

WHIP, BABIP, AND FIP: THE ROLE OF RADIO BROADCASTERS IN THE DIFFUSION
OF ADVANCED STATISTICS IN MAJOR LEAGUE BASEBALL BROADCASTS

by

ERIC NEHM

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Major Professor
Dr. Barbara DeSanto

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Abstract

The purpose of this study was to take a closer look at the use of advanced statistics in Major League Baseball (MLB) radio broadcasts and the possible effects usage could have on the roles of MLB broadcasters. This study used a theoretical framework supported by role theory and diffusion of innovations theory. The study employed in-depth interviews of eight MLB radio broadcasters to get a better understanding of the broadcasters' thoughts on the value of advanced statistics, how using advanced statistics could affect their role as a broadcaster, the factors that influence the potential inclusion of advanced statistics in their broadcasts, and ultimately, whether broadcasters perceived advanced statistics as a trend or a fad. The interviews revealed a number of things about the baseball broadcasting industry with disagreements appearing in regards to techniques in using advanced statistics in broadcasts and the value of advanced statistics to listeners. Despite the disagreements, the most important finding was the unanimous belief that advanced statistics are not a fad, but rather something that will remain a part of baseball broadcasts going forward.

Keywords: sports broadcasting, broadcasting, broadcasting roles, advanced statistics, sabermetrics, sports broadcast content

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Chapter 1 - Introduction

As advanced statistics become more common in the baseball industry, baseball broadcasters have struggled to figure out how their broadcasts should change with these new statistics in mind. These questions include whether or not to use the statistics, how to try to use the statistics, and whether or not the statistics have any value to their listeners. Despite some broadcasters taking a strong stance either opposing or supporting advanced statistics in Major League Baseball broadcasts, there has not been any sort of consensus among those in the broadcast industry in regard to the value and future usefulness of advanced statistics for the individual broadcaster as well as the industry.

This study explores broadcasters' perceptions of advanced statistics, their role in dealing with advanced statistics, and their professional opinion regarding the future of advanced statistics in Major League Baseball broadcasts. The introductory chapter illustrates the increasing use of advanced statistics by highlighting gaps in the literature of the field and its potential effect on the broadcasters' roles as content providers. This chapter also introduces the theoretical framing of the study and qualitative methodology used to gather the data. The second chapter reviews the literature outlining the scholarship in the area of broadcasting decision making, including the role of the broadcaster, the content of the broadcasts, and possible adaptations of today's traditional content to include new information. The chapter concludes with three research questions drawn from the literature through the lens of role theory and diffusion of innovations theory. The third chapter outlines the methodology with which data were collected. The fourth chapter presents findings and the fifth chapter features discussion of those results, conclusions drawn from them, a descriptive baseline from which to conduct future research, identification of strengths and limitations, and suggestions for future research. This study adds to the literature by providing

initial evidence that advanced statistics will remain in broadcasts, and broadcasters will need to learn how to incorporate advanced statistics into their own broadcast role. It is also important because the broadcasters stated that they are in control of the content they include in broadcasts and broadcasters themselves will determine the use and growth of advanced statistics in their work. Future broadcasters will also benefit because it will be another element that they can consider in building their broadcasting role and style.

Pervasiveness of the Problem

Gaps in Literature

Although other studies have established different types of roles for broadcasters, none of them have talked about advanced statistics, the role of advanced statistics, or the possible impact of advanced statistics from the broadcasters' perspective. Instead, they have focused on various roles such as storyteller or celebrity as played and enforced by broadcasters. While diffusion of innovations research has taken a look at various applicable examples of the theory in the media, it has also failed to touch on advanced statistics. Advanced statistics have only been written about in the baseball trade and professional press, but little has been done in the way of looking at the perceptions of broadcasters regarding these new statistics. And, by implication, no work has examined the potential effect advanced statistics may have on the roles of broadcasters.

Implications

Advanced statistics are continuing to become a larger part of the baseball industry with every team in the league now making some sort of investment in an advanced statistics department (Steinberg, 2015). Clearly, the topic is becoming a larger part of the business side of baseball, which would suggest that it will continue to be a topic of discussion in the baseball broadcasting industry. It is also important to note the immense size of the baseball industry. A

recent Forbes article estimated that if Major League Baseball (MLB) was traded on a stock exchange it would be worth 36 billion dollars, which now makes the average MLB team worth over one billion dollars (Ozanian, 2015). Much of the money being made by MLB teams is due to the massive broadcasting contracts signed by the league and its teams. In 2014, broadcasting and cable money accounted for 37% of baseball's nearly eight billion dollars of revenue, partly buoyed by an eight year, 12.4 billion dollar national broadcasting deal with ESPN, Fox, and TBS (Ozanian, 2015). With so much money on the line, broadcasters are clearly under a lot of pressure to please their MLB business partners and put forth the best broadcast possible every day.

It does not appear that advanced statistics are going away any time soon, and thus broadcasters need to figure out how to comprehend, analyze, and convey these numbers to listeners and viewers. With the continuing relevance of advanced statistics, listeners will eventually be affected and may want more information. One of the listeners' major sources of information is the broadcasters who describe the game, which means broadcasters may need to obtain a better understanding of advanced statistics. It is also important to note that advanced statistics are being discussed at the highest level of baseball. This is a topic being researched by the largest baseball companies in the world, moving beyond the position of advanced statistics as a novel idea being discussed by a few people at lower levels. The current lack of research and gaps in existing research could lead to a lack of training for future broadcasters, who may not be educated on the topic as they prepare for a career in the industry. By the time they are expected to be ready for a job at the highest level, they may be unaware or uncomfortable with using the new information. Thus, a study of broadcasters' perceptions of advanced statistics and the effect those statistics may play on the role of broadcasters and the decisions they make regarding their

use of advanced statistics would be of value to broadcasters, researchers, and broadcast educators.

Study Overview

Two theoretical approaches have been employed in this study. The first theory, role theory, focuses on how the broadcaster perceives his persona as a storyteller of the action on the field. Stories contain many different elements including, plot, action, and background/contextual information. Thus, advanced statistics are a potential new element to add to the broadcaster's storytelling role. The second, diffusion of innovations, provides further support for the rate at which the new content is adopted by broadcasters based on how they see their job and their role.

This study investigates the prevalence of advanced statistics in Major League Baseball broadcasts. Employing qualitative in-depth interview methods, this research attempts to answer three basic questions that were developed based on a review of the literature and the study's theoretical framework: (1) how do major league baseball broadcasters perceive the value of advanced statistics in advancing their professional work, (2) to what extent do major league baseball broadcasters see value in the use of advanced statistics in their role(s) as a major league sports broadcaster, (3) what factors influence major league baseball broadcasters to adopt and/or include advanced statistics into their current and/or traditional broadcast roles? It is hoped that answers to these questions will help broadcasters understand how the new trend impacts their role and style as a broadcaster, as well as their on-air performance in the broadcast booth. It will help researchers gain a better understanding of how the broadcaster's role has changed as new, sophisticated, and complex information becomes available. It will also help broadcast educators prepare future broadcasters for changing roles and how to adjust to different innovations in the broadcast booth.

Chapter 2 - Literature Review

Advanced Statistics Introduction

To accurately explore how advanced statistics are used in baseball broadcasts, it is first necessary to understand how advanced statistics have even become a part of the baseball lexicon. The development of advanced statistics starts in the mid 19th century when the first box score appeared in the New York Herald on October 25, 1845 (Thorn, 1984). Though advanced statistics did not start with the game's creation, the regular printing of baseball statistics fostered the development of a generation of sportswriters who grew up seeing these statistics in newspapers every day and valued the insight they provided.

The first of these second-generation statistic buffs was Ernie Lanigan. Lanigan developed an obsession with the statistics he found in his local newspaper and went on to become baseball editor at *The New York Press* in 1907. As baseball editor, Lanigan popularized the printing of runs batted in (RBI), a statistic that fell out of favor during his childhood, and also added two more statistics to his box scores, caught stealing for base runners and thrown out by catcher. Another "second-generation statistic buff" was Ferninand Cole Lane, a biologist from Massachusetts. Though Lane's first passion was nature, he became enamored with baseball and started to apply a scientific approach to the game he loved. Lane was one of the first writers to start using advanced statistics, penning articles like "Where the Baseball Records Fail to Tell the Truth," "A Brand New System of Batting Averages," and "A Square Deal for the Base on Balls" in *Baseball Magazine*. He also wrote about topics like the different values of each type of hit, the differences of batting in different ballparks, and the inadequate fielding and pitching statistics (Schwarz, 2004). Lane did not slow down after he became editor of *Baseball Magazine* in 1912, continuing to produce plenty of content, but also encouraging his readers to write in any

suggestions they may have and effectively creating the first community of advanced statistics enthusiasts.

Born at the same time Lane was making a name for himself at *Baseball Magazine* in 1917, Canadian Allan Roth showed acumen for numbers at a young age, counting backwards from 100 by 2s by the age of three. By the age of 27, Roth was focused on much larger numbers and approached Brooklyn Dodgers manager Branch Rickey about a job keeping new statistics for the team. By the time Roth spoke with Rickey during spring training in 1944, the manager had developed a reputation as one of the most forward-thinking managers in all of baseball. Roth showed Rickey new statistics regarding RBIs and batter performance against left-handed and right-handed pitchers, and Rickey immediately told Roth to work on getting a visa to work for the Dodgers. Roth arrived in 1947 and worked with Rickey for three years until the manager left for Pittsburgh, forcing Roth to find a new job within the organization where his skills would be appreciated. He found that position with a young radio broadcaster named Vin Scully. In 1949, Scully had been hired as a 22-year-old broadcaster and been instructed to familiarize himself with Roth's statistics to get to know the team, but just one year later, it was Roth assisting the young Scully with statistics to use during Dodgers broadcasts. Scully would regularly use Roth's statistics as would Dodgers beat writers and soon Roth became a household name as multiple national news outlets picked up on his work.

After being profiled in *Newsweek*, Roth became “the patron saint of closet baseball stat freaks” (Schwartz, 2004) and eventually was featured in a 1954 *Life* magazine story titled Goodby to Some Old Baseball Ideas. The story only mentioned Roth briefly, but featured a picture of Rickey standing professionally at a blackboard pointing to a monstrous equation that

Roth had created. This marked one of the first times advanced statistics appeared on a national stage in the United States (Schwartz, 2004).

Though advanced statistics were given a bigger stage, public interest did not grow. For 20 years, various people continued to work on advanced statistics and produced some brilliant work, but just were not able to capture the public's imagination (Schwarz, 2004). This would all change with one man: Bill James. Upon returning from two years in the army, James chose against a career as an English teacher and decided he would try to make a career of his greatest passion, baseball statistics. He quickly wrote three freelance articles for *Baseball Digest*, but found that he needed to make more money to survive and took a job as night watchman at the Stokely-Van Camp factory in Lawrence, Kansas. During his time as a night watchman, James poured over his statistics and wrote his first book *1977 Baseball Abstract—Featuring 18 Categories of Statistical Information That You Just Can't Find Anywhere Else*. James took out an ad in *The Sporting News* to promote his 68-page book that sold for \$3.50. Although his first book was not an overwhelming commercial success selling just seventy copies for a profit of \$93.77, James persevered and published a second *Baseball Abstract* the next year. The second edition sold an encouraging 300 copies, but James was becoming frustrated as he was compiling his own statistics with no assistance from the Elias Sports Bureau, the league's official stats provider. He regained the confidence to write a third *Abstract* though, when he received a letter from reader Dan Okrent. Okrent, a freelance writer and statistics fanatic, started corresponding with James and eventually convinced *Sports Illustrated* to let him write a full-length profile on James. Though Okrent¹ loved the story, *Sports Illustrated* did not and the story became mired in

¹ In 1980, Okrent and a group of friends met in a restaurant in New York City and created what came to be known as Rotisserie Baseball, one of the forefathers of fantasy baseball (Lewis, 2004).

