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Sustainability in Minor League Sports

By

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SUSTAINABILITY IN MINOR LEAGUE SPORTS

ABSTRACT

The COVID-19 Pandemic has greatly impacted the sports industry with the substantial changes that were prevalent during 2020. With those changes, many leagues had drastic budget decreases and were forced to compensate for the lost revenues. Many teams throughout Minor League Baseball, the AHL and the NBA G League were forced to come up with creative revenue streams as well as cost cutting strategies in order to maintain operations after the pandemic. Along with the effects of COVID-19 on the business of minor league sports, there is also heightened attention on what minor league teams are doing to sustain the environment. With the growing popularity of environmental sustainability, many teams were pushed to develop and implement several strategies to do their part in sustaining the environment. This research aims to inform patrons and teams about potential strategies that can be utilized to sustain the business and environmental sectors of minor league sports teams and leagues.

SUSTAINABILITY IN MINOR LEAGUE SPORTS

INTRODUCTION

The COVID-19 global pandemic has had a disruptive impact on all aspects of society. Over 260 million people have contracted the virus globally, and over 5 million have died as of December 2021 (Worldmeter.com, 2021). The effects of the virus have seen highs and lows as different local, state, and federal governments have implemented various policies to negate or slow down the spread of the deadly virus (International Monetary Fund, 2021). The desire to get “back to normal” has been redefined by the need to live in the “new normal” (Maragakis, 2021).

As society continues to grapple with the effects of the pandemic, leaders in athletic administration at the high school, college, and professional ranks have worked to implement protocols and safeguards to allow the game to take place. Various state high school sports associations enacted policies based on their local state laws. The NCAA (2021) provides broad guidance to protect the health and safety of over 500,000 college student-athletes. Leadership in professional sports (minor and major league) took various steps to allow safe delivery of their respective sports. Here are some examples:

- Major League Baseball (MLB) canceled the 2020 season for minor league teams (Associated Press, 2020).
- Major league baseball (MLB) played a 60-game schedule with an increased focus on the geographic proximity of teams (Lacques, 2020). The league’s Division Series, League Championship Series, and World Series were contested at neutral site locations in Texas (Houston and Arlington) and California (San Diego and Los Angeles) (Major League Baseball, 2020).

- The National Basketball Association (NBA) suspended play in March 2020 but later resumed play for higher-performing teams in a shared location (i.e., The Bubble) in Orlando, FL (Haislop, 2020).
- The Women’s National Basketball Association (WNBA) played a shortened season in a shared location (i.e., The Wubble) in Bradenton, FL (Cash, 2020).
- The National Hockey League (NHL) suspended play in March 2020 but resumed play in a shortened season in two “Hub City” locations: Edmonton, Alb. for Western Conference Teams; and Toronto, Ont. for Eastern Conference Teams. The Stanley Cup series was then contested in Edmonton (Gatto, 2020); (Rivera, 2020).

As illustrated above, the various leagues found ways to sustain their operations (and operate their businesses) in a dramatically changed operating environment. In Spring 2021, Major League Baseball announced a restructuring of its Minor League system. The new model provides increased player salaries, modernized facilities, and reduced travel time and costs. A new Professional Development League (PDL) was organized with four partner leagues: The American Association, Atlantic League; Frontier League; and Pioneer League. The Triple-A affiliate teams (its highest level) were reassigned to be closer to their major league clubs (Mayo, 2021). The restructuring reduced the number of affiliated teams from 160 to 120 (ESPN.com, 2021). Rob Manfred, MLB Commissioner, described the changes as follows: “In modernizing our Minor League system, we prioritized the qualities that make the Minor Leagues such an integral part of our game while strengthening how we develop professional athletes on and off the field (Mayo, 2021).”

It can be argued that the above changes to Minor League baseball helped to sustain the longevity of the industry (e.g., its sustainability as a business). Concurrently, many MiLB teams have introduced sustainability practices related to energy conservation, recycling, landscaping,

purchasing, advocacy and education, and others (Minor League Baseball, 2021). This study examines the sustainability practices in minor league sports. Attention will be given to business sustainability and the traditional “lessened environmental impact” sustainability efforts. First, a detailed description of the organization of minor league sports and their affiliates is provided. Second, an overview of the actions taken to ensure the business viability of minor leagues sports teams and leagues is presented. Next, the actions taken to address the issue of environmental sustainability by minor league sports teams and leagues are reviewed. Finally, future issues are discussed and potential changes that may come with the continuation of research and availability of information.

THE ORGANIZATION OF MINOR LEAGUE SPORTS

In this section, the organizational structures for Minor League sports are discussed, specifically Minor League Baseball, NBA G League Basketball, and Minor League Hockey.

Baseball

There are currently 30 Major League Baseball teams operating in the United States. Each of these teams has an affiliated Triple-A, Double-A, High-A, and Low-A team. Additionally, MLB operates two leagues for first year (i.e., Rookie players: Arizona Complex League (ACL) and the Florida Complex League (FCL), where games take place at the Spring Training sites of MLB teams. Additional teams bring the total to 179 teams across 17 leagues in 43 states and 4 provinces (Mayo, 2021).

Table A: Major League Baseball and Minor League Affiliates

Major League	Triple-A	Double-A	High-A	Low-A
Arizona Diamondbacks	Reno Aces	Amarillo Sod Poodles	Hillsboro Hops	Visalia Rawhide
Atlanta Braves	Gwinnett Stripers	Mississippi Braves	Rome Braves	Augusta GreenJackets
Baltimore Orioles	Norfolk Tides	Bowie Baysocks	Aberdeen IronBirds	Delmarva Shorebirds
Boston Red Sox	Worcester Red Sox	Portland Sea Dogs	Greenville Drive	Salem Red Sox
Chicago Cubs	Iowa Cubs	Tennessee Smokies	South Bend Cubs	Myrtle Beach Pelicans
Chicago White Sox	Charlotte Knights	Birmingham Barons	Winston-Salem Dash	Kannapolis Cannon Ballers
Cincinnati Reds	Louisville Bats	Chattanooga Lookouts	Dayton Dragons	Daytona Tortugas
Cleveland Guardians	Columbus Clippers	Akron RubberDucks	Lake County Captains	Lynchburg Hillcats
Colorado Rockies	Albuquerque Isotopes	Hartford Yard Goats	Spokane Indians	Fresno Grizzlies
Detroit Tigers	Toledo Mud Hens	Erie SeaWolves	West Michigan Whitecaps	Lakeland Flying Tigers
Houston Astros	Sugar Land Skeeters	Corpus Christi Hooks	Asheville Tourists	Fayetteville Woodpeckers
Kansas City Royals	Omaha Storm Chasers	Northwest Arkansas Naturals	Quad Cities River Bandits	Columbia Fireflies
Los Angeles Angels	Salt Lake Bees	Rocket City Trash Pandas	Tri-City Dust Devils	Inland Empire 66ers
Los Angeles Dodgers	Oklahoma City Dodgers	Tulsa Drillers	Great Lakes Loons	Rancho Cucamonga Quakes
Miami Marlins	Jacksonville Jumbo Shrimp	Pensacola Blue Wahoos	Beloit Snappers	Jupiter Hammerheads
Milwaukee Brewers	Nashville Sounds	Biloxi Shuckers	Wisconsin Timber Rattlers	Carolina Mudcats
Minnesota Twins	St. Paul Saints	Wichita Wind Surge	Cedar Rapids Kernels	Fort Myers Mighty Missals
New York Mets	Syracuse Mets	Binghamton Rumble Ponies	Brooklyn Cyclones	St. Lucie Mets
New York Yankees	Scranton/Wilkes-Barre RailRiders	Somerset Patriots	Hudson Valley Renegades	Tampa Tarpons
Oakland Athletics	Las Vegas Aviators	Midland RockHounds	Lansing Lugnuts	Stockton Ports
Philadelphia Phillies	Lehigh Valley IronPigs	Reading Fightin Phils	Jersey Shore BlueClaws	Clearwater Threshers

