SPORTS NARRATIVE, SERIALIZED CONTENT FORMATS ARE IDEAL BRIDGES BETWEEN EVENTS, KEEPING AUDIENCES INVESTED.

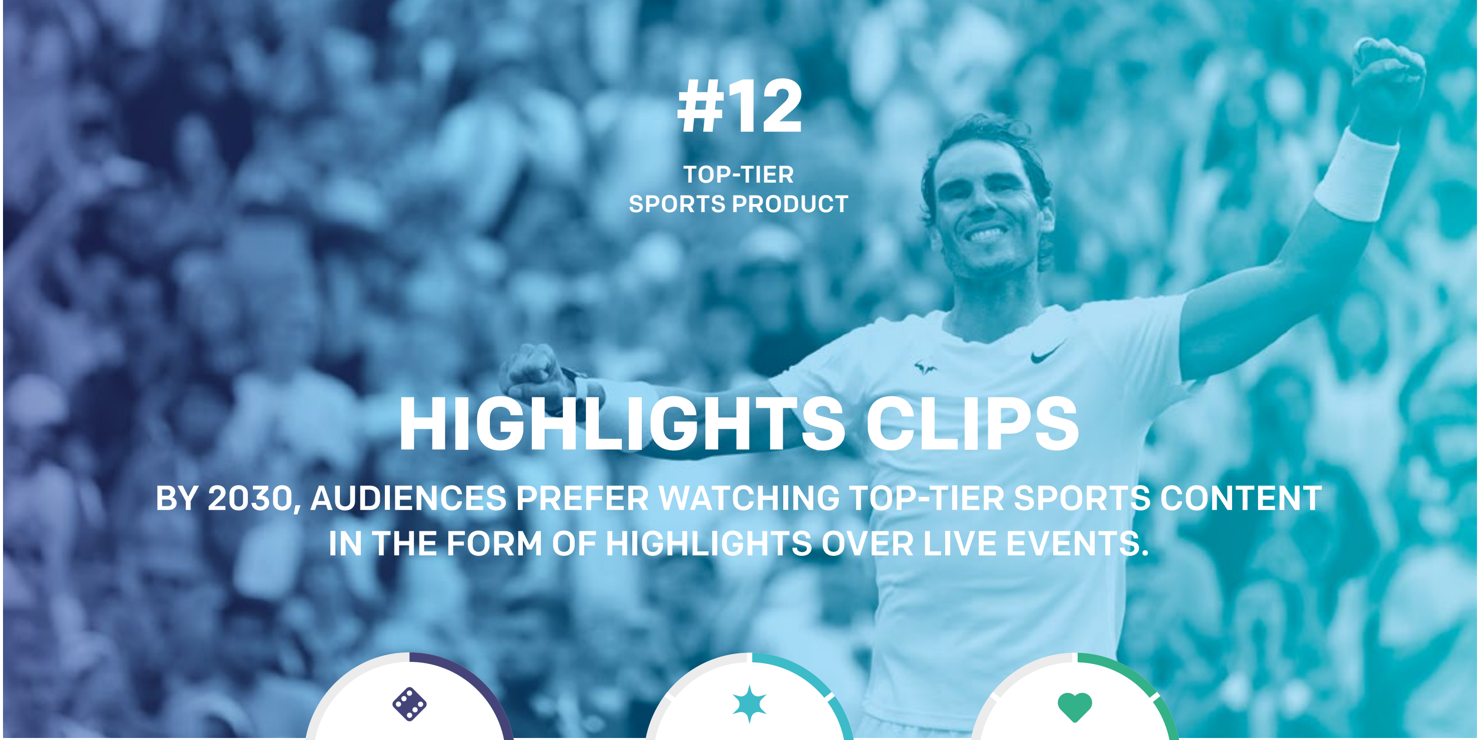
"MY PREDICTION IS THAT CONSUMERS WILL HAVE TOO MUCH CONTENT OFFERING AND INTEREST WILL DECLINE (E.G., 100 OR MORE CHAMPIONS LEAGUE MATCHES PER SEASON)."

CON ARGUMENTS

DUE TO THE ENORMOUS COMPETITION FOR AUDIENCES, SERIALIZED CONTENT IS ONLY LIKELY TO SUCCEED IF IT IS AUTHENTIC AND PRODUCED TO A HIGH STANDARD, OFFERING NEW, INTIMATE INSIGHTS INTO THE INNER WORKS OF TOP-TIER SPORTS - ALL OF WHICH MAKES DEVELOPING COMPELLING NARRATIVES CHALLENGING, AS WELL AS EXPENSIVE.

AS MORE SERIALIZED CONTENT EMERGES, AUDIENCES MIGHT SEE THEIR DEMAND FOR SUCH CONTENT SATURATED.

There is consensus among our experts that, by 2030, audiences will expect additional top-tier sports content in serialized form. While the predicted likelihood of occurrence for projection #11 is slightly above the mean value of all projections, and the expected impact in the case of occurrence is slightly below it, the desirability is relatively high. Based on the experts' qualitative comments, they identify the enormous potential to cater to audiences between live events through non-linear, serialized entertainment (e.g., documentaries); this would allow for continuous brand-building. For some sports, our experts expect that such formats will entertain and educate existing audiences and make new audiences aware of previously ignored sports, as recently proven by Netflix's Drive to Survive, which helped FIA grow the U.S. market (Richards, 2022). Ideally, our experts expect such content to nurture the demand for corresponding live events but emphasize that the content must be authentic.



#12

TOP-TIER
SPORTS PRODUCT

HIGHLIGHTS CLIPS

BY 2030, AUDIENCES PREFER WATCHING TOP-TIER SPORTS CONTENT IN THE FORM OF HIGHLIGHTS OVER LIVE EVENTS.

60 %

EXPECTED LIKELIHOOD

5.0 of 7

IMPACT

3.4 of 7

DESIRABILITY

PRO ARGUMENTS

AS THE RISE OF SOCIAL MEDIA CONTINUES, AND AUDIENCES' ATTENTION SPANS DECREASE, HIGHLIGHT CLIPS EFFECTIVELY CATER TO VARYING AUDIENCES' NEEDS, PARTICULARLY THAT OF YOUNGER AUDIENCES.

AS THE NUMBER OF BROADCASTED LIVE EVENTS INCREASES, AUDIENCES, WITH AN INCREASINGLY SATURATED DEMAND FOR SUCH EVENTS, WILL FOCUS ON WATCHING FEWER, MORE SIGNIFICANT LIVE EVENTS (E.G., CHAMPIONS LEAGUE FINAL, SUPER BOWL, WORLD CUP KNOCKOUT STAGE, ETC.).

"DEFINITELY A LOGICAL CONSEQUENCE OF THE TREND WE ARE SEEING IN THE REDUCTION OF ATTENTION SPAN. HIGHLIGHTS PROVIDE THE USER WITH MORE OPTIONS: HOW THEY CHOOSE TO CONSUME THE CONTENT AS WELL AS THE ABILITY TO CONSUME MORE IN LESS TIME. THERE IS ALSO THE POSSIBILITY OF TAILORING A MATCH TO AN AUDIENCE SUBSET."

CON ARGUMENTS

IN THE AGE OF NON-LINEAR CONTENT, TOP-TIER SPORTS ARE AMONG THE FEW THAT CAN PRODUCE LIVE EVENTS. PEOPLE ARE LIKELY TO DESIRE THESE EVENTS, EVEN IF THEY CONSUME A SMALL PORTION OF THE AVAILABLE CONTENT.

IN THE AGE OF NON-LINEAR CONTENT, TOP-TIER SPORTS ASSOCIATIONS ARE AMONG THE FEW ENTITIES THAT CAN PRODUCE LIVE EVENTS, AND AUDIENCES ARE LIKELY TO CONTINUE TO VALUE LIVE TOP-TIER SPOTS EVENTS, PARTICULARLY AS A SOCIAL EXPERIENCE.

"I BELIEVE THE OPPOSITE IS TRUE. WHILE THERE WILL BE LESS TOPICS A CONSUMER MUST AND WILL WATCH LIVE (E.G., BREAKING NEWS OR STOCK MARKET DEVELOPMENT), SPORTS WILL REMAIN ONE OF THEM."

In the view of our experts, it is possible, though there is no consensus that, by 2030, audiences will prefer watching top-tier sports content in the form of highlights over live events. With a probability of 60 percent, the expected likelihood of occurrence for projection #12 is below the average, as is its desirability. This is not surprising as this projection effectively challenges the foundations of the current business model of most top-tier sports, as well as its unique selling proposition; of all our projections, this is the least desired one. With an expected impact that equals the mean, there is no projection in which the discrepancy between desirability and impact is more significant. Interestingly, while in the qualitative comments most experts acknowledge a significant decrease in attention spans and challenge the tendency to increasingly offer more top-tier sports content, they also emphasize that sport is well-positioned to deliver unique experiences to audiences consuming entertainment in an increasingly non-linear world. As such, our experts call for more nuanced products to better cater to increasingly heterogeneous audiences with changing preferences.