SI politics for two years. Although the fourth *Abstract* had sold only 2,600 copies, it contained a reference to a movement that many talk about in mainstream sports today. In the fourth *Baseball Abstract*, James wrote, “A year ago, I wrote in this letter that what I do does not have a name and cannot be explained in a sentence or two. Well, now, I have given it a name: Sabermetrics, the first part to honor the acronym of the Society for American Baseball Research, the second part to indicate measurement. Sabermetrics is the mathematical and statistical analysis of baseball records” (SABR, pg. 22).

With budding popularity and a *Sports Illustrated* article giving James a national spotlight, top publishers started bidding on the rights to the 1982 *Baseball Abstract* with Ballantine Books eventually coming out on top. This move would lead to stardom for James as his *Abstracts* would be published nationally by Ballantine from 1982 to 1988 and eventually even make its way to #4 on the New York Times’ bestseller list. James soon became the face of the nation’s new statistical fervor as he was featured in newspapers and magazines, and TV shows like *The Today Show* and *Nightline*. James delighted fans because he did not just talk about statistics, but rather “...combined statistics, analysis, and wit into one potion that statistically minded fans guzzled like beer in the bleachers” (Schwarz, 2004). Since James was an outsider, he wrote like one and acted like one in his interviews, which helped him relate to readers and viewers alike because they felt a closeness to him that other sportswriters could just not capture. James’s popularity also coincided with the introduction of free agency, a time in which general managers were allowed to buy players for the first time, and fans were able and desperate to play general manager like never before (Schwarz, 2004).

While James became a notable figure in pop culture, two employees of one of the most profitable Chicago trading firms started to take a closer look at the game of baseball. For years,

Ken Mauriello and Jack Armbruster had worked together making their firm profitable by more accurately analyzing the securities market and taking advantage of market inefficiencies.

Eventually, Mauriello and Armbruster realized that they could apply the same logic to baseball and formed a company called AVM Systems in 1994 to analyze baseball players (Lewis, 2004).

AVM Systems' models recorded the events that occurred on the baseball with absolutely no reference to traditional statistics. So, instead of recording a baseball game, their models measured extremely specific events, which allowed their models to remove luck and the other inaccurate measures that clouded other player evaluation models (Lewis, 2004).

When AVM Systems made its initial sales trip through Major League Baseball, few teams paid attention because they simply did not think there was anything wrong with the way they were analyzing the game. Their model would not be thought of favorably by anyone in a baseball organization until Paul DePodesta was hired by the Oakland Athletics in 1998.

DePodesta vividly remembered the presentation AVM Systems made years previous when he was a powerless intern with the Cleveland Indians and immediately told his boss Athletics' general manager Billy Beane. Beane listened to DePodesta and bought the AVM system. After using the system for a few years, the Athletics stopped using AVM once DePodesta replicated the system and created the database the Athletics would use for years to come (Lewis, 2004).

The system DePodesta created would eventually help advanced statistics reach an even larger audience among casual observers as his system and the analytic models Beane used as general manager of the Athletics caught the eye of author Michael Lewis. Lewis, a former Wall Street bond salesman, became interested in the way the Athletics took advantage of market inefficiencies and published a book about their approach and use of advanced statistics, *Moneyball: The Art of Winning an Unfair Game*, in 2003. Lewis' book became a *New York*

Times' bestseller and further intensified the passion of those interested in these new statistics, while also bringing more attention to the ever-developing movement. With people clamoring for more information on these new statistics, the attention paid to them reached a new peak when ESPN analyst and Major League Baseball Hall of Famer Joe Morgan mentioned the foolishness of this new trend in a 2003 chat session published on ESPN.com (Craggs, 2005).

That peak had been brewing for sometime though, as sabermetrics went through a second Golden Age with the advent of the Internet in the early to mid-1990s. Director of Statistical Operations at Baseball Prospectus (one of the industry's top sabermetrics sites) claims that being "a sabermetrician" has been easier in the last two decades than it has ever been before with the powerful personal computers consumers can buy and the huge amounts of baseball data that can easily be downloaded off the Internet for free (Moore, 2013). With such an abundance of data and machines able to compute complex formulas, the general public could easily analyze data to an extent none of their predecessors could have even dreamed of. With a community of like-minded people able to analyze data and connect through the Internet, websites dedicated to the statistical study of baseball started to pop up in the mid-1990s with noted websites like Baseball Think Factory and Baseball Prospectus emerging in 1996 (Moore, 2013). As more of this data was analyzed and eventually displayed in public on websites and scoreboards around the nation, the findings of amateur sabermetricians changed how front offices evaluated their players to the point that every Major League Baseball team has established an analytics department, no matter how big or small (Steinberg, 2015). Once the data were used by teams, they started to be integrated into mainstream baseball discussion. It is no longer unusual to see a "sabermetric point of view" presented in discussions on shows on MLB Network or to see former "amateur" sabermetricians writing at ESPN or appearing on Fox broadcasts (Moore, 2013). With these

additions, the conversation has moved from attempting to figure out what these numbers mean to fighting over the validity of these statistics and whether or not they warrant the consideration of baseball observers (Jaffe, 2013).

Theoretical Framework

With advanced statistics potentially taking on a greater role in baseball broadcasts, the role of the broadcaster will undergo some changes to account for these new additions. The role of the broadcaster is continually evolving and this new addition will force broadcasters to make changes with their audience in mind. Role theory examines the way humans behave in different, but predictable ways based on their respective social identities and situations (Biddle, 1986). Role theory concerns itself with the role, social position, and expectations perceived by individuals and how each of the three concepts interacts with each other. Biddle (1986) suggests that expectations are the major generator of roles as they dictate the perceptions of roles and social positions and persons are actually aware of the expectations they hold and how they may affect their perceptions. Clear social definitions of the self and other into recognizable social categories provide individuals with a sense of security, purpose, and direction (Callero, 1994). These roles serve a critical function by regularly allowing individuals to define themselves and others through the creation and clarification of roles, which are seen as generalized and situationally independent cultural objects (Callero, 1994).

While roles are seen in society, they are also seen within organizations. Role theory sees organizations as social systems that are preplanned, task-oriented, and hierarchical (Biddle, 1986). Within organizations, roles are assumed to be associated with identical social positions and the normative expectations put forth by those in charge of the organization. Categories and labels are widely utilized by individuals to help structure and simplify the social environment

within organizations to understand consensus and control (Ashforth & Humphrey, 1997). The roles will likely reflect both the official demands of the organizations and the pressures of informal groups that may form within and outside of the organization (Biddle, 1986). Employees use criteria like rank and position to sort themselves into various categories and can actually serve as prototypes for particular categories (Ashforth & Humphrey, 1997). In relation to advanced statistics, this can allow certain broadcasters to position themselves as experts on the topic and define a role that they fill better than anyone else in the industry.

Though there are many different theories regarding the functions they play, “role taking” and “role making” are two major processes in role theory (Lynch, 2007). Role taking is the process of performing a particular role a particular way because of the responses one anticipates from those with which one normally interacts (Lynch, 2007). This can very simply be seen as putting yourself in someone’s shoes and attempting to see the world as he/she does. This is obviously important as a sports broadcaster as he/she is always attempting to please his/her audience. By actively trying to see their broadcasts through the eyes of their audiences, broadcasters can attempt to play the role that they think will most satisfy their audiences and those successfully play their expected role.

The second process, “role making” is the creation and modification of roles in response to the perceived roles as others (Lynch, 2007). In this process, one is actively defining their own role by interacting with others and modifying their role as they use the roles of other participants to better understand their own role. Broadcasters regularly work as part of a broadcast team and their role can be partially defined by the people working with them. If the broadcast has a sideline reporter, maybe the play-by-play broadcaster does not need to worry as much about relaying information from inside the dugout to his audience. The role that broadcaster needs to

play can easily be defined by the roles he/she attempts to take as he/she tries to envision their audience's reaction and the roles he/she attempts to make by working with the other members of his/her broadcast team.

Broadcasters' Role Studies

Researchers have long investigated the role of sports broadcasters on an audience's perception of game action. Bryant, Comisky, and Zillmann (1977) started this line of research by examining the role broadcasters played in creating drama in a sports broadcast. Through analysis of 1976 professional sports broadcasts, Bryant et al. (1977) found that though broadcasters do spend a majority of their time describing the action on the field, over a quarter of their sentences were used to create some sort of drama. This early research showed that though most commentators previously believed that broadcasters were just around to fill the information gaps people have while watching a game on television, broadcasters can actually serve a greater role as creators of dramatic action. Comisky, Bryant, and Zillmann (1977) found powerful support of this greater role of the broadcaster in their experiment examining the commentary of hockey broadcasts. When tested, Comisky et al. found that subjects believed the commentary they were hearing more than the physical evidence they were viewing on their television screen. This research suggests that broadcasters have great potential to alter a viewer's perception of a sports event and may actually be more responsible for creating the perceived reality of an event than that event itself. These findings were confirmed in a 2013 study examining the effects of sport commentary on viewer perceptions, attitudes, beliefs, and enjoyment through violence justification (Frederick, Lim, Chung, & Clavio, 2013).

Other researchers further developed the potential role of the sports broadcaster as creators of dramatic action by researching the various parts of the media production process. Lipsky

(1981) stated that it is the reporter who gives the athletic action human significance because the reporter assigns responsibility and puts the action into dramatic form for consumers to find controversies or hidden meanings that they may not understand on their own. Vande Berg and Trujillo (1989) examined the components of sports media and how sports journalism consists primarily of "...dramatic narratives that recount the successes and failures of sports events, participants, and organizations" (p. 205). They argued that these accounts created by sports journalists reconstruct and re-present sports reality for the consumer, which provides an interpretative frame through which a consumer sees a particular sports event.

Researchers have also taken a closer look at the way sports broadcasters can play different gender roles. By limiting women to smaller, less important roles on the sidelines or as studio hosts, some researchers suggest that sports broadcasts try to show that sports are not a place for women, but instead a male-dominated field (Hardin, Shain, & Shultz-Poniatowski, 2008). Some research also suggests that the sports media industry is continuing to hire women in the same positions and keep them out of more advanced sports media positions to reinforce the stereotypical gender roles that have been pushed in sports media for decades. (Denham, 2004).

Another role of sports broadcasters that has been examined is the role of "celebrity". This is a role that has been around since the early days of radio with radio sports broadcasting legends like Graham McNamee, Ted Husing, and Clem McCarthy establishing the role (American Sportscasters Association, 2015). This role then moved to television broadcasters with Howard Cosell in the 1970s, but really took off with the popularization of ESPN's Sportscenter in the early 1990s. After just being sports anchors, the broadcasters on Sportscenter turned into celebrities as they starred with athletes in commercials for ESPN and also started to do advertisements for other products outside of ESPN (Shea, 2000). This role of "celebrity" has

gone even further with the prevalence of social media, as broadcasters have been given a chance to present themselves to their fans in their own way outside the traditional broadcast means of presentation. On social media, broadcasters are given a chance to control their image more directly and interact more freely with their audience (Weathers, Sanderson, Matthey, Grevious, Warren, & Tehan, 2014).