Pittsburgh Pirates	Indianapolis Indians	Altoona Curve	Greensboro Grasshoppers	Bradenton Marauders
San Diego Padres	El Paso Chihuahuas	San Antonio Missions	Fort Wayne TinCaps	Lake Elsinore Storm
San Francisco Giants	Sacramento River	Richmond Flying Squirrels	Eugene Emeralds	San Jose Giants
Seattle Mariners	Tacoma Rainiers	Arkansas Travelers	Everett AquaSox	Modesto Nuts
St. Louis Cardinals	Memphis Redbirds	Springfield Cardinals	Peoria Chiefs	Palm Beach Cardinals
Tampa Bay Rays	Durham Bulls	Montgomery Biscuits	Bowling Green Hot Rods	Charleston RiverDogs
Texas Rangers	Round Rock Express	Frisco RoughRiders	Hickory Crawdads	Down East Wood Ducks
Toronto Blue Jays	Buffalo Bisons	New Hampshire Fisher Cats	Vancouver Canadians	Dunedin Blue Jays
Washington Nationals	Rochester Red Wings	Harrisburg Senators	Fredericksburg Nationals	Fredericksburg Nationals

Source: Mayo (2021).

Men's Basketball

There are currently 30 NBA teams in the United States and Canada; 28 of these teams have an affiliated G-League team. In addition, two teams (G League Ignite of Las Vegas, NV; Capitanes Ciudad De Mexico of Mexico City) operate independently and without NBA affiliation (Adams, 2021).

Table B: National Basketball Association and G-League Affiliates

NBA Team	G-League Affiliated Team
Washington Wizards	Capital City Go-Go (Washington, DC)
Atlanta Hawks	College Park Skyhawks (College Park, GA)
Boston Celtics	Maine Celtics (Portland, ME)
Brooklyn Nets	Long Island Nets (Uniondale, NY)
Charlotte Hornets	Greensboro Swarm (Greensboro, NC)
Chicago Bulls	Windy City Bulls (Hoffman Estates, IL)
Cleveland Cavaliers	Cleveland Charge (Cleveland, OH)
Dallas Mavericks	Texas Legends (Frisco, TX)
Denver Nuggets	Grand Rapids Gold (Grand Rapids, MI)
Detroit Pistons	Motor City Cruise (Detroit, MI)
Golden State Warriors	Santa Cruz Warriors (Santa Cruz, CA)
Houston Rockets	Rio Grande Vipers (Hidalgo, Texas)
Indiana Pacers	Fort Wayne Mad Ants (Fort Wayne, IN)
Los Angeles Clippers	Agua Caliente Clippers of Ontario (Ontario, CA)
Los Angeles Lakers	South Bay Lakers (El Segundo, CA)
Memphis Grizzlies	Memphis Hustle (Southaven, MS)
Miami Heat	Sioux Falls Skyforce (Sioux Falls, SD)
Milwaukee Bucks	Wisconsin Herd (Oshkosh, WI)
Minnesota Timberwolves	Iowa Wolves (Des Moines, IA)
New Orleans Pelicans	Birmingham Squadron (Birmingham, AL)
New York Knicks	Westchester Knicks (White Plains, NY)
Oklahoma City Thunder	Oklahoma City Blue (Oklahoma City, OK)
Orlando Magic	Lakeland Magic (Lakeland, FL)
Philadelphia 76ers	Delaware Blue Coats (Newark, DE)
Sacramento Kings	Stockton Kings (Stockton, CA)
San Antonio Spurs	Austin Spurs (Austin, TX)
Toronto Raptors	Raptors 905 (Mississauga, Ontario)
Utah Jazz	Salt Lake City Stars (Salt Lake City, UT)
Washington Wizards	Capital City Go-Go (Washington, DC)
Portland Trailblazers	No affiliated team
Phoenix Suns	No affiliated team

Source: Adams (2021).

Men's Hockey

There are currently 32 NHL teams playing in the United States and Canada. The American Hockey League (AHL) serves as the top development league for the National Hockey League (NHL). Under the NHL, the American Hockey League (AHL) hosts 31 teams across Canada and the United States. The AHL is not exclusively a development league. It is also home to prospects who have finished junior or college hockey and older players who are too advanced for other leagues. The vast majority of AHL players were selected in the NHL draft and signed player development contracts. The American Hockey League and the Professional Hockey Players' Association have the following development rule in place (American Hockey Association, 2021):

“Of the 18 skaters (not counting two goaltenders) that teams may dress for a game, at least 13 must be qualified as “development players.” Of those 13, 12 must have played in 260 or fewer professional games (including AHL, NHL and European elite leagues), and one must have played in 320 or fewer professional games. All calculations for development status are based on regular season totals as of the start of the season.”

Table C: National Hockey League and Affiliated American Hockey League Teams

National Hockey League Team	Affiliated American Hockey League Team
Anaheim Ducks	San Diego Gulls
Arizona Coyotes	Tuscan Roadrunners
Boston Bruins	Providence Bruins
Buffalo Sabres	Rochester Americans
Calgary Flames	Stockton Heat
Carolina Hurricanes	Chicago Wolves
Chicago Blackhawks	Rockford Icehogs
Colorado Avalanche	Colorado Eagles
Columbus Blue Jackets	Cleveland Monsters
Dallas Stars	Texas Stars
Detroit Red Wings	Grand Rapids Griffins
Edmonton Oilers	Bakersfield Condors
Florida Panthers / Seattle Kraken	Charlotte Checkers
Los Angeles Kings	Ontario Reign
Minnesota Wild	Iowa Wild
Montreal Canadiens	Laval Rocket
Nashville Predators	Milwaukee Admirals
New Jersey Devils	Utica Comets
New York Islanders	Bridgeport Islanders
New York Rangers	Hartford Wolf Pack
Ottawa Senators	Belleville Senators
Philadelphia Flyers	Lehigh Valley Phantoms
Pittsburgh Penguins	Wilkes-Barre/Scranton Penguins
San Jose Sharks	San Jose Barracuda
St. Louis Blues	Springfield Thunderbirds
Tampa Bay Lightning	Syracuse Crunch
Toronto Maple Leafs	Toronto Marlies
Vancouver Canucks	Abbotsford Canucks
Vegas Golden Knights	Henderson Silver Knights
Washington Capitals	Hershey Bears
Winnipeg Jets	Manitoba Moose

Source: American Hockey Association (2021).