#13

TOP-TIER
SPORTS PRODUCT

THIRD-PARTY OFFERINGS

BY 2030, THIRD-PARTY OFFERINGS DRIVE AUDIENCE INTEREST IN TOP-TIER SPORTS CONTENT (RATHER THAN THE OTHER WAY AROUND).

56 %
EXPECTED LIKELIHOOD

5.2 of 7
IMPACT

3.8 of 7
DESIRABILITY

"I'M FOLLOWING THE NBA ON A DAY-TO-DAY BASIS ONLY BECAUSE I PLAY IN A FANTASY LEAGUE. IT HAS THE POWER TO DRAW INTEREST INTO SPORTS, WHICH IS A VERY POWERFUL ASSET FOR LEAGUES AND FEDERATIONS."

PRO ARGUMENTS

ALREADY ACTIVELY ENGAGING WITH TOP-TIER SPORTS THROUGH THIRD-PARTY OFFERINGS (E.G., ESPORTS), YOUNG AUDIENCES, IN PARTICULAR, ARE LIKELY TO INCREASINGLY EXPERIENCE TOP-TIER SPORTS THIS WAY.

AS ATTENTION SPANS DECREASE, THIRD-PARTY OFFERINGS, KEEPING AUDIENCES ENGAGED DURING LIVE MATCHES, WILL INCREASINGLY BECOME AN ALTERNATIVE, NATURAL HUB OF SPORTS CONSUMPTION.

"BETTING, FANTASY GAMES, AND INTEGRATED GAMIFICATION OF SPORTS HAVE HELPED GROW THE AUDIENCE WATCHING SPORTS. THIS TREND WILL CONTINUE AND DRIVE SIGNIFICANT REVENUE. HOWEVER, I BELIEVE IT WON'T SURPASS THE INTEREST OF THE SOURCE MATERIAL."

CON ARGUMENTS

DESPITE THEIR INCREASING (ECONOMIC) IMPORTANCE, THIRD-PARTY OFFERINGS DEPEND ON TOP-TIER SPORTS CONTENT, SUGGESTING THAT PREVIOUS CONSUMER FLOWS WILL REMAIN PRIMARILY INTACT.

There is no consensus that, by 2030, third-party offerings (e.g., fantasy sports, gambling, or gaming/esports) will drive audience interest in top-tier sports content (rather than the other way around). With a probability of only 56 percent, the expected likelihood of occurrence for projection #13 is well below the average, as is its desirability. Within our set of 25 projections, our experts evaluate only three of these projections as less desirable. On the contrary, our experts rate the impact in case of occurrence relatively high. Based on the qualitative comments, our experts note the significance of such third-party offerings, mainly to keep younger audiences engaged, but consider these offerings to be complementary products, largely meaningless without the source material. Nevertheless, most experts expect these offerings, most notably if related to gambling, to grow significantly in the future and become an essential part of most audiences' product experiences.

#14

TOP-TIER SPORTS PRODUCT

CONFERENCE FORMAT

BY 2030, AUDIENCES PREFER WATCHING TOP-TIER SPORTS CONTENT IN THE FORM OF CONFERENCE FORMATS OVER INDIVIDUAL MATCHES IN FULL LENGTH.

64 %

EXPECTED LIKELIHOOD

4.9 of 7

IMPACT

4.3 of 7

DESIRABILITY

PRO ARGUMENTS

CONFERENCE FORMATS ARE ALREADY WELL-ESTABLISHED IN SOME SPORTS (E.G., ASSOCIATION FOOTBALL). GIVEN THE EXPECTED DECREASE IN ATTENTION SPANS AND INCREASED COMPETITION FOR AUDIENCES, THE POPULARITY OF THESE FORMATS IS LIKELY TO INCREASE.

LOOKING AT INCREASINGLY CROWDED SCHEDULES, SOME MEDIA RIGHTS OWNERS (ESPECIALLY BROADCASTERS) MIGHT OFFER JOINT CONFERENCE PRODUCTS, KEEPING AUDIENCES INTERESTED IN MORE THAN ONE LEAGUE OR SPORT.

"WITH FANS DETACHED FROM TEAMS IN PREFERENCE OF INDIVIDUAL PLAYERS AND FOOTBALL A HIGHLIGHT-POOR SPORT, CONFERENCE FORMATS WILL RISE IN IMPORTANCE FOR FOOTBALL AUDIENCES."

CON ARGUMENTS

WHILE SUCH CONFERENCE FORMATS MIGHT CATER TO THE NEEDS OF THE MATCH-ACTION FOCUSED FAN, HIGHLY ENGAGED FANS ARE LIKELY FOCUSED ON FOLLOWING THEIR FAVORITE ATHLETE OR TEAM BY WATCHING INDIVIDUAL MATCHES ENTIRELY.

WHILE SOME TOP-TIER SPORTS (STILL) SET SOME PARALLEL FIXTURES, OTHERS, MOST NOTABLY F1 RACING, DO NOT, MAKING CONFERENCE OFFERINGS OBSOLETE.

AS SPORTS ASSOCIATIONS SEARCH FOR WAYS TO INCREASE THEIR MEDIA INCOME, SPLITTING UP MATCH DAYS IS LIKELY TO MAKE CONFERENCE FORMATS NEARLY IMPOSSIBLE.

"THERE WILL ALWAYS BE A PERCENTAGE OF HARDCORE FANS WHO WANT THEIR LIVE GAME WITH THEIR TEAM, AND THESE ARE THE ONES WITH THE HIGHEST WILLINGNESS TO PAY. SO [THERE WILL BE] NO FUNDAMENTAL SHIFT - MORE A SLOW, TECTONIC DRIFT."

According to our experts, it is a consensus that, by 2030, audiences will possibly prefer watching top-tier sports content in the form of conference formats over individual matches in full length. Still, with a probability of 64 percent, the expected likelihood of occurrence for projection #14 is slightly below the average, with the desirability of occurrence and its expected impact similarly ranked. In the qualitative comments, our experts emphasize the differences among top-tier sports, with some sports (e.g., association football) more eligible for conference formats than others (e.g., F1 racing). Interestingly, within sports, on the one hand some experts predict that conference offerings would help less noticed athletes and clubs potentially meet (new) audiences, which might help a sport to keep some necessary balance in the long term. On the other hand, other experts expect that an increase in the popularity of the format will harm a sport financially. Mainly because conference formats, similar to split-screen offerings and mega casts, are likely to significantly reduce a sport's accumulated airtime in their opinion.

#15

TOP-TIER
SPORTS PRODUCTION

CHANGING PERSPECTIVES

BY 2030, THE PRODUCTION OF TOP-TIER SPORTS CONTENT ALLOWS A DIRECTOR TO CHOOSE FROM EVERY CONCEIVABLE PERSPECTIVE ON AND OFF THE PITCH.

77 %
EXPECTED LIKELIHOOD

5.4 of 7
IMPACT

5.6 of 7
DESIRABILITY

"FOR AN EVEN STRONGER TRANSMISSION OF EMOTIONS, THE STEP TO INDIVIDAL POVS [POINT OF VIEW] IN BROADCASTING SEEMS LOGIC"

"AS IT IS, IMMERSIVE PLAYER/REFEREE CAMERAS PROVIDE NOTHING USEFUL. THEY ARE USED BY TOP-TIER PRODUCTIONS WANTING TO SHOW OFF THEIR NEW SMALLER-THAN-EVER CAMERAS & OTHER NEW TOYS."