Sports Audiences' Motivations

As researchers started taking a closer look at sports broadcasts and the roles of sports broadcasters, they started to take a look at the motivations of sports audiences. Gantz (1981) was one of the first to explore the viewing motives and behaviors associated with television sports and found that consumers do not watch sports out of boredom, but rather they actively seek out broadcasts that please them. In his first study, Gantz (1981) found that one of consumers' greatest motivations, which aligns quite well with a broadcaster's role as creator of dramatic content, is the ability to identify themselves with a specific team or player and "vicariously participating" in the event through a team or player (p. 273). In later research, Wenner and Gantz (1989) found that "fanship" motives are the major motivation behind most consumers' decision to consume sports programming, but a contributing motivator for viewers could also be "learning about players and the sport" (p. 266). While consumers may be looking to strengthen their connection to a team or player, they may also be interested in becoming more knowledgeable about the sport they are watching and the team or player they love. Thus, these studies would suggest that another role that a broadcaster could play would be that of an educator.

Using Wenner and Gantz' "fanship" work as a starting point, Fink, Trail, and Anderson (2002) suggested that while originally split up into individual categories, fanship motives may

actually share variance with each other to contribute to team identification. For example, someone's fanship may be motivated by social interaction, but it is, in fact, much easier to socialize during an athletic event if one has more knowledge about the game being played, the team on the field or the players on the team (Fink, Trail, & Anderson, 2002). This simply means that it is very hard to differentiate between the various motivations of fanship because they all tend to work together to create stronger fanship. Searching for more knowledge may be part of someone's drive for further social interaction, but it may also be his/her way of feeling more connected to a team and developing a higher level of team identification. While Gantz (1981) showed that many people were driven to watch sports programming because of a desire to identify themselves as part of a team, further research showed that there are many different ways that fans attempt to gain stronger self-identification (Fink et al., 2002).

Broadcast Structure

Different roles can be played by various broadcasters, but it is important to remember the structure of a typical broadcast in figuring out who may attempt to play these different roles. A typical broadcast booth features a play-by-play commentator and a color commentator. The play-by-play commentator is in charge of relaying the events that are happening in the competition and his commentary is directly event-driven (Kuiper & Lewis, 2013). On the other hand, color commentators are allowed to comment on a large variety of things. They may comment on the weather, the color of the uniforms, the personal life of a player, or the intricacies of the play (Kuiper & Lewis, 2013). In fact, some broadcasts use an ex-player as a color commentator or a third commentator. Ex-players are often times considered experts and will comment on the specific details of the competition (Kuiper & Lewis, 2013). Other times, the ex-

player is expected to “...bring an array of personal experience, insight, and stories to the broadcast booth” (Ham, 2011, p. 172).

Recently, though, a new and somewhat controversial, role has developed with the popularization of advanced statistics among baseball consumers. In 2012, the play-by-play broadcaster for the Chicago Cubs, Len Kasper, wrote about his regular use of advanced statistics in his broadcasts and the major strides that had been made in using these statistics in broadcasts since his start 10 years earlier in 2002 (Kasper, 2012). While Kasper pushed for the greater usage of advanced statistics in broadcasts, many broadcasters rebelled against it including ESPN analyst and Major League Baseball Hall of Famer Joe Morgan who mentioned the “foolishness” of this new trend in a chat session published on ESPN.com (Craggs, 2005). The disagreement wages on among broadcasters, but those for an increased usage of advanced statistics may have received a major boost in October of 2014. The FOX network announced that it would offer an “analytics-driven” alternate broadcast of Game 1 of the National League Championship Series, NLCS, on Fox Sports 1 (Carroll, 2014). This was a pretty big step as Game 1 of the NLCS is one of the most-watched games of every baseball season and a network willingly dedicated an entire broadcast to focus on advanced statistics.

As the debate continues, this research will attempt to take a look at the perceptions of radio broadcasters of Major League Baseball games to get a better understanding of the situation. This study hopes to better understand how professional broadcasters actually feel about the stats and the potentially emerging role stats will play in the broadcast structure, but also, more importantly, how their audience feels about this addition. Broadcasters will be asked to explain how they attempt to use the stats in their broadcasts and the different ways that they attempt to

introduce these stats to the audience. This research will try to set a base for further research into this developing topic in sports broadcasting.

Diffusion of Innovations Theory

While the changing role of the broadcaster is important to consider in the increased use of advanced statistics in baseball broadcasts, it is also important to take a look at the adoption of advanced statistics. Role theory helps explain the changing role of the broadcaster in the increased usage of advanced statistics, but another theory is needed to explain how advanced statistics are being adopted by most baseball organizations and, in particular, by baseball broadcasters, the focus of this study. The theoretical framework that will help explain this process is diffusion of innovations theory, which is defined as the process by which an innovation is communicated through certain channels over time among members of a social system (Rogers, 1983). A different communication model needs to be used because the messages being sent are concerned with new ideas.

Each of the five major critical factors (relative advantage, compatibility, complexity, trialability, observability) that influence the effectiveness of an innovation play a major role in the use of advanced statistics in baseball broadcasts. Relative advantage is seen as the degree to which an innovation is perceived as better than the idea it is attempting to overtake as measured by the users of the innovation (Rogers, 1983). This is extremely important in the use of advanced statistics because broadcasters (and then fans) need to be convinced that new statistics are more valuable than the statistics they already know. It is important to note that relative advantage can be measured many different ways including social-prestige factors, convenience, and satisfaction, but most often it is measured in economic terms, which makes the more common use of advanced statistics in the fantasy sports community understandable (Cockcroft,

2015). Ultimately, the adoption rate of an innovation increases proportionally to the perceived relative advantage of the innovation (Rogers, 1983).

When it comes to the use of advanced statistics, compatibility and complexity tend to go hand-in-hand as they bring about similar problems for new users. Compatibility can be defined as the degree to which an innovation is perceived as being consistent with the values, past experience, and needs of potential adopters (Rogers, 1983). The definition helps explain why advanced statistics have been such a controversial issue. Advanced statistics tend to fly in the face of normal statistics and challenge the conventions of normal baseball conversation, which means new users are asked to change their value system. These disagreements can cause social conflicts, which most people will try to avoid (Kinnunen, 1996). Another reason for disagreements about advanced statistics has been another of the critical factors used to describe diffusion of innovations theory, complexity. Advanced statistics are more complex than the stats people already understand and thus are less compatible within the broadcasting community. Innovations with a high level of complexity can force the adopter to develop new skills and understandings, which makes the adopter less willing to accept a new innovation (Rogers, 1983).

Finally, trialability and observability play a major role in the use of advanced statistics in baseball broadcasts. Trialability refers to the degree to which an innovation can be experimented with on a limited basis. Most users want a chance to experiment with an innovation before they accept it, which means that broadcasters could simply just use advanced statistics during their broadcast to try it out (Rogers, 1983). Though this seems simple, there is a bit of a barrier in that they would need to look the advanced statistics up and try to understand them to use them in a broadcast. Like trialability, observability is also difficult for broadcasters to actually obtain. Observability is defined as the degree to which people can see the actual results of the innovation

they are thinking about adopting (Rogers, 1983). While it is easy for broadcasters to listen to another broadcaster call a game and hear how the broadcast sounds with advanced statistics, it is much more difficult for that broadcaster to find out how each audience feels about the inclusion of advanced statistics. If that result was more tangible, broadcasters might be more willing to adopt advanced statistics, as individuals are much more likely to adopt an innovation if they can easily see the results of an innovation (Rogers, 1983).

Another important part of diffusion of innovations theory applicable to the use of advanced statistics in baseball broadcasts is the idea that innovativeness differs on an individual basis. Innovativeness is the degree to which an individual is earlier in adopting new ideas relative to the other members of a system, with innovativeness being broken down into five distinct categories: innovators, early adopters, early majority, late majority and laggards (Rogers, 1983). Innovators are seen as very different from the other segments of users. They are viewed as imaginative thinkers that actively spend a significant amount of time and energy looking for new ideas. They are also willing to deal with a higher level of uncertainty regarding a new innovation since innovators do not have the benefit of another adopter's subjective evaluation of the innovation (Rogers, 1983). In regard to advanced statistics in baseball broadcasts, the innovators are the broadcasters that have been using advanced statistics for years and willing inserted them into their broadcasts without apprehension.

The next group of users is the early adopters, which are described as the part of the population that is willing to accept the innovation once the benefits of the innovation become apparent. Early adopters are seen as easy to reach since they are always looking for the newest and brightest ideas (Rogers, 1983). Early adopters might be seen as broadcasters that kept a well-trained eye on advanced statistics in the early years, while looking for signs of their

viability in broadcasts. Unlike early adopters, the early majority is a bit more difficult to reach because they need all of their doubts about an innovation to be quelled. With their doubts, early adopters serve as a sort of test group to iron out any of the innovation's problems for the early majority. When it comes to using advanced statistics in baseball broadcasts, the early majority could be seen as the broadcasters that need to be completely convinced of the benefits of using advanced statistics. In fact, the usage of advanced statistics has probably not quite met this level of diffusion.

The final two groups of users, late majority and laggards, are quite difficult to reach. The late majority will follow the early majority, but only once they have seen the early majority accept the innovation. Their acceptance is dependent on the regular use of the innovation of the early majority because they have a deep trust in their peers, not necessarily the innovation (Rogers, 1983). The late majority may end up being the broadcasters that accept using advanced statistics once a majority of broadcasters have used them, but only once they've seen the early majority broadcasters actually find success in their use of advanced statistics. Finally, the laggards are the final people to accept an innovation because they are particularly fearful of adopting a new idea and may always question the innovation (Rogers, 1983). In the sports broadcasting community, these would likely be the older broadcasters that have spent their entire careers broadcasting games a certain way and do not think much of using the new trend of using advanced statistics in their broadcasts.

Previous studies have used a diffusion of innovations framework in explaining different media activity. A diffusion of innovations framework was used to take a closer look at the reasons why Tanzanian radio listeners corresponded with an international radio program over a 25-year period. The study tried to take a look at the messages people preferred and whether or

not the messages increased the effectiveness of a larger idea that the program was trying to teach listeners (Vernon, 2013). Another study examined the diffusion of agricultural innovations in Nigeria and the role that radio messages played in the spread of ideas (Ridwan, Suleiman, & Fatonji, 2014). Finally, other researchers took diffusion of innovations theory a step further and explored the effect social media could have on news sharing (Ma, Sian Lee, & Hoe-Lian Goh, 2014).

Based on the literature and the theoretical framework, the following questions will be used to guide this research:

- RQ₁: How do Major League Baseball broadcasters perceive the value of advanced statistics in advancing their professional work? (Diffusion of Innovations theory)
- RQ₂: Do Major League Baseball broadcasters see value in the use of advanced statistics in their role(s) as a major league sports broadcasters? (Role theory)
- RQ₃: What factors influence Major League Baseball broadcasters to adopt and/or include advanced statistics into their current and/or traditional broadcast roles? (Diffusion of Innovations theory and Role theory)

Chapter 3 - Methodology

In-depth interviews were used in this study. Preceding research has led to the identification of a gap in research regarding the actual perceptions of broadcasters regarding the use of advanced statistics in sports broadcasts. In-depth interviews allowed for the collection of rich data, which provided a nuanced look into the participant's feelings on the subjects presented to them in the interview. In-depth interviews gave each of the participants the freedom to explain his perceptions about industry trends in as much or as little detail as he felt necessary.

At this stage, no one has employed in-depth interviews as a method of data-gathering in examining advanced statistics in baseball broadcasts, so in-depth interviews allowed for the acquisition of unique, nuanced information provided by the subjects involved with the use of advanced statistics. Collection and analysis of rich data also provides different, previously unexpressed and/or nuanced ideas and perceptions that broadcasters may have to come to the surface. Since there is little academic research on the topic, utilizing a more quantitative approach would not provide as much rich information and detail as there are no well-documented assumptions or beliefs regarding the subject, and surveys or experiments might do little other than test self-created assumptions about the topic.