BUSINESS SUSTAINABILITY OF MINOR LEAGUE SPORTS AND TEAMS

Many professional sports teams have implemented strategies to overcome the losses incurred during the 2020 and 2021 seasons due to the COVID-19 pandemic. Many professional sports teams have implemented strategies to overcome the losses incurred during the 2020 and 2021 seasons due to the COVID-19 pandemic. Unfortunately, professional sports teams, especially minor league teams, had incredible losses in the most significant portion of their income, ticket revenue and have had to be creative in developing new revenue streams and cutting costs to survive after the COVID-19 pandemic. Minor league sports took the biggest hit during the pandemic because they do not have as significant revenues as major league sports teams do, and so there were many instances of teams struggling to survive during the pandemic and after.

New Revenue Streams

Minor league sports and their respective teams have put numerous practices in place to develop new revenue streams to counteract the adverse effects of their challenges. One of the key revenue streams that bring in the most income for any minor league sports team is ticket revenue, sponsorships, and broadcasting. The less popular revenue streams include naming rights, monetization of the experience, and non-sporting events, and though they are prevalent, they tend to bring in a lesser portion of the overall income to minor league sports teams. Additionally, some revenue streams are more applicable for specific leagues, as the requirements may restrict some leagues from being able to utilize them.

Ticket Revenue

Ticket sales are often the most significant revenue driver in sports, especially in minor league sports that do not have as large a following as major league sports. On average, the top 20 MiLB teams pulled in \$9.8 million in revenue per team, of which 49% came from tickets

meaning that the total ticket sales revenue from the top 20 teams in the league totaled approximately \$4.8 million (Ozanian, 2022). With 120 teams in the MiLB, this profit totals an estimated \$28.8 million in ticket revenue alone. The AHL and NBA G League have much smaller profits than the MiLB. The AHL has average yearly revenues of approximately \$21.3 million, and an NHL executive estimated to the Ottawa Sun that "75-to-85% of the revenues for AHL teams are generated by ticket sales," meaning that ticket sales account for up to \$10.5 million in revenue (Wyshynski, 2020) (American Hockey League, n.d.). The NBA G League has an estimated annual revenue of \$38.2 million per year, and in the 2019/20 season, ticketing revenue had a share of 19.32% of total revenue, totaling approximately \$7.3 million in ticket sales revenue (NBA G League Revenue, Competitors and Alternatives, 2021) (Gough, 2021).

Sponsorships

Sponsorships in minor league sports are among the most prominent strategies to generate revenue and embed sports teams within local communities. Sponsorships generate large amounts of revenue for the sports team and advertise the partnering company in exchange. As a result, sponsorships have become a vital part of the minor league sports environment and have proven to be equally as lucrative.

Sponsorships in Minor League Baseball have been a long-time tradition and a steady revenue stream for teams since they first became prevalent on baseball cards. Now, sponsorships in Minor League Baseball have become increasingly more apparent, thus increasing the revenue of a sponsorship. Minor league baseball clubs can make between \$3 and \$25 million a year from sponsorships, according to the MiLB (MiLB, n.d.). With the COVID-19 pandemic, these numbers have faltered during 2020 but have rebounded in the 2021 season.

Sponsorships have been equally as influential in the AHL, with an NHL executive estimating to the Ottawa Sun that "75-to-85% of the revenues for AHL teams are generated by

ticket sales, and the rest come in from sponsorships." (Wyshynski, 2020). With the AHL having average yearly revenues of approximately \$21.3 million, sponsorships account for approximately \$3.2 - \$5.3 million in revenue (American Hockey League, n.d.).

The NBA G-League, previously named D-League, is a sponsorship deal since the league is named after the popular sports drink Gatorade. The financial terms of the agreement were not disclosed, but the sponsorship deal did give the league access to scientific expertise from the Gatorade Sports Science Institute (GSSI) (Mccann, 2017). For the individual teams in the NBA G-League, there is an estimated \$120,000 in sponsorship revenue per team, making the league total approximately \$3 million in sponsorship revenue (Maniego, n.d.)

Digital media sponsorships also proved beneficial, particularly during the COVID-19 Pandemic when teams could not host fans. Many teams offered their sponsors the opportunity to continue promotions through the teams on their websites and social media. Though it is not entirely the same income level achieved through traditional marketing, it is an additional income that many teams have used to stay afloat and generate partial revenues.

Broadcasting

Broadcasting and media rights have become a fundamental part of minor league sports. Broadcasting rights allow fans to view the game without being physically present, allowing the hosting league to earn substantial amounts of revenue through subscriptions and media deals.

Minor League Baseball previously held a media rights deal with TuneIn on the audio side and to MLB (which then puts them on streaming service MiLB.tv) for what John Ourand of Sports Business Journal cites as "*a rights fee in the low seven figures,*" but that seems set to change, with Ourand reporting that MiLB has now hired sports agency Octagon to shop their rights around elsewhere (Bucholtz, 2019). Ourand also states, "Given the number of direct-to-

consumer services currently in the market, that fee easily could double, even as Major League Baseball has discussed contracting up to 42 minor league teams.”

The AHL has created a similar streaming service to MiLBTV, AHLTV, which is in partnership with HockeyTech (HardevLad, 2018). However, the AHL currently holds its broadcasting rights, and no financial information has been disclosed as of February 2022. Likewise, the NBA G League currently has broadcasting deals with ESPN, NBA TV, and Twitch, a popular online streaming site, but no financial information has been released for any of these partnerships (Greer, 2021).

Naming Rights

Naming rights to sports stadiums has become a viral revenue stream since it first began 70 years ago, and consequently, the income gained has grown along with it. However, there are many advantages and disadvantages to brands funding the naming rights of sports stadiums which contribute to the costs and are why many stadiums have still not sold their naming rights. Some teams have even decided not to renew their naming rights deals, specifically the Frisco RoughRiders, after being named Dr. Pepper Ballpark has been renamed Riders Field in 2017 (Brennan, 2021). Nonetheless, naming rights remain a steady revenue stream for most minor league teams.

Since minor league hockey and NBA G League teams do not own their stadiums, they cannot benefit from the names of their stadiums. While NBA G League teams cannot have naming rights for the stadiums they play at, the NBA G-League, formerly named D-League, is named after the popular sports drink Gatorade, which became effective during the 2017-2018 season (Mccann, 2017). The financial terms of the NBA G-League sponsorship were not disclosed, but the deal came with other benefits to the league, including scientific expertise from the Gatorade Sports Science Institute (GSSI) (Mccann, 2017).

Team naming rights have been a particularly lucrative revenue stream in minor league baseball even during the COVID-19 pandemic. Naming rights to stadiums has been a solid revenue stream for sports teams for generations, the first being Budweiser Stadium of the St. Louis Cardinals in 1953, which is no longer their home field (Trex, 2008). Currently, naming rights still act as a valuable revenue stream for many minor league sports teams and can bring in revenues of up to \$5 million for a 20-year naming rights deal (Klebnikov, 2016).