PRO ARGUMENTS

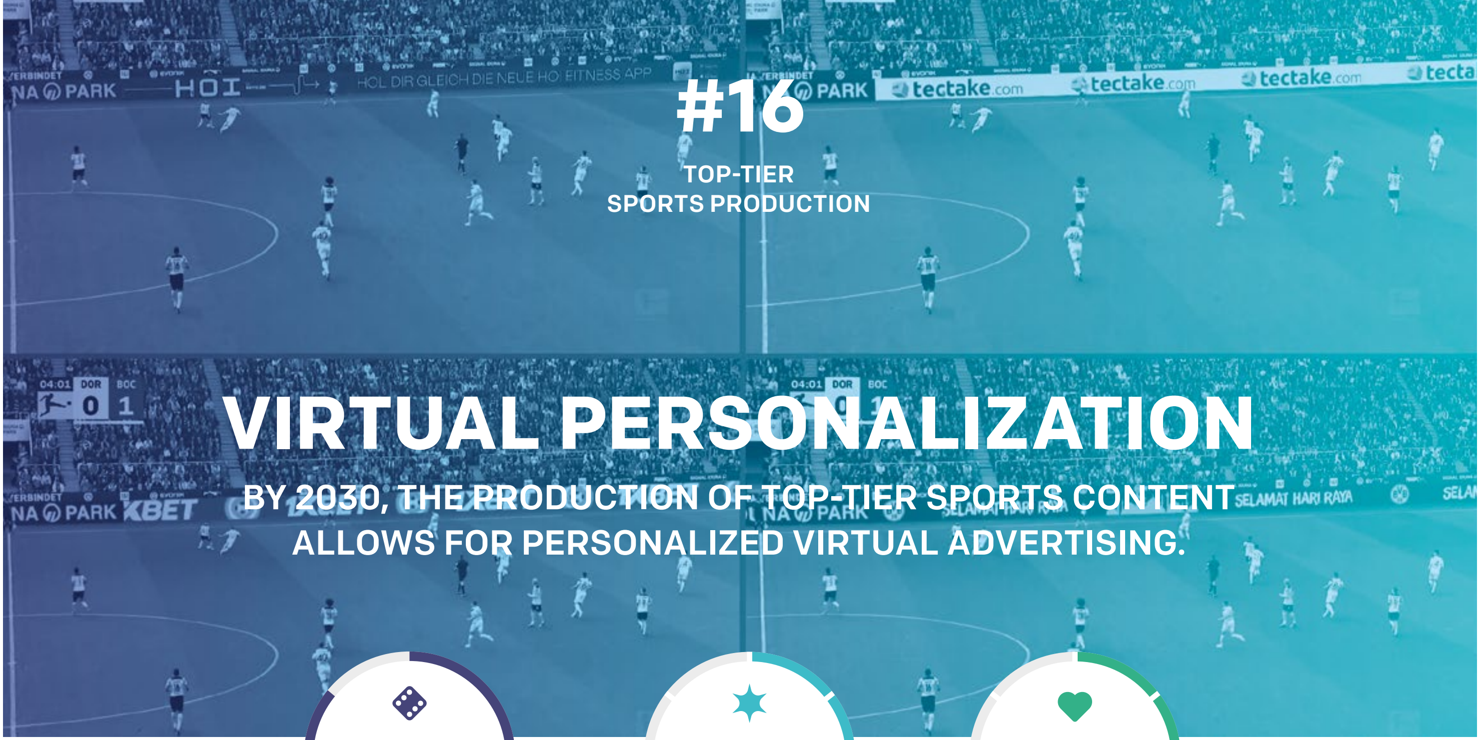
AS TECHNOLOGY PROGRESSES, IT WILL LIKELY ALLOW FOR RELIABLE, HIGH-QUALITY SHOTS THROUGH WEARABLES OR VOLUMETRIC CAPTURE.

WHEN LOOKING FOR MORE IMMERSIVE EXPERIENCES, AUDIENCES ARE LIKELY TO DEMAND NEW PERSPECTIVES, INCLUDING THOSE CAPTURING THE INDIVIDUAL'S POINT OF VIEW. PRODUCTION WILL BE REQUIRED TO ANSWER THESE DEMANDS TO STAY RELEVANT.

CON ARGUMENTS

WHILE POSSIBLE, AN INCREASING NEED FOR MORE EFFICIENT PRODUCTION IS LIKELY TO LIMIT SUCH COMPUTATIONAL-HEAVY CONTENT PRODUCTION TO SPECIFIC EVENTS (E.G., FINALS), AT LEAST FOR THE TIME BEING.

There is consensus among our experts that, by 2030, the production of top-tier sports content will allow a director to choose from every conceivable perspective on and off the pitch. With a probability of 77 percent, the expected likelihood of occurrence for projection #15 is well-above the average, with the desirability of occurrence and its expected impact similarly pronounced. Of the 25 projections, our experts evaluate only one of these projections as more likely. Based on the qualitative comments, our experts base their assessment on technological progress, most notably an increase in the use of artificial intelligence and the possible rise in volumetric video production; both will help directors cater to increasingly demanding audiences in search of immersive experiences. However, many questions remain to be answered: whether such top-tier sports production will affect all or only significant matches, be software-based, or enabled through numerous small cameras.



#16

TOP-TIER
SPORTS PRODUCTION

VIRTUAL PERSONALIZATION

BY 2030, THE PRODUCTION OF TOP-TIER SPORTS CONTENT ALLOWS FOR PERSONALIZED VIRTUAL ADVERTISING.

86 %
EXPECTED LIKELIHOOD

5.3 of 7
IMPACT

5.2 of 7
DESIRABILITY

PRO ARGUMENTS

AS TOP-TIER SPORTS CONTENT IS INCREASINGLY DISTRIBUTED DIGITALLY, TARGETING AUDIENCES BASED ON THEIR PREFERENCES IS ALMOST INEVITABLE.

"ORGANIZATIONS LIKE UEFA [...] ARE ALREADY [BROADCASTING PERSONALIZED ADVERTISING] AT LIVE-SPORTS WITH GEOGRAPHICAL-DIFFERENCES. STREAMING WILL ALLOW ORGANIZATIONS TO HAVE BETTER INSIGHTS ON WHO THEIR VIEWERS ARE, AND THEREFORE A BIGGER CHANCE TO PERSONALIZE THE ADVERTISEMENT."

CON ARGUMENTS

NOT ALL AUDIENCES MAY BE WILLING TO SHARE PERSONAL DATA, AS DATA PROTECTIVITY MAY BECOME MORE RELEVANT FOR THEM IN THE FUTURE.

"GETTING TO PERSONALIZATION ALSO INVOLVES HOW DATA GETS COLLECTED AND SHARED. SOME FANS WILL WANT TO KNOW WHAT THEY GET IN RETURN, WHICH WILL BE AN ISSUE FOR PERSONALIZED ADVERTISING IF TOO MANY FANS OPT OUT OF DATA SHARING."

There is consensus among our experts that, by 2030, the production of top-tier sports will very likely allow for personalized virtual advertising. With a probability of 86 percent, the expected likelihood of occurrence for projection #16 is not only well above the average but also the most likely projection of all 25 projections. Similarly, our experts assess both the desirability of occurrence and its potential impact as relatively high. Based on the qualitative comments, experts expect (almost) exclusively digital distribution in the future, which makes tailoring ads to increasingly heterogeneous audiences more efficient. Intriguingly, some experts even suggest that such personalization is likely to allow offering ad-heavy but free content to audiences. In contrast, other experts are skeptical about whether data protection sensitivity will increase among audiences.

#17

TOP-TIER SPORTS PRODUCTION

USER INTEGRATION

BY 2030, THE PRODUCTION OF TOP-TIER SPORTS CONTENT INTEGRATES DEMANDS FROM PARTICIPATORY AUDIENCES.

75 %

EXPECTED LIKELIHOOD

4.8 of 7

IMPACT

5.0 of 7

DESIRABILITY

"F1TV HAS BEEN ABLE TO CREATE AN ENTIRE MARKETING-CAMPAIGN AROUND THE FACT THAT YOU ARE ABLE TO GO ONBOARD WITH WHOEVER YOU'D LIKE AT ANY TIME. YOU CAN CREATE YOUR OWN VIEWING EXPERIENCE, AND THIS WILL ONLY INCREASE DEMAND AS STREAMING BECOMES THE NORM."

"WHILE CHOOSING CAMERAS SOUNDS GOOD IN THEORY, AUDIENCES STILL WANT TO BE TOLD A STORY. VR IN THE PAST HAS TAUGHT US THAT PEOPLE WHO ARE GIVEN THE CHOICE OF WATCHING CERTAIN CAMERAS ALWAYS OPT (AFTER A SHORT WHILE) FOR RESETTING TO THE MANAGED CONTENT OF THE STORYTELLER."