Participants

Eight Major League Baseball radio broadcasters participated in this study. Seven of the broadcasters work for or with specific teams. These teams represent markets as large as the nation's tenth largest and as small as the nation's 35th largest sized market². These seven participants ranged from their first year of Major League broadcasting experience to 33 years of Major League broadcasting experience. The eighth participant works for a large national media

² Market size numbers from 2009 Barlow article.

organization, for which he broadcasts Major League Baseball games. Personal connections were used to start the data collection process. The first two broadcasters interviewed suggested other broadcasters they had worked with in the past or knew from other interactions that they believed would be willing to participate in the study. Then, the second group of broadcasters suggested other broadcasters. This method is called snowball sampling, because of the recommendations from others (Berg, 1988). It has often been used to explore a target population that may be particularly difficult to reach (Atkinson & Flint, 2001).

Procedure

Questions were open-ended and an inductive approach was used. Interviews were conducted through Skype and the audio was recorded to allow for transcription. In-depth interviews with these professionals allowed the study to probe into the attitudes and beliefs of those actually participating in the industry, as well as pursue new topics and assertions contributed by the broadcasters during the interview.

Interviews were conducted during Major League Baseball offseason between November 2014 and mid-March 2015. With many broadcasters off of their normally scheduled duties with their teams, this time served as the most convenient time for participants to conduct interviews and the time they were most willing to talk. Conducting the interviews during the season could have led to more hurried interviews, and broadcasters possibly allowing a particularly good or bad recent broadcast affect their true feelings toward the subject and their broadcast process.

This study only focused on one sport, baseball, because it was necessary to first explore advanced statistics in just one context before adding more variables with other sports. Exploring a single sport allowed the study to remain manageable and possibly made it easier for patterns to emerge.

Questions Used

The questions asked during the interview process can be found in Appendix B. The list of questions was used in all interviews, but the order of the questions, as well as follow up questions, was different in every interview. The interviewer attempted to manage the interview flow more effectively and make the participants more comfortable by asking questions that most pertained to the answers that were given by the participants rather than abruptly jumping from topic to topic. Such jumps might have made the participant feel less like he was having a conversation about his industry and more like he was being badgered by a reporter looking for answers. The trust of participants was essential in attempting to extract the most pertinent information in the interview process.

Some questions were developed in an attempt to better answer the first research question: How do major league baseball broadcasters perceive the value of advanced statistics/sabermetrics in advancing their professional work? Attempting to define advanced statistics was an important part of the interview process because there are so many baseball statistics available that it felt necessary to find out exactly what these broadcasters thought of when discussing these stats. Without a way to actually define these statistics, it would remain unclear what someone means when he mentions advanced statistics. These questions also helped the broadcasters to begin thinking about the different contexts in which they might use statistics, as well as the different statistics they actually used in their broadcasts.

Other questions dealing with the importance of advanced statistics were included to find out if the participants believed advanced statistics should be a part of broadcasts. This is different from earlier questions regarding the inclusion of advanced statistics, because it gave

each participant the opportunity to give his true opinion on the issue rather than discussing the mechanics of advanced statistics usage.

The final question of each interview was, “Are advanced statistics a fad or are they here for good?” This question was asked at the end of each interview to allow the participants a way to summarize their feelings. It was also asked at the end of each interview because the earlier questions had attempted to let the participants think through many aspects of the topic before moving on to a definitive statement regarding the viability of advanced statistics moving forward.

Questions were asked to more closely investigate the second research question: To what extent do major league baseball broadcasters see value in the use of sabermetrics in their role(s) as a major league sports broadcasters? Multiple questions asked about the usage of advanced statistics, but the questions started on the most general levels by first asking if the broadcasters try to use advanced statistics in their broadcasts. By asking such a general question, the participants were able to start thinking about their usage and prompt a closer look at the way they perceive their advanced statistics usage. The follow-up question dealt with how conscious the participants were of their advanced statistics usage. This question was helpful in gauging the amount of thought broadcasters put into their use of advanced statistics or if they were simply just throwing them into the broadcast instinctually or because they were told to do so.

Additional questions dealing with the specifics of usage were seen as a way to probe into the topic, as well as explore some of the strategies employed by broadcasters attempting to use advanced statistics. The use of stories or an anecdote that the audience knows and understands was something specifically mentioned in the literature (Oliver, Haberstroh, Pattani, Sando, & Smith, 2013) as a way for broadcasters to use advanced statistics, which is why there is a

question that specifically addresses that strategy. It was also important to extend this line of questioning into specific strategies that the participants found to be particularly successful in using these statistics, as these successes could provide a valuable avenue for future study.

Questions were also developed to take a look at the participants' perceptions of their audiences. This was seen as important because though the participants' feelings on each of the topics discussed in the interviews were central to the study, the participants were likely not only thinking of themselves, but also their audiences. Questions regarding their perceptions of their audience were useful to encourage respondents to elaborate on changes and adaptations in their broadcast work without explicitly asking about the changes they may make as broadcasters to make their broadcast more appealing. The questions would also provide a better understanding of the broadcasters' perceptions regarding the differences and similarities between their knowledge and their audiences' knowledge of advanced statistics.

A number of questions tried to take a closer look at the third research question: What factors influence major league baseball broadcasters to adopt and/or include sabermetrics into their current and/or traditional broadcast roles? The feedback process experienced by each participant was another topic explored in the interview. Questions about the feedback process were essential to getting a better understanding of the pressure placed on broadcasters in their respective workplaces, as well as the pressure placed on them by their audience and themselves. A better understanding of the feedback process could be helpful in understanding the personal motivations of broadcasters as they make changes to their broadcasts in hopes of creating a more effective broadcast. These questions were also important to pinpointing which of these pressures was greatest and how those pressures may ultimately shape the message the broadcasters produce.

The interview questions also examined industry standards as a whole. The first question focused on the group dynamics of a broadcast, including the relationships between the broadcaster and producer and the broadcaster and his partner(s) in the booth. This information is important as it can show how different members of the broadcast team can shed light on advanced statistics when others may not be as interested. The other questions dealt with how the industry views advanced statistics and how other broadcasters might view the statistics, which was important in showing and understanding current industry perspectives and the ways they may affect broadcasters.

The question(s) regarding the detail and length of each participant's professional broadcasting career were included to get a better idea of what each broadcaster has been through in his career and how many years he has been in the business. These questions seemed necessary, as much of the media framing of the reported advanced statistics controversy has dealt with the idea of old-school broadcasters versus new-school broadcasters. Asking these questions allowed the study to take a closer look at the relationship between age/experience and advanced statistics usage.

Finally, questions that explore the broadcaster's first exposure to advanced statistics were included to see how long broadcasters have been aware of advanced statistics. This was important to find out because some of the media coverage surrounding the advanced statistics debate suggests that some broadcasters simply do not know about advanced statistics.

Chapter 4 - Findings

The purpose of this study was to take a closer look at the use of advanced statistics in Major League Baseball (MLB) radio broadcasts and the possible effects usage could have on the roles of MLB broadcasters. To take a closer look at the intersection of those topics, these three research questions were used to guide the study:

- How do major league baseball broadcasters perceive the value of advanced statistics in advancing their professional work?
- Do major league baseball broadcasters see value in the use of advanced statistics in their role(s) as a major league sports broadcasters?
- What factors influence major league baseball broadcasters to adopt and/or include advanced statistics into their current and/or traditional broadcast roles?

A series of questions were asked in an attempt to answer the three research questions and the answers to the various questions are reported in this chapter.

Defining Advanced Statistics

With advanced statistics being such a large part of later questions in this discussion, participants were asked to personally define advanced statistics and discuss the differences between advanced statistics and “normal” statistics. The illustration on the next page uses direct quotes from the study’s participants to show the perceived differences between the two types of statistics.

“Normal” Statistics	Advanced Statistics
<ul style="list-style-type: none"> • “archaic stats – batting average, home runs, RBIs” • “standard stats over the 120 years of baseball” • “the one that were around when Reggie Jackson was playing” • “home runs, RBIs, batting average, wins, ERA” • “the numbers you would find on a typical baseball card when I was growing up” • “things that you can accrue on a day-to-day basis” 	<ul style="list-style-type: none"> • “anything that doesn’t show up in the official stat sheets from Elias in the press room” • “do I have to explain it to my audience?” • “some would say the real statistics that really tell you what’s going on” • “anything that’s out of the mainstream consumption” • “stats that try to predict the future” • “anything that isn’t a stereotypically traditional baseball stat” • “anything that looks like hieroglyphics”

Table 1 – Differences Between “Normal” Statistics and Advanced Statistics

When attempting to define advanced statistics, many broadcasters first started by defining what they deemed to be “normal” statistics. In these definitions, many of them harkened back to their childhoods, with Broadcaster #1 mentioning a famous player during his childhood (Reggie Jackson), and Broadcaster #5 discussing the numbers you could normally find on a baseball card when he was growing up. Other broadcasters made sure to mention the vast history of baseball in describing the “normal” statistics, which in a way was a justification for their answer about drawing a line between genres of statistics. Broadcaster #6 mentioned that the “normal” statistics were the ones that had existed since the start of baseball with Broadcaster #8 mentioning that “normal” statistics were the ones that simply accrued from day-to-day without any sort of calculation. Extended time doing extra work or extra math was regularly mentioned by participants in the discussion of “normal” statistics. Almost all of the participants recited baseball’s Triple Crown statistics – home runs, batting average, and runs batted in (RBIs) - in some way while suggesting that they were baseball’s “normal” statistics.

On a similar note, when attempting to define advanced statistics, participants seemed much more comfortable describing what advanced statistics are not, rather than what they actually are. This started by taking a look at traditional baseball statistics, or the “normal” statistics, previously discussed. Broadcaster #3 did not go any further in defining advanced statistics than simply discussing normal statistics and then mentioning advanced statistics are not those things. Broadcaster #6 relied on the statistics supplied to him by his team’s media relations team and the statistics team at the Elias Sports Bureau to help him define advanced statistics. He suggested that if he could not find the statistics in his organization’s media packet, then they must be advanced statistics that he does not need to be overly concerned with.

While also attempting to describe what advanced statistics are not to define advanced statistics, three other broadcasters involved their audience. Broadcaster #1 described the process of radio broadcast and used something he had been taught in broadcasting school called “The Pyramid of Knowledge”. This pyramid suggests that things on the bottom of the pyramid are common knowledge (like the President of the United States), while things further up the pyramid may be known by fewer people in the audience. He then suggested that advanced statistics may still be near the very top of the pyramid and much of his audience may not understand them. Broadcaster #4 defined advanced statistics similarly in saying that they were anything outside of mainstream consumption, again invoking his perceived beliefs about his audience’s comfort with new statistics. Broadcaster #2 mentioned that a radio broadcast of a baseball game requires broadcasters to remain very economical with their time and not stray too far from the action on the field for fear of their audience losing a grasp of what is happening on the field. He explained that he saw advanced statistics as the statistics he would need to spend time clarifying to his audience and thus tended to stay away from using them in his broadcasts.

The final attempt to define advanced statistics came from broadcasters that suggested the presence of mathematics as the telltale sign of an advanced statistic. Throughout the interviews, four broadcasters alluded to the idea of passing an advanced math class as a prerequisite for understanding and enjoying advanced statistics, but two of the broadcasters suggested mathematics as a great way to define advanced statistics. Broadcaster #1 suggested that anything that looks like hieroglyphics, in reference to the equations used to calculate the statistic, is considered an advanced statistic to him. Broadcaster #8 suggested that any number that attempted to predict the future was an advanced statistic. He claimed that “normal” statistics were those that you could simply count and would just add up over a season, while advanced statistics would need ever-changing equations that could attempt to predict what would happen in the rest of the season.