Since the COVID-19 pandemic, some teams have opted to auction their naming rights in more creative ways to increase fan engagement and to further their community impact. For example, the Beloit Snappers said goodbye to their old Pohlman Field by auctioning the naming rights for every home game in the 2021 season before the team's new downtown ballpark opens. The winning bidder for each game was able to choose the ballpark's name for the night and received eight tickets to the game, two vinyl signs displayed at the stadium featuring their stadium name, public address announcements throughout the game, a radio interview during an inning, inclusion of their stadium name on the team website, the opportunity to lead the singing of the seventh-inning stretch, and a group photo with team mascot Snappy (Reichard, 2021). All the proceeds earned from the naming rights auction were donated to the Stateline Boys and Girls Club, and though it was not an additional revenue stream, it did allow them to engage more of their community and bring in other fans throughout the season.

Monetization of Activities

Many minor league teams have developed creative ways to find additional revenue at each event when games can be played. Some strategies for monetizing the in-game experience include jersey auctions, 50/50 raffles, and theme nights, which all bring in additional revenue that can be used to support various departments, especially marketing and fan engagement.

Many teams have long utilized jersey auctions to generate revenue, specifically on themed or promotional nights. Jersey auctions allow patrons to bid and purchase game-worn jerseys, most going above the average price of a jersey sold in the team Pro Shop. Jersey auctions begin at a set price, which is usually slightly below the price for a custom jersey to be made, but as the game proceeds, bid prices rise to often double the price of a regular jersey. Many teams have multiple jersey auctions throughout the season, which bringing in thousands of dollars in revenue. Though revenue from jersey auctions does not compare to the costs teams face during a season, it is a supporting income for game operations and marketing strategies.

Most minor league teams utilize another strategy during games: holding a 50/50 raffle. Again, it is not a substantial income, but it brings revenue to support various departments in their day-to-day activities. 50/50 raffle tickets are typically sold for \$5-\$10 depending on the level of the team and generate at least \$1,000 per game, making the profits small, but with increased audiences and fans that are willing to pay higher prices, the payout for minor league teams can increase substantially. In addition, since 50/50 raffles are held at every home game, the profits multiply throughout the season and can be used as supplemental income for various departments. Lastly, theme nights are the most popular monetization strategy all minor league teams have utilized. Theme nights are consistently used across all leagues; the AHL utilizes themed jerseys and merchandise; the NBA G League utilizes mascot performances; and the MiLB uses a combination of specialized jerseys and merchandise, in-game experiences, and themed attractions. Theme nights have proven to be a highlight for fans and have contributed to increased attendance and additional spending, which can add thousands of dollars' worth of revenue to a minor league team's ticket revenue and suffice as additional income for specialized departments.

Non-Sporting Events

Hosting non-sporting events at stadiums and ballparks across the country has been particularly beneficial to generating income without the significant expenses of hosting their teams and are year-round opportunities. Though it is only entirely possible in the MiLB since most AHL and G League teams do not own their stadiums, it is still a relevant strategy for those that do. Teams across the country have been holding special events outside of the game schedule to generate revenue. Though it cannot make up for all the revenue lost during the COVID-19 pandemic, it is an incredibly lucrative tactic to regain some of the lost revenue. According to a Sports Business Journal analysis of hundreds of sports venues and musical acts' schedules and recent box office data from Pollstar, more than 500 concerts scheduled for arenas and stadiums in 2020, representing nearly \$1 billion in total projected revenue, were canceled, or postponed since 2020, by the coronavirus pandemic. Now that many restrictions have been lifted, teams can reinvest in special events (Broughton, 2020).

Some minor league teams that have already begun to hold special events due to the COVID-19 pandemic include the Myrtle Beach Pelicans, Richmond Flying Squirrels, and the Columbia Fireflies minor league baseball teams. One team, the Pensacola Blue Wahoos, even listed their stadium on Airbnb as a rental to generate income during the COVID-19 pandemic (Acquavella, 2020). Non-sporting events that have been hosted at various locations include social and corporate event venues as well as concerts and community events. The most recent figures provided by the 2014 Economic Impact of Meetings to the U.S. Economy by the Convention Industry Council (CIC) and Price, Water- house, and Coopers estimated a \$115 billion value for the events and meetings industry, which account for \$10.36 billion in spending on venue rental (Parrish, Lee, & Kim, 2014). These figures represent an opportunity for sports organizations to generate additional income by tapping into this market. Additionally, with these

events taking place, there is often additional income from food and beverage to be included with many events, which adds to the support stadiums and ballparks receive by hosting these events.

Cost Reduction

Amid the COVID-19 Pandemic, many minor league sports teams have had to find new ways to cut costs to ensure the sustainability of their businesses while also maintaining functionality to ensure life after the pandemic. The most publicized of these cost-cutting strategies has been breaking down into more minor leagues, decreasing staff size and salaries, and changing the game scheduling structure. These strategies correlate to the leagues' COVID-19 strategies implemented in 2020 and carried over to the 2021 season. Many of the following strategies are only applicable for certain leagues but may become impactful as revenues and practices change.

Smaller Leagues

As of 2022, there has been no reduction in league size for the American Hockey League or the NBA G League, but the MiLB did cut 43 teams during the 2021 season due to reduced capacities and the inability to maintain stadium activities per COVID-19 restrictions (Lacques, 2020). The remaining 120 teams were reorganized into new, smaller divisions that allowed for a shortened distance of travel, which aligned more closely with COVID-19 restrictions.

Having fewer teams in Minor League Baseball allows the remaining teams to receive the much-needed support and funding lost during the COVID-19 pandemic. While 42 teams were cut, Minor League Baseball gave the remaining 120 teams were organized from 162 clubs to four affiliates for all 30 clubs, a process MLB commissioner Rob Manfred has championed to create a more cost-effective and efficient mode of player development (Lacques, 2020).

In addition, the annual amateur draft that was once 40 rounds will now be 20 rounds, depressing the need for additional affiliates. Affiliated short-season and rookie leagues in the

Northeast, the Rockies, and the Appalachians were also absorbed into collegiate and draft-showcase leagues during the process (Lacques, 2020).

Shared Facilities

Minor League sports teams using shared facilities is one strategy that many in the AHL and G League utilize, as they do not own their stadiums but have yet to become a popular money-saving trend in Minor League Baseball. Currently, only two teams in Minor League Baseball share a facility: the Palm Beach Cardinals and the Jupiter Hammerheads at Roger Dean Chevrolet Stadium (Knight, 2021). The cost of creating and sustaining a Minor League Baseball Stadium is exceptionally costly, the most expensive being \$157 million to build Polar Park, the new home of the minor league Worcester Red Sox, which surpasses the inflation-adjusted \$153 million home of the Las Vegas Aviators (deMause, 2021).

As previously stated, AHL teams do not own their stadiums as they can cost up to \$282 million, which is not a price that they would be able to survive (Assad, 2015). However, there are many teams in the AHL that share their facilities with other professional teams, including the San Jose Barracuda at the SAP Center at San Jose, also home to the San Jose Sharks NHL team; the Cleveland Monsters at the Rocket Mortgage FieldHouse, also home to the Cleveland Cavaliers NBA team; and the Iowa Wild at Wells Fargo Arena, which is also home to the Iowa Wolves NBA G League team and the Iowa Barnstormers Indoor Football League team.