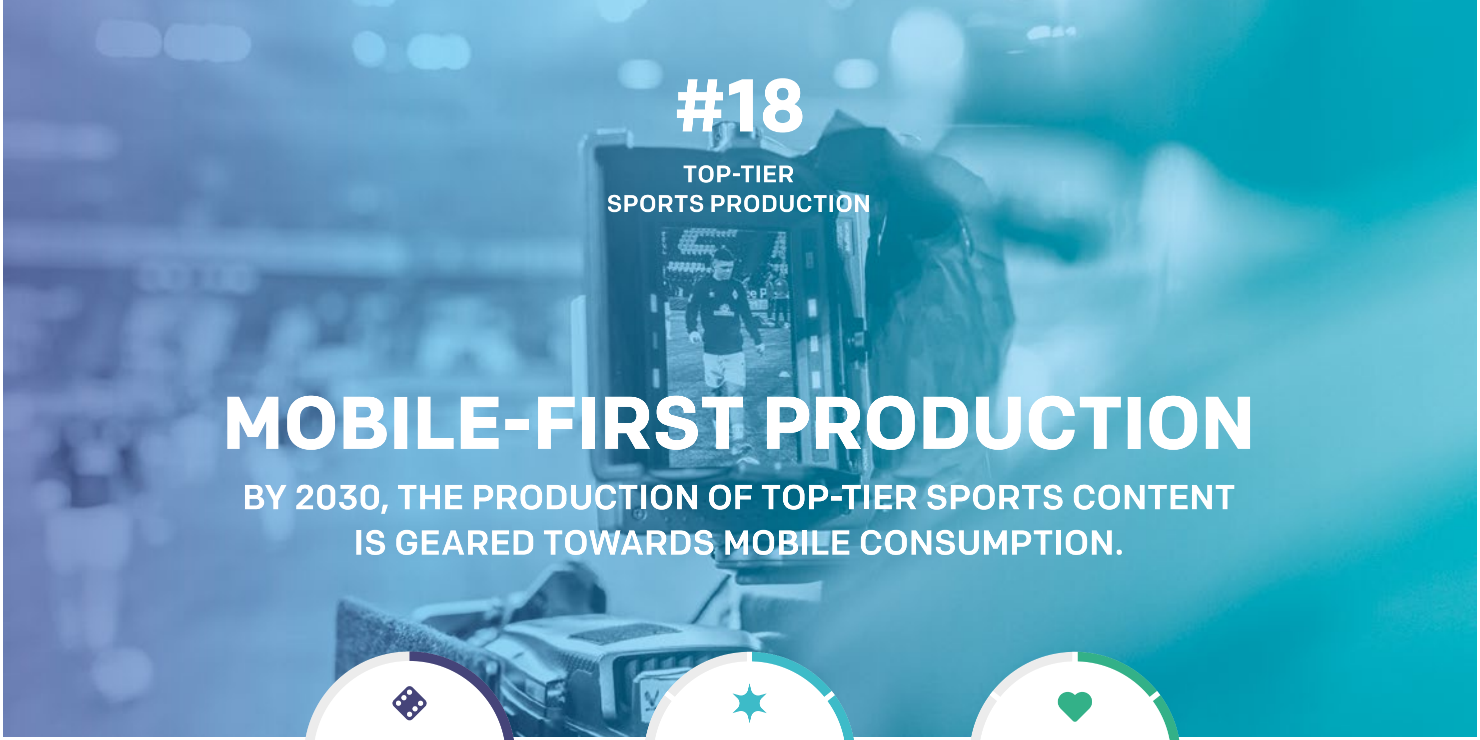
PRO ARGUMENTS

AS TOP-TIER SPORTS CONSUMPTION MOVES INCREASINGLY ONLINE, PRODUCTION MIGHT ALLOW INTERESTED AUDIENCES TO ENGAGE MORE ACTIVELY WITH CONTENT PRODUCTION.

CON ARGUMENTS

AS DEMAND FOR HIGH-QUALITY EXPERIENCES IS LIKELY TO INCREASE, MOST AUDIENCES MIGHT WANT TO LEAVE THE PRODUCTION TO EXPERTS, EXPERIMENTING WITH SUCH FEATURES SOMEWHAT IRREGULARLY.

There is consensus among our experts that, by 2030, the production of top-tier sports will integrate demands from participatory audiences. More precisely, with a probability of 75 percent, the expected likelihood of occurrence for projection #17 is well above the average, as is the desirability of occurrence; its potential impact, however, is not. Despite the relatively high likelihood of occurrence, there are pros and cons to accommodating audience participation. On the one hand, audience engagement will increase with all the potential that brings. On the other hand, quality may suffer as sports production requires enormous expertise, particularly for coherent storytelling. Such a change would greatly impact the product experience for all involved. Our experts also emphasize differences between sports – some of which are eligible for more forms of individualization and a greater number of distribution channels. Virtual Reality (VR) devices were frequently mentioned as ideal channels allowing for more active engagement in content production. Though the expert's focus was largely on the visual aspects of production, there was some mention of personalized audio experience for example, biased commentary or athlete communication generated from individuals equipped with microphones.



#18

TOP-TIER
SPORTS PRODUCTION

MOBILE-FIRST PRODUCTION

BY 2030, THE PRODUCTION OF TOP-TIER SPORTS CONTENT IS GEARED TOWARDS MOBILE CONSUMPTION.

62 %

EXPECTED LIKELIHOOD

4.8 of 7

IMPACT

4.5 of 7

DESIRABILITY

PRO ARGUMENTS

AS SOME AUDIENCES INCREASINGLY MOVE TOWARDS MOBILE-HEAVY/-ONLY SOLUTIONS, CATERING TO THESE AUDIENCES WILL LIKELY INTENSIFY, SPECIFICALLY FOR SHORTER CONTENT FORMATS SUCH AS HIGHLIGHT CLIPS.

"AUDIENCES ARE CONSUMING SPORTS THROUGH CELL PHONES AND IN 9:16 FORMAT MORE AND MORE. I THINK THAT BY 2030 A PHONE WILL REPLACE THE COMPUTER AND THE TV EVEN MORE THAN NOW, SO IT MAKES MUCH SENSE TO PRODUCE LIVE CONTENT FOR MOBILE DEVICES."

CON ARGUMENTS

WITH MANY AUDIENCES EXPECTED TO PREFER CONSUMING TOP-TIER SPORTS AT HOME, PRODUCTION IS UNLIKELY TO IGNORE THESE AUDIENCES, WHICH MAY SLOW DOWN THE PLANS TO MOVE TOWARDS A MORE MOBILE-USER-FOCUSED PRODUCTION.

WHILE TECHNOLOGICAL PROGRESS MAY ALLOW FOR MOBILE CONSUMPTION ON ALTERNATIVE MOBILE DEVICES (E.G., SMART GLASSES, RINGS, AND WATCHES), CATERING TO THESE AUDIENCES, AN EXPECTED NICHE, MAY BE FINANCIALLY UNVIABLE.

"MOBILE CONSUMPTION OF TOP-TIER SPORTS, DUE TO THE SIZE AND RESOLUTION OF THE DEVICE, WILL MAINLY BE FOR INDIVIDUAL VIEWERS. AS MOST TOP-TIER SPORT EVENTS ARE EVENTS BEST SHARED WITH OTHERS, THERE WILL ALWAYS BE A STRONGER NEED FOR CONSUMPTION ON BIGGER DEVICES."

In the view of our experts, it is possible, though there is no consensus, that, by 2030, the production of top-tier sports content will be geared towards mobile consumption. With a probability of 62 percent, the expected likelihood of occurrence for projection #18 is below the average, as is both its desirability and the anticipated impact in case of occurrence. Based on the qualitative comments, this moderate approval stems from the idea that audiences are likely to still consume top-tier sports content on the biggest screen available, typically a large TV. Our experts classify mobile devices as the second-best option, stepping in whenever the ideal setup is unavailable or as a second screen supplementing the first one. Of course, this might differ between audiences – with the younger generation potentially more open to mobile consumption. Some experts emphasize differentiating between the production of live events and highlights or serialized content, with the latter more suited for mobile consumption.

#19

TOP-TIER
SPORTS PRODUCTION

IP-BASED PRODUCTION

BY 2030, THE DISTRIBUTION OF TOP-TIER SPORTS CONTENT IS EXCLUSIVELY IP-BASED.

74 %
EXPECTED LIKELIHOOD

5.2 of 7
IMPACT

5.1 of 7
DESIRABILITY

"IF IP-BASED IS RELIABLE, EQUIVALENT IN QUALITY AND CHEAPER, THEN THERE IS NO REASON TO CONTINUE DISTRIBUTING VIA SATELLITE."

"STREAMING TECHNOLOGY IS EVOLVING FAST. NEVERTHELESS, I STILL SEE A BACKUP DISTRIBUTION FOR GLOBAL DISTRIBUTION OF THE BIG MATCHES/TOURNAMENTS TO ENSURE THE PROPER DELIVERY TO ALL CONSUMERS."

PRO ARGUMENTS

CONSIDERING THE RELATIVELY HIGH COST OF SATELLITE DISTRIBUTION, MOVING TO IP-BASED PRODUCTION WILL LIKELY LOWER PRODUCTION COSTS.

AS TECHNOLOGY PROGRESSES, IP-PRODUCTION WILL LIKELY OVERCOME THE CURRENT CHALLENGES (E.G., LATENCY, QUALITY, AND RELIABILITY), AT LEAST IN MOST TERRITORIES.

AS PRODUCTION INCREASINGLY ATTEMPTS TO CATER TO THE VARYING NEEDS OF GLOBAL AUDIENCES, MOVING TO IP-BASED PRODUCTION IS ESSENTIAL TO ALLOW FOR CUSTOMIZED PRODUCT EXPERIENCES.

CON ARGUMENTS

THOUGH INFERIOR IN SOME REGARDS, SATELLITE-BASED DISTRIBUTION WILL LIKELY REMAIN A BACKUP FOR QUITE SOME TIME, NOT LEAST FOR TIER-1 EVENTS.

DESPITE TECHNOLOGICAL ADVANCEMENTS, 2030 MIGHT BE TOO EARLY FOR EXCLUSIVELY IP-BASED DISTRIBUTION, WITH MANY REGIONS STILL DEPENDING ON SATELLITE FOR RELIABLE DISTRIBUTION.