Finally, two of the broadcasters did not really give solid answers to the question asking about their personal definition of advanced statistics, but their non-answers were revealing. Broadcaster #3 mentioned that he did not really know how to define an advanced statistic and went on to explain that he’s always looking for the stats that tell the best stories and interest his audience the most. Broadcaster #7 was much more impassioned in his response to the question. Upon hearing the question, he took a long pause before saying,

“I apologize because I want this to come out right, but I don’t care. I don’t contemplate it. I don’t care about defining advanced metrics. I’m just going to use the stuff that I think is the most accurate. That’s it. That’s all. I’m just going to use the stuff that I think is most accurate. I don’t really care to try to find terms to define it. That part isn’t really relevant to me. I apologize. I just don’t care enough. I’m more interested in editorially doing it the way I think is best to do it.”

Experience and Exposure

At the start of each interview, broadcasters were asked about their history as a broadcaster including how many years they had been broadcasting and how they arrived at their current location. The graph below shows the market size of each broadcaster and the number of years each broadcaster worked Major League Baseball Games. (The name of each broadcaster has been redacted to protect the identities of participants. Rather than listing each broadcaster's years broadcasting and market size next to each other, the years broadcasting and market size have been organized numerically to protect the identity of each broadcaster.)

Years Broadcasting MLB	Market Size
1	1+ (National)
3	10
3	13
16	14
20	23
22	31
22	35
32	35

Table 2 – Years Broadcasting and Market Size of Participants

The sample surveyed contained a fairly diverse cross-section of Major League Baseball broadcasters as it features broadcasters who are new to the position and broadcasters that have broadcast games since the 1980s. It also represented the demands of various markets as it has someone that works for a major broadcasting company on national broadcasts, broadcasters in medium-sized to large markets, and broadcasters from the nation's smallest baseball markets. Though this research takes a look at radio broadcasts, the normal measurement for market size³ is the number of television households reached. Though raw population numbers can be

indicative, the number of television households is normally a bit more precise and accurate in measuring market size. For reference, the 35th largest market reaches 905,350 TV households, while the largest market reaches around 7.4 million TV households and a national sports network might reach up to 90 million households³.

The second question asked each broadcaster about the first time he was exposed to the idea of advanced statistics. It did not matter if it was as a professional or during his childhood. The question was simply trying to examine the first memory that each of the broadcasters heard about or saw advanced statistics. The illustration below shows a timeline of each of the broadcasters' first exposures to advanced statistics.

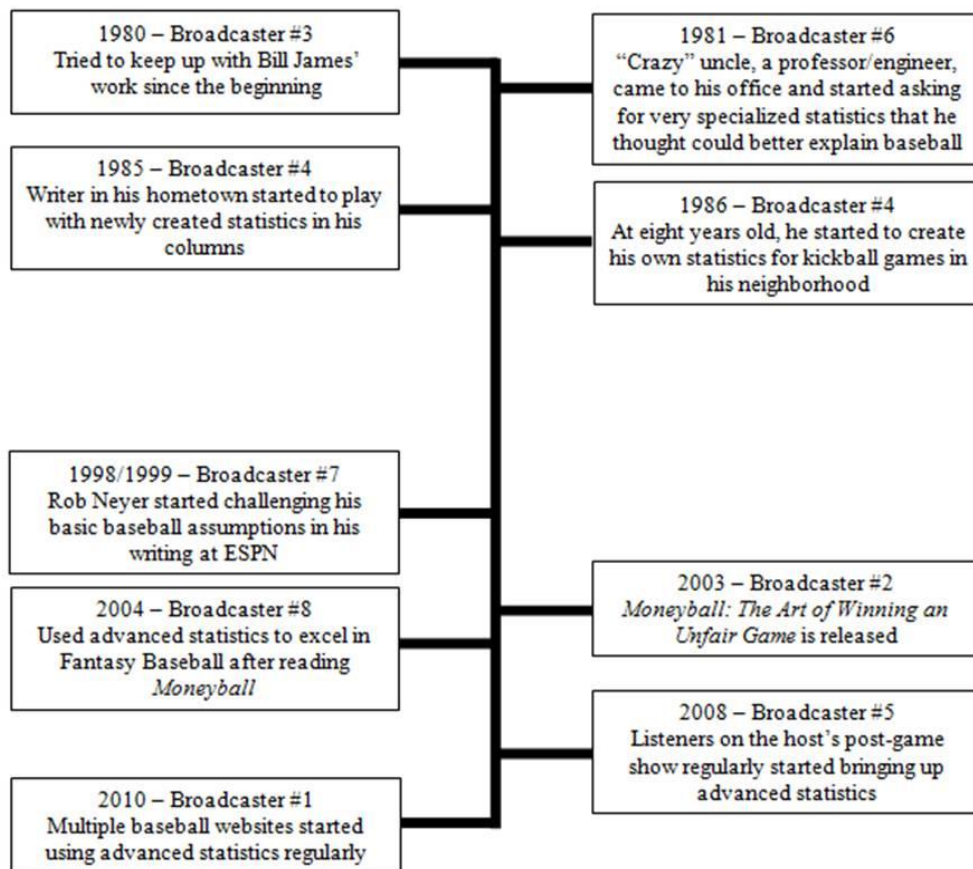


Table 3 – Timeline of Broadcasters' First Exposures to Advanced Statistics

³ Number from 2013 Seidman article

The timeline depicts the different time periods in which each broadcaster learned about advanced statistics, starting with a period in the early 1980s. Exposure for the first broadcaster came from the study's most experienced participant, who commented on trying to keep up with the work of Bill James from the very beginning. He acknowledged that he started reading James' work around 1980 though, which would have been roughly three years into James' published works. Exposure for the second broadcaster came from one of the study's oldest participants, who detailed a wild story about a "crazy" uncle of his who was a professor and engineer at a local university. He said that an uncle came into his office at the stadium and started asking him for very specific information about the team's hitters and pitchers in regard to being left-handed or right-handed, number of day and night games, and specific innings pitched. The participant told his uncle that his organization did not keep any of that information and later talked with his dad about how he could not imagine anyone ever wanting to know the crazy information his uncle was looking for that day. The third broadcaster was exposed to advanced statistics roughly five years later when he started to see his local sports writer using and discussing some new type of statistics in his columns that he had never seen before. Around this same time, the participant commented that he started to track some of the new stats and even created his own stats that resemble a few of the advanced statistics seen today in kickball games in his neighborhood.

Then, for a little over a decade, there were very few new exposures to advanced stats, which may just suggest a generational divide among participants, but may also hint at the two different eras of new sabermetric thought suggested in the literature. Similar to the exposures starting in the 1980s, this group of exposures featured a prominent sabermetric thinker and author opening the eyes of one of the study's participants, Rob Neyer. As James was in the

1980s, former ESPN writer Neyer (currently with Fox Sports) was championed by one of the participants as someone who made him question his most basic beliefs about the game of baseball around 1998 or 1999 through his analytical writing.

The next exposure to advanced statistics came with the release of Michael Lewis's New York Times best-selling book, *Moneyball: The Art of Winning an Unfair Game* in 2003. One of the participants claimed that the book was the first time he heard anything about advanced statistics or the use of them in building baseball teams. Interestingly enough, a different participant expanded on that thought by saying that he was exposed to advanced statistics by friends of his who were inspired by the book and started to use advanced statistics in their fantasy baseball league in 2004. He commented that soon their entire ten-man league was using advanced statistics while drafting and evaluating trades because they found them to be so helpful.

The last broadcaster exposed to advanced statistics came to find out about them from his listeners, who continually brought them up during his post-game show in 2008. He commented that it started with callers mentioning it while on the air, but really expanded once Twitter became more popular in 2009, and he became inundated with tweets from listeners clamoring for their team to make changes because of the advanced statistics of certain players. Similar to the participant who was exposed to advanced statistics through his callers on the post-game show, the study's final exposure came from a participant that said around 2010 he simply could not avoid advanced statistics as any baseball website he visited had some sort of reference to these statistics. He suggested that the statistics were pretty much unavoidable at that point.

Usage of Advanced Statistics

When asked questions about their advanced statistics usage, an unexpected issue came into play among the study's participants. Many of the participants volunteered the medium through which they would be broadcasting as factor in their advanced statistics usage and suggested that presenting advanced statistics was much easier on television than on radio. Though the participants were all full-time radio broadcasters, it became apparent that they must have found something different in previous television experience or something they saw while viewing games on television. Broadcaster #1 captured the distinction by saying he felt presenting new statistics and ideas was much easier when they were supported by a graphic on television. He also expressed some concern with a radio audience being unable to keep up if he used advanced statistics in a broadcast without any sort of visual accompaniment.

All of the participants were also sure to mention that the flow of the game was very important to them. There was never a situation in which they thought a statistic was so cool or interesting that they would bring it up at the expense of missing a pitch or accurately describing the game on the field. The statistic would always need to fit into the game action, not vice versa. Broadcaster #3 illustrated this point, saying,

“I want the game to tell me what to say. Not reverse. Not to throw out statistic after statistic after statistic that could, quite frankly, bore the audience. If I allow the game to tell me what to say, sometimes a statistic might be important that comes into the moment, particularly when a manager brings out a certain pitcher to face a certain hitter.”

With those same concerns in mind, Broadcasters #1 and #4 mentioned that they are often concerned about the explanation of an advanced statistic taking too much time. Since there are three outs in every half inning and scheduled breaks in the broadcast every three outs, the two

broadcasters expressed concern over being able to fit a description of a confusing statistic into the game if there “were already two outs” or “a big situation with runners on base” because of the unpredictability of the situation.

When discussing advanced statistics, Broadcaster #7 seemed to be fervent in his defense and description of his advanced statistics usage. After mentioning a concern over the medium he would be using for a particular broadcast, he launched into how he tries not to think of advanced statistics as numbers, but rather ideas because “...when it turns into study time or math class, people are going to tune out.” He mentioned that to show how on base percentage is more useful than batting average, he does not launch into the numbers, but rather discusses the value of outs, which is a much more digestible idea for the common baseball fan. He concluded the power he has as a broadcaster, mentioning “you [the broadcaster] can make them [the audience] drink the sand.” He suggested that the responsibility of a broadcaster is to give an accurate portrayal of what is taking place on the field and, in his mind, using advanced statistics is the best way for him to do it.

The other broadcasters were much less forceful in detailing their advanced statistics usage. Two of the broadcasters started their answers by saying they did not use advanced statistics or used them sparingly before going into the specifics of their usage. The remaining five broadcasters seemed to be very careful in their descriptions of their usage to ensure their separation from advanced statistics. To do this, these broadcasters explained they restricted their use of advanced statistics to certain situations.

The first situation many of the participants mentioned was relief pitchers. As a baseball game goes on, managers may see a need to use a different pitcher to face certain hitters, and many of the pitchers that come in to relieve other pitchers are very good against right-handed or

left-handed batters. So, many of the broadcasters mentioned that this is one of the times when they will use advanced statistics, because that information may be particularly relevant to the situation and may help more accurately describe the play on the field.