Shared stadiums as a cost-cutting technique also reach outside of the main three minor league sports. For example, the entirety of the United States Football League will be playing in one stadium, Protective Stadium, and Legion Field in Birmingham, Alabama (DiLullo, 2022). As a result, the league can save millions of dollars and generate revenues in one central place by using only one field.

With the expensive price tag of sports stadiums, it is reasonable to see why many AHL and NBA G League teams share their facilities with other teams and companies, especially amid the COVID-19 Pandemic, to cut costs and maintain the fan experience. In addition, sharing facilities with larger teams can also give the minor league teams better facilities since much of the cost would go to the major league team whom the facility would more dominantly represent.

Salaries and Staff Size

In 2020, when the COVID-19 pandemic began, every professional sports league across the country had to cancel their upcoming or in-progress seasons to comply with COVID-19 restrictions. Since the season's cancellation meant no revenue, teams were forced to engage in furlough, lay off, or pay cut structure with their staff to save as much money as possible to survive the pandemic and resume play in the 2021 season. Many positions were also cut from businesses, offering fewer internships, and giving more responsibilities to those who remained. With an estimated \$12.3 billion in earnings lost during the COVID-19 pandemic, approximately 1.3 million sports jobs were furloughed, reduced, or erased (EMSI Burning Glass, 2020). Though it was hard for many teams and employees, cutting staff size and salaries has proven to save money and allow teams to make a comeback after the COVID-19 pandemic since leagues were able to resume play and rehire many employees.

Though there have been jobs reinstated, there have also been many erased. In a study on the popular sports job posting site, TeamWork Online, it is stated that jobs on the site have rebounded over the past three quarters, nearly reaching the average number of job postings within the data set in Q1 2021. The number of new postings increased 67.2% from Q3 2020 to Q4 2020, and then 36.0% from Q4 2020 to Q1 2021 (IUPUI Sports Innovation Institute, 2021). It can be concluded that the job market in sports has been on the rebound since the renewed

revenue began, but it will take time for teams in all areas of sports to make a complete comeback after the COVID-19 pandemic.

Game Scheduling

Another result of the COVID-19 pandemic is a reorganization of the game schedule that applied to some sports, allowing for less travel and lowered chances of contracting the virus. In 2021, when gameplay was resumed, the AHL and the NBA G League maintained the previous scheduling structure since they played fewer games than the MiLB. However, in 2021, Minor League Baseball had a completely altered schedule that aligned more closely with COVID-19 restrictions necessary to maintain the number of games played and try and return to the previous amount of revenue brought in by a regular season. Minor League Baseball also faced a shortened season, running May-September rather than from April since restrictions were not set to be lifted until May of 2021.

Minor League Baseball team schedules were regionalized and included six-game series to reduce travel and cut expenses (Associated Press, 2021). The game schedule structure for 2021 and the league alignment have continued into the 2022 season since COVID-19, and its variants are still a threat to the global environment (Associated Press, 2021). The two Triple-A Minor League Baseball divisions featured 142 regular-season games per team, while clubs in the Double-A, High-A, and Low-A divisions had 120 games apiece (Dykstra, 2021). It was also stated that in 2022, the Triple-A schedule would be expanding from 144 to 150 games to “help Triple-A baseball better align with the Major League season” (Franco, 2022). The realignment of the schedule will continue to comply with COVID-19 restrictions and support teams in the league in terms of cutting costs by reducing travel.

Reduced Roster Size and Compensation

Another strategy employed during the COVID-19 pandemic to cut costs amid the pandemic, which left many leagues financially struggling to maintain operations, was involved in player development. The NBA G League had few reported changes during the 2019-2020 season as the remainder of the regular season was canceled. Minor League Baseball has seen the most significant effect on player development, being an area to cut costs, but the AHL did see some similar issues, just not as large as Minor League Baseball.

In 2020, the Major League Baseball Players Association (MLBPA) reduced the 2020 draft from 40 rounds to five, deferred large portions of draft bonuses, and lowered the bonus cap for undrafted free agents from \$125,000 to \$20,000 (Baumann, 2020). This change made it possible to save teams money in desperate times, and the MLB was able to save just a few million dollars per franchise (Baumann, 2020). These strategies continued into 2021 when the MLB draft was cut in half, offering 20 rounds to continue the money-saving strategy that began in 2020. The MiLB also cut 43 developmental teams during the 2021 season due to reduced capacities and the inability to maintain stadium activities per COVID-19 restrictions (Lacques, 2020). The remaining 120 teams were reorganized into new, smaller divisions that allowed for a shortened travel distance, which proved to be more cost-effective than the previous league structure.

The AHL did not finish the 2019-2020 season due to the COVID-19 pandemic, diminishing the player development process extensively as the players could not participate. During the 2020-2021 season, the start of the regular season was pushed back to February 5, 2021, and the league championship Calder Cup was not awarded for the second consecutive season due to the ongoing restrictions in the COVID-19 pandemic. Though it did save the league money on holding the games, it also meant that players who may need to be called up to their

NHL affiliates could not have as much in-game experience as they usually would. Previously, before the COVID-19 pandemic, teams were relocated closer to their NHL affiliates which gave them the ability to transfer players from the minor league team to the major league without spending as much on transportation costs (Picard, 2017). This strategy, which has been deployed in multiple developmental leagues around the sports industry, has proven to be beneficial to cutting costs in the AHL and Minor League Baseball.

The NBA G League was forced to cancel the remainder of the 2019-2020 season because of the COVID-19 pandemic. The 2020-2021 season was also postponed until January 5, 2021, since the effects of the pandemic were ongoing. During the 2020-2021 season, more than 40 G League players were called up or signed hardship contracts alone during December. The signings have depleted rosters in the G League, and the postponement will help teams replace those players (Taylor, 2021). The cancellation of the 2019-2020 season and postponement of the 2020-2021 season has allowed NBA G League to save money on holding games, but it has also restricted revenue as they cannot collect the money they would have earned through ticket sales.

Travel

In minor league sports, travel costs have proven to be a possible area for improvement in terms of cutting costs and have spread to multiple leagues, showing that it can be a strategy to cut costs amid the COVID-19 pandemic. Many minor league sports teams have relocated or rearranged their affiliates to decrease travel costs and more closely align with COVID-19 restrictions. There was no reported realignment to the NBA G League; therefore, travel costs remained steady and unchanged during the COVID-19 pandemic. In the AHL, realignment was not used as a cost-cutting strategy as many teams are now further away from their NHL affiliates.

During the 2021 season, MiLB cut 43 teams and had a total realignment to align with COVID-19 restrictions and decrease transportation costs around the league. The remaining 120 teams were reorganized into new, smaller divisions that allowed for a shorter travel distance, proving to be more cost-effective than the previous league structure as affiliates were closer to their MLB counterparts, and travel costs were not as substantial (Lacques, 2020). In addition, the smaller divisions in the MiLB restructure were organized by region, meaning less distance traveled for games, and affiliates located closer to their MLB affiliates were switched into different divisions to decrease costs. One example of teams switching divisions in accordance with their distance from their MLB affiliate is the South Bend Cubs and the Myrtle Beach Pelicans. The Myrtle Beach Pelicans in South Carolina, previously a High-A affiliate of the Chicago Cubs, were dropped down into the Low-A division, whereas the South Bend Cubs in Indiana were raised from Low-A to High-A.