There is consensus among our experts that, by 2030, the distribution of top-tier sports content will be exclusively IP-based. With a probability of 74 percent, the expected likelihood of occurrence for projection #19 is well above the average, as is the desirability of occurrence and its potential impact on the industry. Despite this consensus, and the apparent benefits of transitioning to IP-based distribution, not least the cost advantages, most experts emphasize that exclusivity is not a given, arguing that satellite-based distribution is likely remain a backup for quite a while. The qualitative comments reveal that some experts doubt that technological progress will have eliminated the current technical challenges by 2030; still others expect that location will determine whether reliable distribution is feasible.

#20

TOP-TIER SPORTS PRODUCTION

CAMERAWORK AUTOMATIZATION

BY 2030, THE MAJORITY OF CAMERAS IN TOP-TIER SPORTS PRODUCTIONS WILL BE AUTOMATED USING ARTIFICIAL INTELLIGENCE-BASED SOLUTIONS.

65 %

EXPECTED LIKELIHOOD

5.3 of 7

IMPACT

4.5 of 7

DESIRABILITY

PRO ARGUMENTS

AS ALGORITHMS BECOME INCREASINGLY CAPABLE AND THE DEMAND FOR NEW AND INNOVATIVE PERSPECTIVES, AI-SUPPORTED AUTOMATIZATION WILL HELP KEEP WORK-FLOWS EFFICIENT AND REDUCE PRODUCTION COSTS AND LOGISTIC-INDUCED EMISSIONS.

AS SOME LOWER-TIER SPORTS ARE ALREADY EXPERIMENTING WITH AUTOMATED CAMERAS, TOP-TIER SPORTS WILL LIKELY FOLLOW IF QUALITY REQUIREMENTS ARE MET.

"IT'S ALREADY HAPPENING. WITH THE RIGHT ALGORITHMS, A CAMERA WILL UNDERSTAND EXACTLY WHAT THE DIRECTOR NEEDS. I STILL DON'T THINK THE DIRECTOR COULD BE REPLACED, BUT A CAMERAMAN WILL DEFINITELY NOT BE NECESSARY IN THE FUTURE."

CON ARGUMENTS

DESPITE TECHNOLOGICAL PROGRESS, MORE TIME MIGHT BE NEEDED TO REPLACE CAMERA OPERATORS WITH ALGORITHMS WITHOUT LOSING THE NECESSARY TOUCH FOR A TOP-TIER SPORT'S SPECIFIC DRAMATURGY.

"ONLY A HUMAN CAMERA OPERATOR CAN TRANSPORT THE DRAMATURGY OF THE MOMENT. THIS AUTHENTIC FEEL CANNOT BE PROVIDED BY AI."

It is possible, though there is no consensus that, by 2030, the majority of cameras in top-tier sports productions will be automated using artificial intelligence (AI)-based solutions. More specifically, with a probability of 65 percent, the expected likelihood of occurrence for projection #20 is slightly below the average, as is its desirability. Interestingly, our experts evaluate only two of our 25 projections as potentially more impactful. Based on the qualitative comments, one reason for this is the increasing pressure to produce content in a more cost-efficient manner and improve sustainability. In this context, in particular, moving towards mostly AI-based camera solutions might reduce the necessary logistics and, therefore, lower emissions. However, despite rapidly improving algorithms, our experts expect that 2030 might be too early to fulfill this projection, with existing human camera operators perceived as hardly replaceable.

#21

TOP-TIER
SPORTS PRODUCTION

INTELLIGENT (AI)-LOGISTICS

BY 2030, ARTIFICIAL INTELLIGENCE PLANS THE LOGISTICS OF THE PRODUCTION OF TOP-TIER SPORTS CONTENT.

67 %

EXPECTED LIKELIHOOD

4.7 of 7

IMPACT

5.1 of 7

DESIRABILITY

"CURRENTLY ALL WORKFLOWS OPERATED BY HUMANS ARE USING DIGITAL TOOLS TO ASSIST PRODUCTION. WITH THE GROWING DATA AND THE EVOLUTION OF AI, IT IS QUITE LIKELY THAT THE TOOLS WILL TAKE OVER CONSTANTLY."

PRO ARGUMENTS

WITH ALGORITHMS INCREASINGLY CAPABLE OF SOLVING REPETITIVE TASKS, IN PARTICULAR, AND PRODUCTION EFFICIENCY INCREASINGLY CHALLENGED (E.G., COST PRESSURE), ARTIFICIAL INTELLIGENCE IS LIKELY TO OWN LOGISTICS PLANNING COMPLETELY.

"BASIC PLANNING WILL BE DONE BY AI, BUT ONLY AS A SUPPORT FOR THE (HUMAN) PRODUCTION & LOGISTICS EXPERT WHO WILL KEEP THE FINAL DECISION."

CON ARGUMENTS

DESPITE TECHNOLOGICAL PROGRESS, IT MIGHT NEED MORE FOR AN AI TIME TO BE ABLE TO AUTOMATE THE LOGISTICS PLANNING FULLY.

Our experts deem it possible, though there is no consensus, that, by 2030, artificial intelligence plans the logistics of the production of top-tier sports content. With a probability of 67 percent, the expected likelihood of occurrence for projection #21 is slightly above the average, as is its desirability. The anticipated impact in case of occurrence, however, is below average. This somewhat hesitant assessment does not necessarily mean that our experts cannot imagine algorithms playing a significant role in logistics planning. To the contrary, based on the qualitative comments, our experts rather expect AI to perform a supportive role, particularly to take over time-consuming and repetitive tasks.

#22

TOP-TIER
SPORTS PRODUCTION

REMOTE PRODUCTION

BY 2030, THE PRODUCTION OF TOP-TIER SPORTS CONTENT IS COMPLETELY OFF-VENUE AND LOCATION-INDEPENDENT.

69 %	5.7 of 7	4.9 of 7
EXPECTED LIKELIHOOD	*IMPACT*	*DESIRABILITY*

PRO ARGUMENTS

GIVEN CURRENT TECHNOLOGICAL ADVANCEMENTS, MOVING TOWARD CLOUD-BASED PRODUCTION WILL MEET THE HIGH PRODUCTION REQUIREMENTS, MOST NOTABLY REGARDING RELIABILITY.

FACING SIGNIFICANT CHALLENGES IN THE TALENT MARKET, MOVING TOWARD OFF-VENUE PRODUCTION WILL HELP SIGN (GLOBAL) TALENT THROUGH MORE FAMILY-FRIENDLY WORKING CONDITIONS (E.G., LESS TRAVEL).

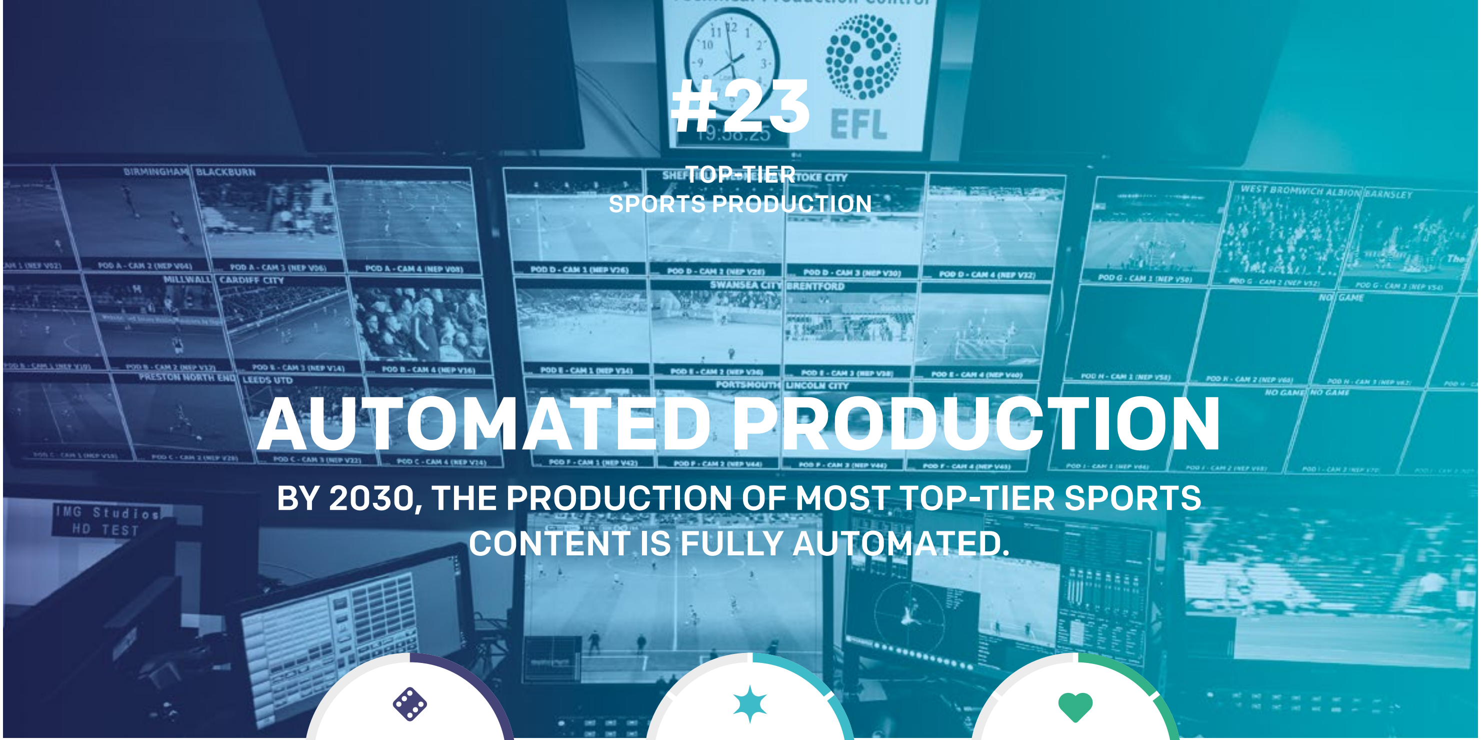
"REMOTE PRODUCTION WOULD LEAD TO LEAN PRODUCTIONS ON-SITE AND MORE FLEXIBILITY IN TERMS OF APPLYING AI ON A CENTRAL PRODUCTION HUB. FOR SUSTAINABILITY REASONS, IT ALSO MAKES SENSE TO BRING PRODUCTION FACILITIES TOGETHER IN ONE SINGLE PLACE."