In this same vein, two broadcasters explained that they use advanced statistics when the stats were timely. All of the broadcasters described the copious preparation they put into each of their broadcasts and the overwhelming number of statistics that they have in front of them for each game, but Broadcaster #3 estimated that he uses just five percent of that preparation on average. Broadcaster #5 suggested just ten percent of his preparation is used, while Broadcaster #4 mentioned 20 percent. All of this preparation, though, is exactly what makes it possible for the two broadcasters previously mentioned to use timely statistics. For example, Broadcaster #6 said that if a batter comes up with the bases loaded, he needs to be able to tell his audience how that player has hit with the bases loaded this season and possibly during his entire career. Broadcaster #2 suggested that he feels best about his advanced statistic usage when the statistic is both interesting and perfectly fits a certain situation.

Three broadcasters described trying to use advanced statistics when one of their players is at the top or bottom of the league in a specific statistical category, or as one broadcaster described “in extreme situations”. Broadcaster #5 indicated that he using advanced statistics in these situations is almost always useful because it gives a very specific insight into one of the team’s players. The same broadcaster gave an example in which a team’s pitcher had one of the league’s highest batting averages on balls in play (BABIP), and this unusually high BABIP helped explain why the pitcher’s earned run average (ERA) was so high⁴, even though the

⁴ Pitchers aim to record the lowest possible ERA and a low ERA is typically an indication of a good pitcher. For a detailed explanation of BABIP and ERA, reference the Statistics Glossary in the Appendix.

pitcher was quite good. Broadcaster #6 reported that numbers at the bottom or the top of the league were always interesting because they were very specific information about one of his audience's players and that information is always interesting to an audience.

The final way that two of the study's participants mentioned they try to use advanced statistics to prove a point. Broadcaster #8 said that advanced statistics can be extremely helpful in proving a statement made during the broadcast. In his example, he mentioned talking about one of the league's best centerfielders and then using an advanced statistic like defensive runs saved to bring validity to the point he was trying to make. Broadcaster #4 stated that as a season goes on, he develops certain hunches about the team's players because he is watching them every single day. Advanced statistics help him because he says he can use the numbers to see if a hunch he has developed during the season is actually correct and, if it is, he can use the statistic during his broadcast to give his audience new information.

Usage Techniques (Stories, Anecdotes, Definitions)

After questions regarding their general usage of advanced statistics, each of the participants were asked about the very specific ways in which he tries to use advanced statistics or, more generally, basic statistics for participants that remarked they did not like using advanced statistics. When asked about their specific techniques in using advanced statistics the first thing that came up was acronyms. Many advanced statistics have acronyms that make using them in conversations or writing much quicker, but ultimately can make their usage in broadcasts much more difficult to comprehend⁵. A majority of the participants expressed concern over their audience knowing what a specific acronym actually means with Broadcaster #6 mentioning that

⁵ For information about commonly used advanced statistics and their acronyms, refer to the Statistics Glossary in the Appendix.

his listeners would not immediately comprehend OPS like they would RBI, despite the acronyms being the same number of letters. Broadcaster #2 suggested that his focus is on the field, not the computer, and he thinks "...all that stuff becomes alphabet soup for fans if you throw all of it down during each at bat every inning."

Defining statistics led to thoughts about numbers and formulas as part of a broadcast. Three of the broadcasters brought up their fear of the formulas. In attempting to define these statistics, each of the broadcasters suggested that talking about the specific formula used to calculate the advanced statistic would scare off their listeners. Broadcaster #4 quipped that no listener is ever going to jot down a formula mentioned on air and if he or she is extremely interested in any of the statistics, he or she would likely be "intrepid enough" to go look it up on the Internet and figure out how to calculate it himself. While giving the exact formula for a particular number was not seen as a viable avenue for educating listeners about advanced statistics, Broadcasters #1, #2, #3, and #7 suggested that adding other numbers, rankings, and statistics to his definition of an advanced statistic could be particularly helpful. It may sound counterintuitive, but each of the four broadcasters mentioned that giving the league average for a particular statistic was a useful way to give their listeners a better idea of what different advanced statistics mean. Broadcaster #1 said he sometimes likes to take it a step further and mention where a particular player ranks among other players at his specific position on the field on particular advanced statistics leader boards. For example, he mentioned using his team's shortstop's ranking among other shortstops in slugging percentage to give more meaning to the number.

Broadcasters also used the term simplicity when defining specific advanced statistics. Each of the eight broadcasters mentioned concerns about time in their responses about advanced

statistics and baseball broadcasting in general. Participants talked about the need to keep things simple during radio broadcasts because their voices have to tell the entire story of the game, which means everything they bring up has to be understandable with regular breaks every 10-15 seconds to describe the next pitch. With this idea in mind, three of the broadcasters brought up their attempts to keep advanced statistics as simple as possible for their listening audience. Rather than going on a long soliloquy expounding on the pros and cons of a specific statistic, Broadcaster #2 spoke of trying to do the necessary research and then "...spitting it out in small pieces that hopefully our fans will understand". Broadcaster #4 talked about the need to figure out different ways to break down stats and make them "digestible" for the listening audience. Broadcaster #7 suggested that it is important to not just throw out numbers that turn into abstractions to the audience members, but rather use concrete ideas that they already understand to explain the utility of a specific advanced statistic.

While talking about the different techniques they employ, the participants were asked a related question about using stories and anecdotes to help them better explain advanced statistics. Each of the broadcasters thought stories and anecdotes were a great way to go about delivering advanced statistics to their listeners, but it was also apparent that each of the broadcasters used the technique differently. The first way three of the broadcasters talked about using advanced statistics in a story were in very direct interactions they had with players, coaches, and management. In each of the situations, the broadcasters described stories specifically crafted about certain statistics. Broadcaster #4 mentioned a discussion he had with a pitcher who had just been called up from the minor leagues despite a poor ERA, but when asked, the pitcher claimed that he felt like he pitched well and just had some bad luck. The broadcaster looked up the player's fielding independent pitching (FIP), an advanced statistic that isolates pitcher

performance and uses the same scale as ERA, found the pitcher's FIP was indeed significantly lower than his ERA, and then mentioned his interaction with the pitcher and subsequent research in his broadcast. He recounted that it was a story about a statistic that was not boring and gave tremendous insight into the pitcher and the game. Broadcaster #2 discussed a similar situation in which a team's manager kept playing a player despite poor "normal" statistics. In the pregame press conference, he asked the manager about it, and the manager rattled off a few advanced statistics that suggested the player was actually playing quite well. Like the first broadcaster, the second broadcaster relayed that entire story to his audience during the broadcast and felt as though it was something that his audience could enjoy. The final broadcaster detailed a regular feature he does with his team's general manager, in which he guides an explanation and description of a particular advanced statistic.

While Broadcasters #2, #4, and #6 were very direct in the way they used advanced statistics in their stories, the other five broadcasters used advanced statistics more indirectly. Broadcaster #3, who was not a fan of advanced statistics, emphasized that the best broadcasters are the best storytellers and that every game is just one big three hour story. He added that in telling the story of the game, it may be useful to use an advanced statistic to add another layer to the story or help make the story more interesting. He then emphasized that a statistic is never the story, only something that could enhance the story. Broadcaster #8 explained that he likes to use advanced statistics as a way to prove the major theme of a story. For example, if he is telling the audience how good [Player X] is as a center fielder, he may start by talking about how fast he is, referencing a great catch he made, and accolades he had received before finishing his anecdote about the player's fielding ability by mentioning that an advanced statistic like Defensive Runs Saved backs that all up. Broadcaster #1 mentioned starting a conversation with a statistic

because his broadcaster had an interesting story about playing against a different guy who was a former league leader in the same statistical category. In this case, instead of digging deeper on the statistic, the statistic was able to catapult the broadcast team away from the advanced statistic and into a completely different story about a former player.

Perceptions of Audience

In an attempt to better understand the way broadcasters view their audience, participants were asked about their audience and the beliefs their audience holds about advanced statistics. To start this look at the perception of their audience, broadcasters described “the average listener”. Some of their thoughts appear in the table below.

The Anatomy of “The Average Listener”

<ul style="list-style-type: none"> • “probably a little bit older, that’s the way fans skew for demographics. How many 20 year olds have ever tuned into an AM radio?” • “loves the team” • “out in the backyard, maybe by the pool, maybe gardening over the weekend” • “we like to call him the Fred Fanatic” • “just got off work and they just want to empty their minds and enjoy baseball for the next three hours • “a guy coming home from work, a mom listening on the radio, a child listening to a baseball game for the first time 	<ul style="list-style-type: none"> • “you’ve got shut ins and you’ve got 8 year olds listening – you need a very wide appeal” • “just looking to be entertained for a little while and not looking to get into some of the minutiae about the game” • “some are just real casual fans who are in the car and just pop the game on” • “Major League Baseball fans are not 15-25 year olds, the majority are 40 to 80 years old” • “couple of guys at a bar” • “just want to hear about the romance and the Americana of a baseball game” • “into cheering on the team and having me as the head cheerleader with them”
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Table 4 – Broadcaster Perceptions of “The Average Listener”

When describing “the average listener”, the broadcasters stayed away from extremely technical demographic information and rather spoke in generalities and caricatures. Five of the eight participants acknowledged that they were always thinking of an older audience while broadcasting with Broadcaster #3 mentioning “the majority [of listeners] are 40 to 80 years old”. Another comment that stood out in regard to the age of “the average listener” came from a broadcaster that suggested younger people may not often tune into AM radio, which spoke to both the age of “the average listener” and the most common medium for MLB radio broadcasts. For the most part, the broadcasters believed males to be their primary listening audience, but three of the broadcasters brought up female caricatures in their answers with mentions of “a mom”, “Eunice Simpson”, and “the 80 year old listening on her porch”. None of the broadcasters mentioned anything about race or ethnicity, with just a few hints at income level with four broadcasters referencing someone coming home from work.

Though some of the broadcasters stayed away from going into detail about the demographic information of “the average listener”, each broadcaster addressed the fanaticism of their audience at some point in his answer. The responses were a nearly evenly split between broadcasters who suggested that their listeners were diehard fans and those who mentioned listeners that were just looking for an escape or a way to entertain themselves while bored, despite earlier research that found people who consume sports do not do it out of boredom (Gantz, 1981). When describing the diehard fans, Broadcaster #4 mentioned that these types of listeners want as much information about their team as possible and are likely doing everything in their power to acquire that information. Broadcaster #6 mentioned that these diehard fans truly cared about the team and liked having him “as the head cheerleader”. A third broadcaster, Broadcaster #2, even mentioned that his organization’s office referred to “the average listener”

as “Fred Fanatic”, and he often tries to target his broadcasts toward these listeners. At the other end of the spectrum, half of the broadcasters talked about casual fans that were just listening to the game to be entertained. Broadcasters #1 and #3 suggested that “the average listener” was tuning into a baseball game to unwind from a long day of work, with Broadcaster #3 suggesting “they just want to empty their minds and enjoy baseball for the next three hours”. Broadcaster #5 suggested that a baseball broadcast was something that people would just put on their radio while in their car while traveling around town. Broadcaster #2 suggested that “the average listener” uses baseball broadcasts as something in the background, while actually focusing his attention elsewhere.

Along with being asked about “the average listener”, participants were asked what they thought “the average listener” knew about advanced statistics. Each of the broadcasters started their responses by saying there are not any listeners who tune into MLB radio broadcasts to hear about advanced statistics. Broadcaster #4 even mentioned that even the listeners that love advanced statistics and want to continue learning more about them are not turning to radio broadcasts for that information because there are a lot of other avenues that are going to give them that information quicker and easier. Broadcaster #6 actually used a quantifiable number by saying that only five percent of his listeners are “heavy into the analytics”. Six of the participants suggested that their audience do not know much about advanced statistics with regular references to their listeners not knowing much other than “batting average, home runs, and RBIs”. Broadcasters #2 and #5 suggested that some of their listeners may understand on base percentage is more important than batting average, but that is about the extent of their understanding of advanced statistics. On the other hand, Broadcaster #7, a heavy proponent of advanced statistics, suggested that his listeners should have a pretty good understanding of

advanced statistics because he uses them so often in an understandable context in his broadcasts. Finally, Broadcaster #8 suggested that “the average listener” is a lot smarter today than he was 20 years ago and might actually be quite knowledgeable. He credited broadcasters’ more regular usage of advanced statistics and fantasy sports for the improvement in the audience’s knowledge of advanced statistics.