With the realignment of Minor League Baseball, there was also a new schedule structure that cut scheduled travel mileage by 28 to 56% and reduced expenses in their first season of operations under Major League Baseball after the pandemic (Blum, 2021). The schedule restructure involved adding six-game homestands and one “off day” a week which roughly sustained the number of games played while reducing travel costs.

ENVIRONMENTAL SUSTAINABILITY OF MINOR LEAGUE SPORTS AND TEAMS

Environmental sustainability has become an increasingly significant trend throughout history and is now working its way into the sports industry. Several companies within major and minor league sports have implemented strategies to become more environmentally friendly in an attempt to gain social acceptance and stand out among competitors as a pioneer in environmental sustainability. The two main areas sports teams are focusing on to lessen their impact on the

climate are facility designs and certifications and waste reduction strategies. Both of these critical areas, when utilized, can work towards environmental sustainability as it pertains to sports teams.

Facilities

One of the most widespread strategies to become more environmentally sustainable in minor league sports has been to update sports facilities to counteract the effects of climate change. Updating sports facilities can significantly impact the climate, as sports facilities are incredibly prevalent and are continuing to expand and hold large numbers of people, which only increases the impact. There are several strategies sports teams have used to update and maintain facilities while remaining environmentally sustainable, including actions towards achieving LEED facility certifications, upgrading lights, water usage, and the usage of more environmentally sustainable fertilizers. These strategies support the climate and work towards lessening the impact of climate change.

LEED Facility Design

LEED (Leadership in Energy and Environmental Design) is the most widely used green building rating system globally and provides a framework for healthy, highly efficient, and cost-saving green buildings (The U.S. Green Building Council, n.d.). LEED certification also works to reduce pollution, conserve water, reduce waste, and implement sustainable strategies in all facility areas (The U.S. Green Building Council, n.d.). here are four levels of LEED certification being Certified (40–49 points), Silver (50–59 points), Gold (60–79 points), and Platinum (80+ points) (The U.S. Green Building Council, n.d.). Points are earned through credits, which are regulations chosen by the facility builders, and points earn rewards that range from healthier spaces to buildings that save money and resources (The U.S. Green Building Council, n.d.).

There are several sports stadiums across the country that have achieved some level of LEED facility certification, including Medlar Field, home of the State College Spikes of the New York-Penn Baseball League (Winston, 2010). There are currently no reported Minor League Baseball stadiums with LEED certification, and AHL and NBA G League teams are unable to earn the certification as they do not own their home arenas. Though AHL teams are unable to gain LEED certification, many teams do play in arenas with the certification, such as Orleans Arena, home of the Henderson Silver Knights (Henderson Silver Knights, n.d.). Washington's Entertainment & Sports Arena, home of the Capital City Go-Go NBA G League team has also achieved LEED certification (Editors, 2019).

Medlar Field, home of the State College Spikes of the New York-Penn Baseball League, is equipped with low-flow sinks and showers, a system that allows the stadium to reuse gray water for irrigation and other uses, and automatic lights that turn off after five minutes of no movement as well as 75% of the ballpark being made with recycled materials (Winston, 2010). Orleans Arena, home of the Henderson Silver Knights, has achieved the LEED Gold Certification and is part of the largest company in Nevada to achieve SHARP Certification for commitments to safe venue operations (Henderson Silver Knights, n.d.). Washington's Entertainment & Sports Arena, home of the Capital City Go-Go NBA G League team, features green roof areas, onsite stormwater retention systems, and energy-efficient systems (Editors, 2019). Achieving LEED certification will continue to be a goal for many upcoming and updated sports facilities that choose to support environmentally sustainable initiatives, and though it is not a current trend, many facilities are working towards achieving that goal.

LED Lighting

Light-emitting diode (LED) screw-based bulbs are becoming increasingly widespread across the sports industry as an energy-efficient alternative to compact fluorescent (CFL) and

incandescent lighting. LED lights use at least 75% less energy and last up to 25 times longer than incandescent lighting, proving to be the more cost-efficient option by a substantial margin (U.S. Department of Energy, n.d.). Several minor league sports facilities currently utilize LED lighting, spanning from Minor League Baseball to the AHL. Though many AHL teams do not own their stadiums, the stadiums that house them are still taking part in the effort of energy-efficient lighting. There is currently only one reported instance of LED lighting in an NBA G League arena, being the Sears Centre Arena, home to the Windy City Bulls in Chicago, Illinois (Electrical News, n.d.).

Minor League Baseball facilities with LED lighting include North Augusta GreenJackets' SRP Park, Round Rock Express Dell Diamond, Salt Lake Bees' Smith Ballpark, Jacksonville Jumbo Shrimp's Baseball Grounds of Jacksonville, Lowell Spinners' Edward A. LeLacheur Park, and Wilmington Blue Rocks' Frawley Stadium (Musco, 2018). Minor League Baseball also has the "Green Team" information resource to inform teams on the importance of energy conservation and offers several strategies and resources on how to obtain the strategies mentioned in the text (Minor League Baseball, n.d.)

It is also reported that at least ten of the AHL's 31 arenas now use one of Eaton's Ephesus LED lighting solutions, including Webster Bank Arena in Bridgeport, Connecticut; the MassMutual Center in Springfield, Massachusetts; the Adirondack Bank Center at the Utica Memorial Auditorium in Utica, New York; the Floyd L. Maines Veterans Memorial Arena in Binghamton, New York; Coca-Cola Coliseum in Toronto; Van Andel Arena in Grand Rapids, Michigan; and the BMO Harris Bank Center in Rockford, Illinois (American Hockey League, 2018). LED Lighting has proven to be a successful strategy in energy conservation, and with the ease and popularity of LED light usage, it will continue to be a widespread method to support environmental sustainability in the future.

Fertilizer

Many Minor League Baseball teams already utilize sustainable fertilizers for their fields to maintain and grow their grass during the season. Organic fertilizers have improved soil structure, supplied a season-long supply of nutrients, and increased the water holding capacity. By using organic fertilizers, many teams have decreased their water usage, minimized nutrient losses to the environment, and lessened the plants' salt injury (Silva, 2018). Organic fertilizers also stimulate microbial activity, improve soil structure, and are valuable sources of micronutrients to plants (Silva, 2018). Lastly, organic fertilizers increase soil carbon, which reduces atmospheric carbon levels that lead to global warming, reduces soil erosion and runoff, and reduces nitrate leaching (ADMIN, 2019).