CON ARGUMENTS

WHILE CLOUD-BASED PRODUCTION MIGHT BE RELIABLE, SOME PERSONNEL IS NECESSARY ON-SITE, NOT LEAST TO CATER TO THE REQUIRED JOURNALISTIC INTEGRITY.

"FOR A PRODUCTION TEAM, WHERE SOME DECISIONS ARE TAKEN WITHIN SECONDS AND EVERYBODY NEEDS TO BE INFORMED VERY QUICKLY, I DON'T SEE THIS HAPPENING AS THE NORMAL ROUTINE BY 2030."

It is possible, though there is no consensus that, by 2030, the production of top-tier sports content will be completely off-venue and location-independent. More specifically, with a probability of 69 percent, the expected likelihood of occurrence for projection #22 is above the average, as is its desirability and the anticipated impact in case of occurrence. Of all our projections, the experts evaluate this projection as potentially the most impactful one. Based on the qualitative comments, our experts expect that most parts of the production process will occur off-venue, with only some personnel remaining on-site, primarily for troubleshooting if necessary. Significantly, as with many projections, our experts differentiate between events: with tier-2 and tier-3 events more suitable for off-venue production than events with a global appeal (e.g., Bundesliga "Klassiker" Borussia Dortmund vs. Bayern München, Champions League final).



#23

TOP-TIER
SPORTS PRODUCTION

AUTOMATED PRODUCTION

BY 2030, THE PRODUCTION OF MOST TOP-TIER SPORTS CONTENT IS FULLY AUTOMATED.

54 %
EXPECTED LIKELIHOOD

5.0 of 7
IMPACT

3.7 of 7
DESIRABILITY

"IN COMBINATION WITH AI, AUTOMATED PRODUCTION WILL ADD TO AN EVEN MORE SOPHISTICATED MEDIA PRODUCT."

PRO ARGUMENTS

AS TECHNOLOGY PROGRESSES, ALGORITHMS WILL LIKELY TAKE OVER MORE AND MORE HUMAN TASKS, WITH SOME LOWER-TIER SPORTS PRODUCTS ALREADY EXPERIMENTING WITH SUCH ALGORITHMS TODAY (E.G., AI-BASED CAMERA SYSTEMS).

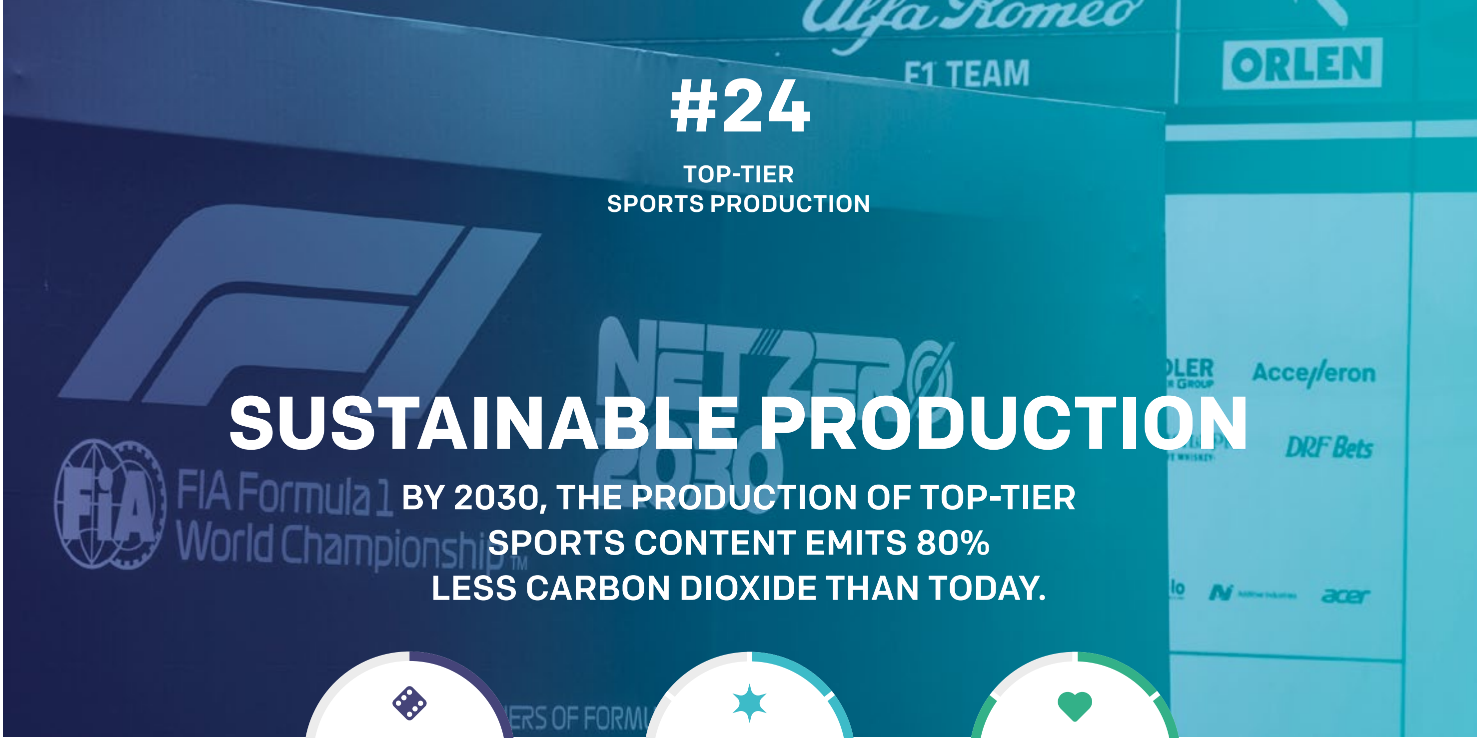
WITH AN INCREASE IN THE SUPPLY OF TOP-TIER SPORTS PRODUCTS, AUTOMATIZATION IS LIKELY TO HELP PRODUCTION REDUCE ITS COSTS AND ENVIRONMENTAL IMPACT.

"PRODUCTION IS ABOUT STORYTELLING, WHICH REQUIRES CREATIVITY; CREATIVITY IS HARD TO PROGRAM."

CON ARGUMENTS

LACKING THE NECESSARY CREATIVITY, FULLY AUTOMATIZED PRODUCTION LIKELY RESULTS IN AN INFERIOR PRODUCT.

There is no consensus among our experts, that, by 2030, the production of most top-tier sports content will be fully automated. More specifically, with a probability of 54 percent, the expected likelihood of occurrence for projection #23 is well below the average, as is its desirability. Interestingly, the anticipated impact in case of occurrence is high. Within our set of 25 projections, our experts evaluate only two as both less likely and desirable. Based on the qualitative comments, our experts believe that algorithms may not yet be ready to fully replace human directors and operators in 2030 due primarily to a lack of the necessary creativity to produce high-quality stories. With regards to automatization, our experts acknowledge the potential to produce more efficiently and to reduce both cost and environmental impact; but 2030 may be too early for fully automated production at the highest level.



#24

TOP-TIER
SPORTS PRODUCTION

SUSTAINABLE PRODUCTION

BY 2030, THE PRODUCTION OF TOP-TIER SPORTS CONTENT EMITS 80% LESS CARBON DIOXIDE THAN TODAY.