Perceived Importance of Advanced Statistics

After talking about “the average listener”, the participants also discussed the importance of advanced statistics, including their perceptions of how important advanced statistics are and their responsibility as broadcasters to teach their audiences about advanced statistics.

Broadcasters #2 and #3 replied that they did not feel advanced statistics were at all important for their listeners. They both suggested that once in a while there may be a situation where a statistic makes a certain situation seem more important, but the statistic that may do it would very rarely be an advanced statistic. Both of them also suggested that their only responsibility as broadcasters was to describe the game that was happening in front of them and tell the story of the players and coaches on the field.

Four of the participants suggested that it was not their responsibility as a broadcaster to teach their audiences about advanced statistics, but did concede that there are times when advanced statistics are quite helpful and important for their listeners. Two of the four broadcasters, Broadcasters #5 and #6, mentioned that they did not feel compelled to teach their audiences advanced statistics until they heard different members of their organizations use advanced statistics in a basic conversation about baseball. Broadcaster #6 recounted his team’s general manager discussing the importance of advanced statistics during an in-game interview, while Broadcaster #5 commented that his general manager mentioned advanced statistics in

explaining a trade his team had made before going on to explain that the team does not make any moves without taking a long look at the advanced statistics of the involved players. The two other broadcasters, Broadcasters #1 and #8, explained that they believed that advanced statistics were important, but did not see them as being absolute necessities for their audiences. Both broadcasters mentioned that they thought advanced statistics were important for their audiences when they proved a point. Other than those situations, each broadcaster thought advanced statistics could be more distracting, than helpful.

The final two broadcasters, Broadcasters #4 and #7, were adamant that advanced statistics are important for their listeners and that teaching their audiences about advanced statistics is an important part of their responsibility as broadcasters. Like two of the other participants previously responded, Broadcaster #7 suggested that teams throughout the entire league are making decisions based on these numbers. He even went on to say that advanced statistics “enhance my ability to enjoy and certainly to understand baseball” before mentioning that saying advanced statistics is important for listeners feels a bit like “telling somebody how they should be enjoying a movie or food.” Broadcaster #4 replied that he thought advanced statistics are important for listeners, but it is important for broadcasters to help people digest the information. He went on to describe broadcasters as the gatekeepers of the game and described the need to “...break people in slowly and teach them rather than just spout out numbers that aren’t going to be absorbed.” He also said that if broadcasters think advanced statistics are important they need to serve as the “liaison between the game and fans.”

Feedback Process

The broadcasters’ perceptions of the feedback they receive were also explored and their responses were divided between the feedback they receive from their audiences and their

employers about their advanced statistics usage. When asked about the feedback they receive from their audience, the participants' responses were divided. Broadcasters #2 and #8 responded that they have not heard from their audience regarding their advanced statistics usage. Broadcasters #3 and #6 mentioned that they have heard listeners complain about other broadcasters using too many advanced statistics and boring listeners, but never about their own broadcasts. Broadcaster #3 also suggested that negative feedback is a lot more common when the team is doing poorly, because people are angry with the team's performance and that it is easy to find fault with the broadcast team when the team is underperforming. Finally, Broadcasters #1, #4, #5, and #7 mentioned that they regularly hear from fans on Twitter and the response is overwhelmingly positive in regard to their advanced statistics usage, but all four immediately expressed concerns about Twitter's demographics. Each of the broadcasters mentioned that they did not find it surprising that people with active Twitter accounts would tend to support advanced statistics because, like proponents of advanced statistics, Twitter users also tend to be in a younger demographic. Broadcaster #4 summed up the broadcasters' concerns perfectly by saying:

“I think for me the true test will be if I receive a handwritten letter from Eunice Simpson, age 98, in Retirement Village and she sends a note and says I'm really glad you explained WAR and the difference between Fangraphs WAR and Baseball Reference WAR. And if she does, than I really know I need to prioritize it a little more, but before that I'm just doing it more because it's what comes to mind for me.”

When discussing the instructions and feedback they received from their employers, Broadcasters #2, #3, #4, #5, and #7 answered that they were never given specific instructions from the organization about how often to use advanced statistics. All five of them also said that

the same could be said about their broadcasts as a whole as they are given complete freedom to broadcast the game in the matter they see fit. Two of the less-experienced broadcasters mentioned that the first time they had to think of how their organization might view their advanced statistics usage came during the interview process. Broadcaster #8 mentioned that he was not asked specifically asked about it in his interview, but had prepared for the question, while Broadcaster #1 said that his organization specifically asked about how he thought advanced statistics should be used during a radio broadcast. Broadcaster #6 started talking about how he was normally independent to conduct his broadcast until one broadcast in which he had brought up WAR with his broadcast partner.

“During the telecast, [my analyst] made fun of it at least a couple of times. I didn’t stop him from making fun of it, but I kind of just chuckled along. I might have even said something like, “What I don’t understand is if you look at this guy’s WAR currently and then let’s go back and look at [redacted], maybe the greatest [redacted] ever and one of the greatest players ever. How can his WAR be so low? It doesn’t make sense to me.” Anyway, I got an email that night from the general manager, who was listening to the game. And he was as nice as he could be, but he also, in this email, walked me through it and tried to explain why the WAR numbers of players that played in the early 20th century would be low compared to guys that are playing now. I didn’t understand it and don’t agree with it, but it told me just how important these numbers are and how highly they are regarded in our organization.”

Since that explanation from the team’s general manager, the broadcaster said that he, along with his broadcast team, have made a conscious effort to improve their advanced statistics usage and make sure to present the numbers in a positive light.

Broadcast Booth Dynamics

Some of the final questions attempted to examine the trends occurring throughout the industry within the broadcast booth, especially in regard to the group dynamics of broadcast preparation and execution. Participants were asked specifically how they tried to prepare advanced statistics for a broadcast, the role their color commentator played in that preparation and how their color commentator affected that process. Six of the eight broadcasters explained that they were over-prepared for every single game that they broadcast with Broadcaster #2 suggesting that “you prepare a thousand different things, but you only use 10 or 20 of them”. Other broadcasters gave more realistic numbers in saying that they would not use “7/8 of what I prepped” or “90 percent” of the material they prepared. When discussing their preparation, each of the broadcasters alluded to the need for it because of his need to be ready for any situation that could possibly occur in the game.

With the amount of preparation that occurs among all the broadcasters, the next topic discussed was pre-prepared material. Broadcaster #1, #2, #3, #7, and #8 referenced pre-prepared material being much more common on television at some point during their responses. So, though they are prepared for anything to occur, radio broadcasters rarely set up specific information for a specific moment in the game unlike television broadcasters who might have a graphic prepared to highlight a specific statistic about a star player before his second at-bat. Broadcasters #1, #2, #5, #6, and #8 also mentioned that it is very important for their broadcast teams to refrain from rehearsing anything about a particular statistic or a particular player before getting on the air. Broadcaster #2 remarked that it is always important for his broadcast to sound organic and not forced. Broadcasters #3, #4, and #7 all suggested that there have been times in which they’ve either discussed touching on something during the broadcast with the rest

of their team or specifically planned on doing something at a specific point in the game. Though they planned these things, they also said that they never forced that earlier preparation into a game. For example, Broadcaster #3 mentioned a story about the team's closer he had prepared for the evening's game, but the closer never entered the game, and he was forced to throw the story out because it did not fit with the broadcast.

The broadcasters also discussed the individuality of the broadcast team. Each of the eight broadcasters mentioned that he prepares for the show entirely independently from his broadcast partner. A few broadcasters spoke of briefly discussing possible items to use during the broadcast with his partner before the game, but no references of physically preparing for the game as a team were made. Broadcaster #5 suggested that since he and his broadcast partner found different things interesting, the broadcast would be more robust if they prepared separately. He feared that preparing for the broadcast together would make the broadcast become dominated by just one of the broadcaster's mindsets. Broadcaster #7 mentioned that the broadcast itself is a completely collaborative process with no single voice dictating exactly what will be said during the broadcast. Broadcaster #6 suggested that "we're old enough and we've been in the booth long enough" to handle anything that any member of the broadcast team could mention during the game.

Industry Perceptions of Advanced Statistics

Each of the interviews ended with a few questions about the broadcasters' perceptions of industry trends in the usage of advanced statistics. The first question focused on the popularized notion of a divide between broadcasters that support the use of advanced statistics and those that oppose it. Broadcasters #1 and #7 downplayed any sort of divide suggesting that it was rather

just the individual preferences of individual broadcasters and there was not a clear cut divide between those that do not like to use advanced statistics and those that do.

The other six broadcasters were willing to admit that there were groups of broadcasters that could be characterized as proponents of advanced statistics or opposed to advanced statistics. Broadcaster #4 described himself as a “curious observer of the advancement of advanced analytics in broadcasting” because he could see that there are people on each side of the debate and he understands both groups. He mentioned that he thinks broadcasters should be “reflecting the pulse of the people”, but regularly struggles with how to reflect the number of people talking and writing about advanced statistics in his broadcasts. Two broadcasters replied that they believe there are a segment of broadcasters that are resistant to advanced statistics and that their resistance comes from a lack of understanding. Broadcaster #8 suggested that the broadcasters that are opposed to advanced statistics simply do not understand what people are trying to get at with their use of advanced statistics. While Broadcaster #5 mentioned that he believes that people that do not like advanced statistics are often characterized by advanced statistics supporters as people who do not understand the game, he does not think that idea is true. He suggested that those opposed to advanced statistics simply understand the game in a different way than those that support advanced statistics and often, they are just as knowledgeable despite disliking the new statistics.

The three remaining broadcasters all responded that there is a definite divide among broadcasters regarding the use of advanced statistics. Broadcaster #3 said that he believed broadcasters that think using advanced statistics is one of their major responsibilities is failing a large portion of their audiences. By placing such importance on advanced statistics, he reasoned that major proponents of advanced statistics are forgetting about all the people that just want to

hear an entertaining broadcasting. He suggested that the best broadcasters are great storytellers and that relating a great story should be the major focus for broadcasters. Broadcaster #2 mentioned that there are major opponents of advanced statistics and even named a few broadcasters that like to “get on their soap box once in a while” and talk negatively about advanced statistics and their proponents. Broadcaster #6 detailed a story about his broadcast partners, who happened to be former players, laughing at the mention of advanced statistics and mentioned that they, as former players, were not alone in their dislike of advanced statistics.

The final question each broadcaster was asked dealt with the future of advanced statistics, specifically asking if advanced statistics are a fad or if they have real staying power. All eight broadcasters replied that advanced statistics are not a fad and will be a part of baseball broadcasts going forward. The only disagreement on this topic seemed to be the extent to which statistics would be a part of broadcasts going forward. Two participants mentioned that some of the current conventions of baseball broadcasts will still remain more important than advanced statistics. After comparing advanced statistics to another thing he thought was going to be a fad (rap music), Broadcaster #3 suggested that “Vin Scully’s style” is never going away and people will always prefer storytellers to stat guys. Broadcaster #6 suggested that though advanced statistics are here for good, it will be tough for them to overtake the Triple Crown statistics (batting average, home runs, RBIs) that everyone has grown so accustomed to using.