Minor League Baseball teams that utilize organic fertilizers include the New Hampshire Fisher Cats at Northeast Delta Dental Stadium and the Wilmington Blue Rocks (Gibson, 2019). Minor League Baseball also notes organic fertilizers in their “Green Team” resource, offering several examples of organic fertilizers, discussing the benefits of utilizing them, and noting strategies for decreasing water usage (Minor League Baseball, 2021). Organic low-soluble-nutrient fertilizers require less water, improve the water capacity of the soil, regulate plant growth through the slow release of nutrients, and mycorrhizae extend root length, which improves water and nutrient intake for the plants (Green Acres Nursery and Supply, 2018). Since several teams are already using organic fertilizers, it is sure to become a trend in Minor League Baseball as it saves time and water usage, thus supporting sustainable practices within the sport.

Water

Water usage is another increasingly popular tactic used in minor league sports to lessen the impact and conserve the earth's resources. Conserving water saves energy and reduces the carbon footprint of those that utilize water conservation. Water is also needed to be conserved for

ecosystem sustainability, especially in wetlands that need water to sustain the habitat and the animals that live there. There is already a shortage of water, specifically freshwater, since 97% of water is saltwater, and only .5% of the freshwater on earth is safe for drinking, while the remaining 2.5% of freshwater is locked in ice caps, glaciers, the atmosphere, soil, or under the earth's surface, or is too polluted for consumption (Evans, 2020). With growing population rates, sustaining the supply of drinkable freshwater has become a priority among environmental conservationists and has also spread into the sports industry. Many facilities in the AHL and NBA G League are also dedicated to water conservation but are not directly linked with the teams, as many do not own their facilities and cannot implement the practices; however, many MiLB teams have already implemented the initiative working towards environmental sustainability.

MiLB's Lake Elsinore Storm has already released a resource to fans, informing them about the "installation of waterless urinals, reclaimed water irrigation pipes, a tankless water heater, and water-saving sprinkler heads and the implementation of the Evapotranspiration Technology Irrigation System, which provides an exact measurement of necessary water dispersion" (Faulconer, 2018). The changes made by the Lake Elsinore Storm have already conserved 25 million gallons of water and saved approximately \$100,000 in costs in two years (Faulconer, 2018). In addition, the Trenton Thunder, also in the MiLB, has also sponsored a Clean Water Pledge program providing students with information about water pollution and rewards those who "pledge" to adopt environmentally sound practices (Faulconer, 2018).

Renewable Energy

Renewable energy is energy collected from a renewable source, which is not depleted with the use of that energy. Renewable energy is one of the fastest-rising trends in environmental sustainability because nonrenewable energy sources are facing scarcity, especially with the

energy usage used today. Some examples of renewable energy are wind and solar power, which are sources being constantly replenished by natural means to be created and utilized rather than coal, oil, and gas, which are not constant, meaning their supply can be depleted. In addition, renewable energy in minor league sports may take the trend to the next level of usage, especially considering many teams' current focus on environmental sustainability.

The MiLB has noted in their "Green Team" resource that the Spokane Indians have already made this renewable energy tactic a reality, stating that "Avista Stadium will be powered entirely by renewable energy for the 2010 season with assistance from Avista Utilities Corporation and the Avista Buck-A-Block Program" (Minor League Baseball, n.d.). Making the Spokane Indians the first professional sports team to have their electricity generated entirely from renewable energy sources. The Chattanooga Lookouts have since joined in the renewable energy trend, being the "first minor league baseball team in America to play a game that is 100 percent carbon-neutral" this game was possible through energy sourced from EPB of Chattanooga partnered with Tennessee Valley Authority, offered locally-generated solar energy credits (Tennessee Valley Authority, 2019).

There are currently no reports of AHL teams or NBA G League teams using renewable energy sources, partly because many do not own their facilities. However, the AHL and NBA G League remain firm in their dedication to environmental sustainability through many other energy-saving tactics, especially LED lighting.

Waste Reduction

Waste reduction is one of the most popular topics in environmental sustainability because of the ease of implementing strategies catered towards it. Waste reduction works towards conserving energy and reducing air, water, and soil contamination that is dominantly caused by the manufacturing of those materials and supplies that become waste. Waste reduction also

decreases the number of fossil fuels that power the transportation that delivers the goods and takes them away after those materials become waste. Lastly, waste reduction reduces the number of materials that will need to be recycled or sent to landfills, which pollutes the earth and atmosphere.

Recycling

Recycling is the most popular resource for waste reduction and environmental sustainability as it is the most straightforward strategy for many businesses and minor league sports teams, especially, to execute. Recycling is converting waste into reusable materials, thus reducing waste, and maintaining resources by using materials of single-use products. Recycling is meant for many materials, the most popular being paper, and plastic, as they are easily converted into other products with the same materials. Recycling is vital to environmental sustainability because materials such as plastic are not biodegradable, which means they take a very long time to break down and put back into the earth. Through recycling, non-biodegradable materials can be melted down and reused in other products, thus continuing their life cycle rather than polluting the earth. Since recycling is the most popular strategy for environmental sustainability, it is also prevalent in the sports industry as common practice for most professional sports teams.

Many minor league teams have developed creative ways to incorporate recycling into their businesses and more traditional approaches. The MiLB Green Team resource outlines several recycling strategies and the benefits of incorporating them into their companies (Minor League Baseball, 2021). For example, the Jacksonville Jumbo Shrimp minor league baseball team has already taken steps toward recycling to make 121 Financial Ballpark the Cleanest Ballpark in Minor League Baseball (Minor League Baseball, n.d.). In addition, the Jacksonville Jumbo Shrimp partnered with Advanced Disposal and added a new set of recycling bins for

ballpark guests to recycle aluminum and plastic, as well as to work with the Jumbo Shrimp's ballpark 'Clean Team' to keep the ballpark clean at every Jumbo Shrimp game (Minor League Baseball, n.d.).

In the NBA G League, The Rio Grande Valley Vipers launched G2 (G squared), which is short for Go Green, during their last two home games of the 2010 season in which students from the University of Texas-Pan American walked the aisles with bags labeled "RECYCLABLE" and "NON-RECYCLABLE," which educated fans on what is and what is not recyclable (NBA G League (G League), 2010). During the same season, the Idaho Stampede partnered with their local minor league baseball team, the Boise Hawks, to offer a giveaway of recycling bags to the first 100 people in the door as well as "going dark" for the entire hour before the game to reduce energy usage (NBA G League (G League), 2010). The NBA G League implemented these environment-saving strategies across the entire league to educate fans on the benefits of recycling and implement those strategies in their businesses.

As for the AHL, The Rochester Americans renewed a partnership with Sunnking Electronics Recycling to celebrate Global Recycling Day on Friday, March 18, when the Americans host the Cleveland Monsters at The Blue Cross Arena with the game featuring ticket deals and a recycling-themed giveaway to promote the importance of recycling and its positive impact worldwide (NBA G League (G League), 2010). There have not been any other reports of AHL teams implementing recycling events or strategies, but it is sure to become a widespread technique as it is already prominent in Minor League Baseball and the NBA G League.

Food Packaging

Food packaging is a large majority of the waste found in minor league professional sports due to the large number of patrons visiting concessions stands and the large amounts of food obtained at any professional sporting event. Food is a large part of the fan experience for major and minor league sports teams, so teams must be mindful of the amount of waste that can accumulate from wasteful packaging. Several teams across minor league sports have already implemented various strategies to replace the wasteful products in food packaging with more sustainable materials to reduce waste. However, there are no reports of NBA G League or AHL teams using environmentally friendly food packaging as they do not own their stadiums and operate out of community facilities.