73 %

EXPECTED LIKELIHOOD

5.3 of 7

IMPACT

6.0 of 7

DESIRABILITY

PRO ARGUMENTS

WITH AN EXPECTED INCREASE IN THE LEVEL OF AUTOMATIZATION IN PRODUCTION, MOST OF IT TAKING PLACE OFF-VENUE, EMISSIONS FROM PRODUCTION ARE LIKELY TO REDUCE SIGNIFICANTLY.

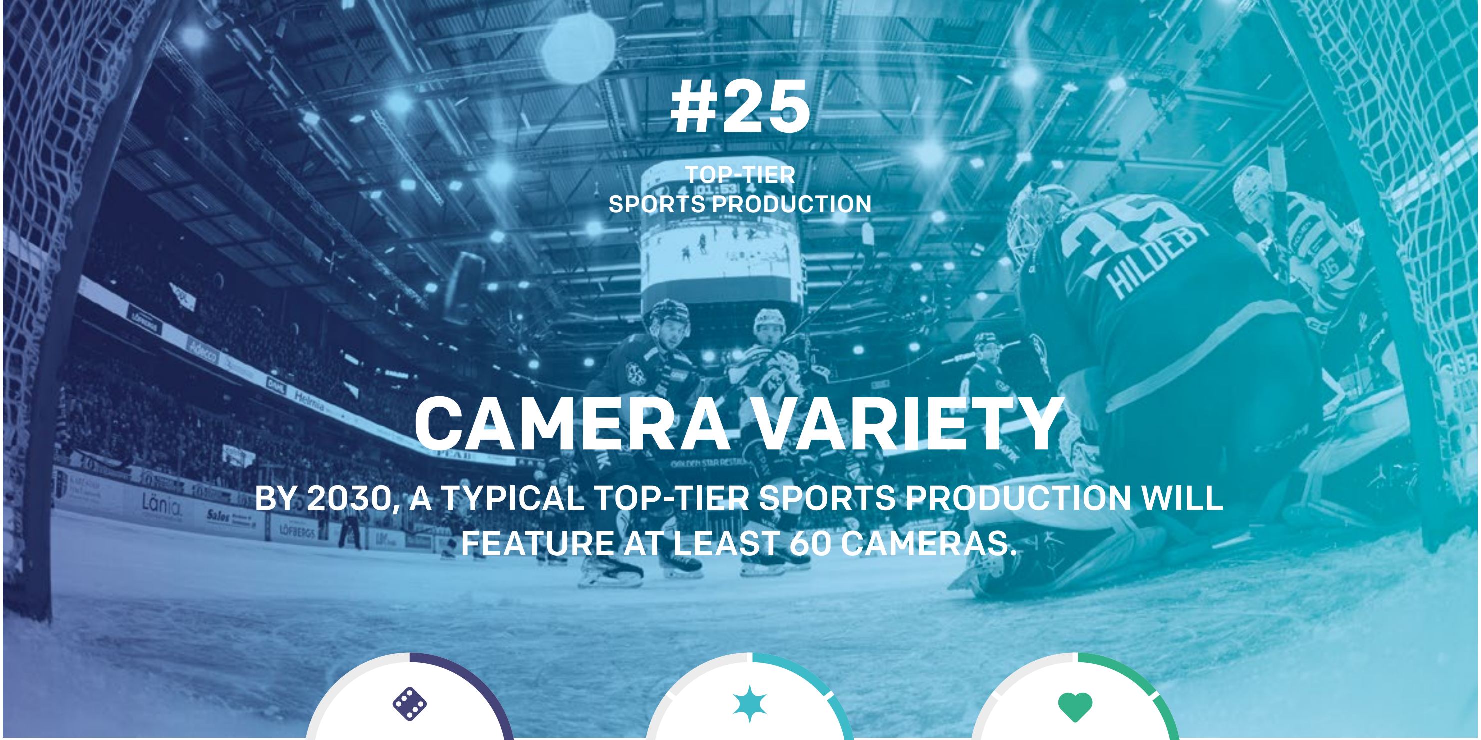
"GIVEN THE GENERAL SENSITIVITY FOR SUSTAINABILITY ISSUES AND TRENDS TOWARDS MORE REMOTE/OFF-VENUE PRODUCTIONS THAT DO NOT REQUIRE TRAVEL, I BELIEVE THIS IS AN AMBITIOUS BUT REALISTIC TARGET."

CON ARGUMENTS

AS THE NUMBER OF EVENT SUPPLY INCREASES, THE LEVEL OF REDUCTION MIGHT BE TOO AMBITIOUS, DESPITE THE EXPECTED POTENTIAL TECHNOLOGICAL PROGRESS.

"REALISTICALLY EVENTS TAKE PLACE AROUND THE GLOBE AND NOT ALL STAFF IN LOCAL MARKETS ARE TRAINED SUFFICIENTLY. AI WILL HELP TO REDUCE THE FOOTPRINT; HOWEVER, THIS WILL INCREASE THE CO2 FOOTPRINT AS WELL IN TERMS OF COMPUTER PROCESSING. THEREFORE, A LOT OF IMPROVEMENT WILL BE SEEN, BUT IT WILL NOT BE REDUCED BY 80%."

It is likely, though there is no consensus among our experts that, by 2030, the production of top-tier sports content will emit 80% less carbon dioxide than today. More specifically, with a probability of 73 percent, the expected likelihood of occurrence for projection #24 is well above the average, as is its desirability, and the anticipated impact in case of occurrence. Within our set of 25 projections, our experts evaluate only two of these projections as more impactful and no projection as more desirable. While unanimously expressing their support for reaching such a goal, our experts emphasize that this projection is ambitious, primarily if production remains mostly on site and if the number of produced events increases. Further, our experts note potential differences between sports, with the production of one-time events and events that require constant, significant travel between event locations (e.g., F1 racing) unlikely to achieve the goal.



#25

TOP-TIER
SPORTS PRODUCTION

CAMERA VARIETY

BY 2030, A TYPICAL TOP-TIER SPORTS PRODUCTION WILL FEATURE AT LEAST 60 CAMERAS.

58 %
EXPECTED LIKELIHOOD

4.8 of 7
IMPACT

4.4 of 7
DESIRABILITY

"MORE CAMERAS WILL RESULT IN MORE PERSONALIZED CONTENT AND THE ABILITY TO DIVERSIFY THE TYPES OF CONTENT AVAILABLE AND THE NUMBER OF PLATFORMS. FURTHER, WITH SO MANY CAMERAS - YOU'LL NEVER MISS A MOMENT OF ACTION."

PRO ARGUMENTS

AS TECHNOLOGY PROGRESS WILL ALLOW FOR SMALLER, COST-EFFICIENT CAMERAS, PRODUCTION WILL LIKELY ADD MORE CAMERAS, INCLUDING THOSE CATERING TO AUDIENCES' NEEDS FOR MORE IMMERSIVE EXPERIENCES (E.G., CAMERAS CAPTURING THE PLAYER'S POINT OF VIEW).

"I BELIEVE THE MARGINAL UTILITY OF MORE CAMERAS IS LIMITED. ALREADY IN FOOTBALL, 60-70% OF THE MATCH ACTION IS USUALLY PRODUCED WITH ONLY THE MAIN CAMERA."

CON ARGUMENTS

AS TECHNOLOGY PROGRESSES, THE PRODUCTION OF TOP-TIER SPORTS IS LIKELY TO MOVE TOWARD CAMERA-AGNOSTIC PRODUCTION, ULTIMATELY REDUCING THE NUMBER OF NECESSARY CAMERAS ON SITE.

There is no consensus among our experts that, by 2030, a typical top-tier sports production will feature at least 60 cameras. With a probability of 58 percent, the expected likelihood of occurrence for projection #25 is below the average, as is its desirability and the anticipated impact in case of occurrence. Based on the qualitative comments, our experts explain that though additional cameras may help to increase the level of immersion for audiences, the expected marginal utility from more cameras is limited. As technology progresses (e.g., artificial intelligence, volumetric video production), our experts expect production to move toward a camera-agnostic production, reducing rather than increasing the number of necessary cameras on site.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AT A GLANCE: ALL 25 PROJECTIONS

PRODUCT		PROBABILITY in %		IMPACT	DESIRABILITY
#01:	**LIVE DATA:** By 2030, audiences seek to consume top-tier sports content with constantly visible live data.	73	**Likely** *Consensus*	4.9	5.0
#02:	**PERSONALIZED ADS:** By 2030, audiences do not mind seeing ads while consuming top-tier sports content, as long as they are tailored to their preferences.	70	**Likely** *Consensus*	5.1	4.4
#03:	**DIGITAL COLLECTIBLES:** By 2030, most audiences of top-tier sports content own sport-related digital collectibles.	58	**Maybe**	4.8	4.4
#04:	**AUGMENTED REALITY (AR):** By 2030, audiences seek to consume digitally augmented top-tier sports content.	75	**Likely** *Consensus*	4.8	5.3
#05:	**ACTIVE ENGAGEMENT:** By 2030, audiences of top-tier sports content prefer an active engagement in the production over the passive consumption of such content.	69	**Possible**	4.7	4.7
#06:	**VIRTUAL REALITY (VR):** By 2030, most audiences consume top-tier sports content in a virtual environment.	52	**Maybe**	4.8	4.0
#07:	**MOBILE CONSUMPTION:** By 2030, most audiences consume top-tier sports content on mobile devices.	64	**Possible**	4.9	4.6
#08:	**PREMIUMS ADD-ONS:** By 2030, audiences of top-tier sports content pay high prices for exclusive premium add-ons.	51	**Maybe**	4.5	4.3
#09:	**CHANGING ROLES:** By 2030, audiences seek to consume top-tier sports content featuring individual players rather than teams.	56	**Maybe**	4.6	3.5
#10:	**IMMERSIVE EXPERIENCE:** By 2030, audiences seek to consume immersive top-tier sports content.	76	**Likely** *Consensus*	5.2	5.3
#11:	**NETFLIX EFFECT:** By 2030, audiences expect additional top-tier sports content in serialized form.	69	**Possible** *Consensus*	4.9	5.0
#12:	**HIGHLIGHT CLIPS:** By 2030, audiences prefer watching top-tier sports content in the form of highlights over live events.	60	**Possible**	5.0	3.4
#13:	**THIRD-PARTY OFFERINGS:** By 2030, third-party offerings drive audience interest in top-tier sports content (rather than the other way around).	56	**Maybe**	5.2	3.8
#14:	**CONFERENCE FORMAT:** By 2030, audiences prefer watching top-tier sports content in the form of conference formats over individual matches in full length.	64	**Possible** *Consensus*	4.9	4.3

DENIAL AGREEMENT

AT A GLANCE: ALL 25 PROJECTIONS

PRODUCTION		PROBABILITY in %		IMPACT	DESIRABILITY
#15:	**CHANGING PERSPECTIVES:** By 2030, the production of top-tier sports content allows a director to choose from every conceivable perspective on and off the pitch.	77	**Likely** *Consensus*	5.4	5.6
#16:	**VIRTUAL PERSONALIZATION:** By 2030, the production of top-tier sports content allows for personalized virtual advertising.	86	**Very likely** *Consensus*	5.3	5.2
#17:	**USER INTEGRATION:** By 2030, the production of top-tier sports content integrates demands from participatory audiences.	75	**Likely** *Consensus*	4.8	5.0
#18:	**MOBILE-FIRST PRODUCTION:** By 2030, the production of top-tier sports content is geared towards mobile consumption.	62	**Possible**	4.8	4.5
#19:	**IP-BASED PRODUCTION:** By 2030, the distribution of top-tier sports content is exclusively IP-based.	74	**Likely** *Consensus*	5.2	5.1
#20:	**CAMERAWORK AUTOMATIZATION:** By 2030, the majority of cameras in top-tier sports productions will be automated using artificial intelligence-based solutions.	65	**Possible**	5.3	4.5
#21:	**INTELLIGENT (AI)-LOGISTICS:** By 2030, artificial intelligence plans the logistics of the production of top-tier sports content.	67	**Possible**	4.7	5.1
#22:	**REMOTE PRODUCTION:** By 2030, the production of top-tier sports content is completely off-venue and location-independent.	69	**Possible**	5.7	4.9
#23:	**AUTOMATED PRODUCTION:** By 2030, the production of most top-tier sports content is fully automated.	54	**Maybe**	5.0	3.7
#24:	**SUSTAINABLE PRODUCTION:** By 2030, the production of top-tier sports content emits 80% less carbon dioxide than today.	73	**Likely**	5.3	6.0
#25:	**CAMERA VARIETY:** By 2030, a typical top-tier sports production will feature at least 60 cameras.	58	**Maybe**	4.8	4.4

DENIAL — AGREEMENT

STUDY DESIGN AND METHODOLOGY

THIS EMPIRICAL STUDY IS BASED ON THE DELPHI METHODOLOGY. THIS SCIENTIFICALLY BASED RESEARCH METHOD AIMS TO OBTAIN THE OPINIONS OF A PANEL OF EXPERTS IN AN ITERATIVE SURVEY PROCESS.

As part of the Delphi method, selected experts evaluate pre-formulated forward-looking statements, so-called projections, in regard to the expected likelihood (in percent) of occurrence as well as the potential impact and desirability on a seven-point Likert scale from 1 (= very low) to 7 (= very high). The experts supplement their quantitative assessments with remarks and comments. After completing their own assessments, the experts are given access to the assessment results of the entire expert panel. They are also provided with summary statistical data (for example, on the mean or consensus/ agreement level) for each projection. Each expert can then decide whether to maintain or change his ratings in further runs (von der Gracht, 2012). This approach has been shown to improve the cogency, acceptability, plausibility, and consistency of forward-looking studies because experts can effectively discuss complex issues in a structured, anonymous group communication process (Linstone & Turoff, 2011). This Delphi study was conducted in three steps. In step one, the projections were formulated. Step two involved the expert survey. In step three, the survey results were aggregated and analyzed using descriptive statistical methods and the coding of the total of 1,019 qualitative comments (more than 47,000 words).

FORMULATION OF FUTURE PROJECTIONS

The relevant literature recommends deriving Delphi projections from multiple sources (Markmann et al., 2020). As part of our study, future development in top-tier sports product and its production were determined with the help of expert workshops with, among others, the DFL Deutsche Fußball Liga and the tech company AWS. The 25 formulated projections related to the potential impact of changes in sports fan motives (e.g., social interaction) and technology (e.g., virtual reality) on the top-tier sports product and its production. The projections developed in two expert workshops were then discussed and finalized by a panel of experts with relevant market participants. This approach ensured a broad spectrum of projections in terms of content and a focus on key market-relevant developments. The year 2030 was chosen as the time horizon for the study in line with relevant, comparable Delphi studies (e.g., Beiderbeck et al., 2021).

SELECTION OF EXPERTS

By design, Delphi panels are not statistically representative. Hence, to ensure the validity of Delphi surveys, the selection of the experts plays a crucial role (Devaney & Henchion, 2018). In our study, the expert selection was conducted in a multi-stage process similar to that employed by Okoli and Pawlowski (2004). First, categories were defined to ensure a balance among the following expert groups: broadcasters and (sports) producers, sports associations, clubs, and leagues, media companies, sports consulting agencies, tech companies, and universities. Balancing of Delphi panels is recommended because different views from a variety of expert groups enhance the validity of Delphi studies (Yaniv, 2011). Thus, we next identified potential experts for each category based on several criteria (e.g., years of experience, age, mix of backgrounds). In total, our final expert panel was made up of 28 broadcasters and (sports) producers, 23 sports associations, clubs, and leagues representatives, 21 media representatives, 15 sports consulting representatives, 8 tech company representatives, and 4 university researchers.

EXECUTION OF THE SURVEY AND ANALYSIS OF RESULTS

The Delphi survey was conducted over a six-week period and was administered via the internet using “Surveylet” by Calibrum, an online survey tool specifically designed to facilitate Delphi research studies. We analyzed the 4,401 quantitative assessments provided by our 99 experts for 25 Delphi projections on three dimensions. Additionally, 1,019 written arguments were analyzed. Using both qualitative and quantitative survey data, we were able to tease out the different viewpoints and reasons for both agreement and dissent regarding the future of top-tier sports product and its production; this helped us to better understand (diverging) views within the industry (Warth et al., 2013). The expert panel assessed all the projections with an average impact rating of just below 5 (product) and just above 5 (production) (product) on a seven-point Likert scale from 1 (= very low) to 7 (= very high). This underscores their relevance and confirms the accuracy of the pre-formulation process. The variance in the experts’ responses was moderate and consensus was reached for 10 of the 25 projections for which the interquartile range (IQR) was 30 or less percent.

ABOUT THE WHU AND THE CSM

WHU – OTTO BEISHEIM SCHOOL OF MANAGEMENT

WHU – Otto Beisheim School of Management is an internationally oriented, privately financed business school. Founded in 1984, the Business School is established among the top 20 international business schools in Europe and consistently ranked as one of the top German business schools. Accredited by EQUIS, AACSB, and FIBAA, WHU offers academic programs as well as education for executives. Its core values – community, cosmopoliteness, entrepreneurship, and excellence – can be gleaned from any of its academic offerings. In October 2012, the university opened its second campus in Düsseldorf.

CENTER FOR SPORTS AND MANAGEMENT (CSM)

As an academic partner for executives in the sports business, the CSM aims to positively influence the future of sports by inspiring, nurturing, and connecting. The research and teaching activities focus on future sustainability, corporate diversification strategies, and the influence of technologies on sports, and stadium economics. In addition, we investigate trends and future scenarios in various technological and social contexts. Strong partnerships are thereby the basis for all our activities, including leading sports clubs, leagues, and federations.

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