In the MiLB, the Sacramento RiverCats have taken multiple steps to reduce the present waste in many Minor League Baseball stadiums. For example, the Sacramento RiverCats have replaced all their napkins with recycled napkins in all concession stands and served food in biodegradable containers, eliminating Styrofoam in their ballpark concession stands (Minor League Baseball, n.d.). The MiLB has also placed environmentally friendly food packaging as a strategy on their MiLB Green Team Resource (Minor League Baseball, 2021). Though sustainable food packaging is not entirely widespread across Minor League Baseball, it is sure to be a growing trend as public concerns grow, and businesses begin to take more responsibility for environmental sustainability.

Paperless Ticketing

Another increasingly popular strategy for waste reduction used across all professional sports is paperless ticketing. Paperless ticketing removes the waste that previously held millions of paper tickets patrons would need to enter ballparks and arenas. With the advancement of technology being increasingly rapid, paper tickets have come close to being nonexistent for most

sports attendees. Paperless ticketing also serves to reduce overhead costs by cutting the use of paper, ink, and electricity, thus expanding the benefits of paperless ticketing across the business. Though many fans use paperless tickets that are easily downloaded on mobile devices, professional sports teams still offer physical tickets for those who do not have access to mobile devices or those who want the ticket as a valuable memento of their experience. Still, paperless ticketing has become an industry standard across all sports and will continue to dominate as it is easy and more reliable than the previous paper tickets.

In 2012, the Myrtle Beach Pelicans minor league baseball team became the first team to offer paperless ticketing, rapidly spreading throughout Minor League Baseball (Staff, 2012). Paperless ticketing reduces waste and makes it much harder for fans to lose their tickets, as they are accessible on mobile devices with internet access and scanned upon entry. In the United States, paper is one of the most significant contributors to landfills, weighing in at approximately 26 million tons a year (Eventbrite, 2017). By utilizing paper ticketing, stadiums can easily do their part in reducing this waste and supporting the environment.

Paperless ticketing is also the standard in the NBA G League, with all teams offering digital tickets to be downloaded to fans' mobile devices and scanned upon entry. There are no reports regarding what team first implemented the waste reduction strategy, but it is thought of as happening all at once, considering the league is sponsored by popular sports drink brand Gatorade. The same trends continue for the AHL; starting in 2012, all teams were able to utilize paperless ticketing to save money and support the environment. As a result, paperless ticketing has become an industry standard and, in doing so, has had significant benefits to waste reduction across the sports industry.

Digital Publications

Digital publications, like paperless ticketing, have become an industry standard, especially during the COVID-19 pandemic. To reduce surfaces that many people can touch, professional sports teams have transferred all of their documents, such as schedules and programs, into online platforms. As previously stated, in the United States, paper is one of the most significant contributors to landfills, weighing in at approximately 26 million tons a year, and by switching documents that are traditionally paper into digital platforms, sports teams can decrease waste in large quantities (Eventbrite, 2017). Digital publications and schedules, and programs were previously a large part of the sporting event experience, but with COVID-19, fans are trading in the risk of contracting the virus by using digital platforms instead.

Since the rise of technology, Minor League Baseball has held steady ground in its efforts of digital publications. Minor League Baseball uses its online platforms as a database for fans to stay up to date on news and events and release information quickly. Recently, with the COVID-19 pandemic, all teams were able to make the switch to digital platforms for other documents throughout the ballpark. In 2021, many teams developed digital schedules and programs that fans could find by scanning a QR code that would redirect them to the desired document. By making documents digital, minor-league teams reduced the number of contact surfaces in the ballpark and reduced paper waste substantially.

In the 2009-2010 season, the AHL became the first organization in professional hockey to make a complete transition to digital publications, reducing paper waste and saving thousands on printing. The AHL states that “rather than producing a normal print run of the league’s annual Guide & Record Book, the league has created an electronic version that has been distributed to media members” this effort is in support of the AHL’s dedication to the “green” movement to reduce waste and sustain the environment (The AHL, 2009). The AHL also encouraged teams to

join the initiative by digitizing media guides and press notes to have “green” press boxes that reduce waste while also sustaining the operations of the sport (The AHL, 2009) Lastly, the AHL estimated that “digital production of the Guide & Record Book alone will save more than 7,400 pounds or 600,000 sheets of paper,” which is small compared to the paper waste throughout the world but is working towards a substantial impact (The AHL, 2009).

The NBA G League has no reports of when they first began utilizing digital publications but, similarly to Minor League Baseball, they have utilized digital publications since the rise of technology. The NBA G League also has an online newsletter, similar to those of Minor League Baseball and the AHL, to keep fans updated on the news in the league and throughout fans’ favorite teams.

CONCLUDING REMARKS

Future Issues

At present, minor-league sports teams are constrained to the business and environmental practices available to them. Future scholarship should consider the evolution of these practices and the socioeconomic factors that may decide which practices a team will follow. Additionally, the secrecy of specific teams has caused a gap in available data to analyze. Should teams become increasingly transparent (on their own accord or through league regulations), an updated version of this study would benefit scholars in business practices, environmentally sustainable practices, and the availability of valuable resources.

Some future issues may arise as more technological advances become available to professional sports, and issues may arise as further research into the various topics that were discussed occurs. Future issues that may occur include falsity of current information, expansion

of facility access, specifically in the AHL and NBA G League, and government access may influence numerous business practices employed by minor league sports teams.

The information presented is also based on responses from the sports industry to the COVID-19 pandemic, and as government regulations lessen, some practices may change and evolve during the continuation and completion of the pandemic. Likewise, the information presented may also change as fans' needs change and evolve throughout time as professional sports teams base their practices on what engages and encourage fans to take part in their practices.

Conclusion

When the COVID-19 pandemic began, most major and minor league sports organizations were forced to cancel their seasons, thus losing millions in revenue driven by normal operations and ticket sales. To overcome the loss in revenue, many minor league sports teams have been forced to develop creative revenue streams to regain a portion of the income while also developing cost-cutting strategies to maintain operations while adhering to regulations set by the government. Once COVID-19 regulations were lifted, numerous teams maintained the new revenue streams and cost-cutting structures that were developed during 2020 in order to continue regaining the millions of dollars that were lost.

Sustaining minor league sports as businesses has become recently crucial, as has what those businesses have been doing to sustain the environment. The sports industry has a history of contributing a large amount of waste to the environment, and in recent years, many in the sports industry have begun to take social responsibility and develop strategies that will sustain the environment. Among those strategies, there is a much larger focus on waste reduction and the types of facilities used than any other environmentally sustainable practice. In addition, sports fans are beginning to take notice of the environmentally friendly practices that many teams are

employing. Those teams have been working to lessen their impact on the environment through digitalization and finding more sustainable substitutes for products used consistently.

Through an analysis of minor league teams, several critical factors, including business sustaining practices, environmental support practices, and regulatory crisis implementations, were better understood. This work can support professionals and scholars in sustainability in professional sports and sports business.

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