Broadcaster #2 also commented that though advanced statistics are not going away, he does have some concerns about the time when advanced statistics become too rampant in broadcasts and fears there may be a backlash at some point in the future. The other five broadcasters, Broadcasters #1, #4, #5, #7 and #8, expressed no doubts about the future of advanced statistics in baseball broadcasts with many of them highlighting that advanced statistics will only become

better as people are able to gather more data with new software and stronger computers. The only point of contention came from Broadcaster #7 that was extremely curious about “how quickly advanced statistics become more prevalent in broadcasts”. He suggested that baseball broadcasts will sound much different in 30 years with advanced statistics playing a large role in their changes.

Chapter 5 - Discussion

Introduction

This study aimed to look at the use of advanced statistics in Major League Baseball broadcasts through in-depth interviews with eight broadcasters of MLB games. The theoretical framework suggested that the role broadcasters play may have an effect on their usage of advanced statistics, which could also have an effect on the rate advanced statistics would be adopted into baseball broadcasts. The interviews were helpful in drawing out a bevy of information from the participants, which helped illustrate the current trends in baseball broadcasts in regard to advanced statistics and providing a baseline for future research.

Research Questions

The use of advanced statistics in Major League Baseball broadcasts is a relatively new occurrence, but one that could have a massive effect on the way broadcasters present the game to their audiences. Although the trade press and broadcasters themselves discussed the different points of view about the value of advanced statistics (Eder, 2013), no academic research had addressed the topic. This research attempted to provide a baseline of eight broadcasters' perceptions about the future of advanced statistics in the sports broadcasting industry.

Research Question 1: Broadcasters' Perceived Value of Advanced Statistics

In attempting to access the perceived value of advanced statistics among broadcasters, it is important to note that it became apparent during the interview process that though the term "advanced statistics" referred to the new, more complex statistics being used in the baseball industry, that same moniker was not always used by the broadcasters interviewed. Broadcasters' terms included advanced analytics, analytics, advanced metrics, advanced sabermetrics, analytical statistics, metrics, and sabermetrics. The terms were used interchangeably by various

broadcasters, and all the terms seemed to refer to the same thing. At times, the same term was used by the same broadcaster as a negative term in response to one question and as a positive term in a different situation later in the interview. For example, Broadcaster #4 discussed the perception of advanced analytics in two different parts of his interview. In one instance, he said “I think that what we call advanced analytics aren’t that advanced at all” and, in another answer, said “it’s an advanced analytic, which means it’s smarter than your own eyes”. Despite using the exact same words to describe advanced statistics, Broadcaster #4 relates two very different messages. Among the broadcasters, there did not seem to be any positive or negative connotation assigned to any one of the terms. While each term was used both positively and negatively throughout the interviews, no one theme, positive or negative, emerged.

The participants’ usage of these different terms shows that there needs to be time dedicated to coming to a consensus regarding a specific term used to describe these new statistics used in the baseball industry, especially for researchers. If there is not a consensus among broadcasters, it is difficult to expect audiences to have any idea what the broadcasters are talking about when attempting to use one of the above-mentioned terms in a broadcast.

Perceived Importance of Advanced Statistics.

A term for advanced statistics was not the only thing broadcasters struggled to come to a consensus on when it came to advanced statistics. They also disagreed upon the importance of advanced statistics. This finding is important because it confirms the existence of the debate among broadcasters that has been presented in the media and trade press in recent years (Eder, 2013). In their responses, two broadcasters explained that they do not think advanced statistics were important for their listeners and even suggested that they struggle to think of a time that an advanced statistic would be useful in their broadcast.

Four of the eight broadcasters confessed that they felt that there are times when advanced statistics are important and valuable for their listeners. Broadcaster #5 brought up a recent example that illustrates the importance of using advanced statistics:

“Even as recently as two or three years ago, you didn’t see a whole lot of teams using (infield shifts) on a regular basis, but now everybody’s doing it – and a lot of teams are doing it all the time, multiple times a game and shifting against hitters that normally would have never been shifted against. So, I think even a casual baseball fan probably has a better understanding of why teams do that now.”

The final two broadcasters, like the first two broadcasters, were adamant in their beliefs about advanced statistics. So, while the other six broadcasters expressed some sort of concern over the use of advanced statistics, the final two broadcasters were steadfast in their promotion of advanced statistics. Each of them found teaching audiences about advanced statistics to be an important part of their responsibilities as broadcasters. Broadcaster #7 strongly posed an interesting dilemma:

“Look at it from this standpoint. While the average viewer or listener may not care, the vast majority of these teams are making decisions based on advanced numbers. They are not making decisions based on pitcher wins or RBIs, so do you want us talking about players and teams through the prism of the way teams look at it? Or do you want us to dumb it down and make it simple?”

While other topics were skewed in one direction or split in too many different directions to have any sort of comprehensive meaning, this topic displayed an almost perfectly even split with smaller parties on the more extreme ends of the topic and a solid middle group debating the merits of the two more extreme opinions. That split is important because it helps support the

claim that broadcasters are split in their thinking about advanced statistics and shows that there are strong opinions to both sides of the topic (Eder, 2013). This answer also nicely exemplifies the five categories of users described by the diffusion of innovations theory literature. The two broadcasters that support advanced statistics can be seen as early adopters, with Broadcaster #7 possibly even being a part of the innovators group. The four broadcasters that see the validity of both sides of the argument can be seen as the early and late majority, while the two broadcasters opposed to the use of advanced statistics might even be seen as laggards.

Advanced Statistics: Fad or Trend

Despite disagreeing on a specific moniker for advanced statistics and the value of advanced statistics, all of the broadcasters answered the final question of the interview the same way, declaring that advanced statistics are not a fad. All eight broadcasters responded that advanced statistics have staying power and will be a part of baseball broadcasts from this point forward. There were certainly disagreements among the eight broadcasters regarding the extent to which advanced statistics would be a part of baseball broadcasts and how quickly the different statistics might become commonplace among listeners, but none of the broadcasters was willing to say that advanced statistics would disappear from baseball broadcasts, which is a major development in the advanced statistics debate.

With the increased usage of advanced statistics in the baseball industry, broadcasters have felt pressured to figure out if they want to use advanced statistics in their broadcasts and how advanced statistics could potentially affect their roles as broadcasters. Previous academic research has shown that broadcasters can play many different roles in their broadcasts, but how advanced statistics could change their roles has yet to be researched. In an attempt to figure out

their role, broadcasters may also need to readjust what they believe to be their major responsibilities for listeners.

Research Question 2: The Effect of Advanced Statistics on the Broadcasters' Role

Though this research tried to take a closer look at the ways baseball broadcasters use advanced statistics in their broadcasts, it became apparent that using advanced statistics was only a secondary concern for the study's participants. Each of the eight broadcasters emphasized that his first and most important responsibility was calling the game to the fullest of his ability. Broadcaster #7 from the national broadcasting company encapsulated the thoughts of the broadcasters.

“On the radio, my number one priority is telling people what’s happening on the field.

You have to remember that. They can’t see, so we can sit here and talk sabermetrics until we’re blue in the face, but on the radio, my responsibility is to tell people what is happening on the field. Where did the ball go? What type of play was made?”

While many of the broadcasters focused on the accuracy of their broadcasts, five participants described the attention that must be paid to the flow of the broadcast and the game when attempting to fit in all of the details necessary for an accurate broadcast. Broadcaster #1 expanded on this new stats phenomenon saying, “It takes a really skilled play-by-play man to be able to keep the harmony of that conversation talking about Wins Above Replacement, OPS, slugging percentage, while intermixing what’s actually happening in front of us right now.”

Use as Advanced Play-by-Play Action Contextual Information

When asked about the potential of using stories or anecdotes as a way to fold advanced statistics into their broadcasts, each of the eight broadcasters touched on the importance of stories and anecdotes. They each suggested that without stories, they would not be able to do

their job as a broadcaster. Broadcaster #3 passionately talked about the connection between broadcasting baseball games and telling stories saying, “When I do football and basketball, that’s play-by-play, but when I do baseball, that’s storytelling. That’s the greatest opportunity to hone your craft as an artist, to tell a story about a certain game or certain team.” In fact, four of the broadcasters suggested the game they were calling was a story in itself, often mentioning “telling the game’s story” or making the story more “interesting” or “compelling”, which confirmed earlier research that described sports broadcasters as creators of dramatic action (Lipsky, 1981).

Other broadcasters mentioned that the stories they used were often more useful and more often remembered by their audience members than other tidbits because those stories were long-lasting and never-changing. While statistics change daily as new plays are added to the calculations to each specific statistic, a story forever remains the same. Stories can be seen as static objects that can be used throughout a broadcast to add context to the larger situation, but also as a way to make an advanced statistic more interesting or memorable (Oliver, Haberstroh, Pattani, Sando, & Smith, 2013). Broadcaster #4 recounted one example in which he tried to make Fielding Independent Pitching (FIP) easier to understand for listeners. The broadcaster discussed that he thought that was a particularly good example of how broadcasters could use stories to explain advanced statistics to the audience and actually have it be meaningful. Three other broadcasters also remarked that a story or anecdote that includes advanced statistics can be the perfect vehicle to use to explain how their team uses advanced statistics or how advanced statistics can be helpful in explaining a particular situation or decision by the manager.

Use as a Teaching Device

During five interviews, participants acknowledged that the advanced statistics they were using would be new and different for many of their listeners. The use of these foreign numbers

led to four broadcasters feeling as though they needed to justify using them; Broadcaster #2 detailed using the decision makers on the field as a way to teach listeners why the numbers are important:

“As far as the actual broadcast is concerned, about the only time we’ll delve deep into analytics is if there’s a situation where a guy might be struggling and the regular basic numbers don’t tell the whole story. So, in the past, I would go to our manager or the number crunchers in the front office and say, ‘Why is this guy still in the lineup?’ And then they would give us some of his Hard Hit Ball Average, BABIP, all that stuff. I could then use those things to explain to the listener why this guy is still in the lineup when they look at the basic stats.”

Even one of the more experienced broadcasters, who struggled with the use of advanced statistics, found that they could be quite useful, even if it meant finding someone else with a bit more expertise to do the teaching for him:

“I started making it a regular feature on the General Manager’s radio show a few years ago. I would say, ‘This week, we’re going to talk WAR or OPS+ or ballpark effect or whatever stat was our focus for the week.’ Then, we would take five minutes of his radio show and [the general manager] would break it down for us.”

Relationship to Casual Fan/Listener

Another major concern for the participants was simplicity in advanced statistics usage. While six of the eight broadcasters expressed concern over the overuse of acronyms, Broadcaster #2 might have voiced their concerns most poignantly by suggesting that an overuse of advanced statistics acronyms could make his broadcast sound like “alphabet soup for fans”. In attempting to keep things simple, six of the broadcasters talked about staying away from using the formulas

of the different statistics because they simply did not think their audiences would be interested in learning the formulas, and it would end up confusing listeners more than it would help them understand the statistics. Four broadcasters suggested that they often use other numbers, rankings, and statistics to make their original statistic more digestible. For example, you could talk about where the player lands in relation to the Top 5 list in that particular statistical category.

Throughout the interviews, broadcasters often mentioned their attempts to simplify things out of concern for satisfying the casual fan, which revealed an interesting disagreement between research findings and current industry opinions. Previous research (Gantz, 1981) has shown that sporting events are not something people listen to or watch out of boredom, or just to have something on in the background. Even with these findings, broadcasters regularly mentioned this type of fan when talking about their “average listener”. For example, Broadcaster #5 said that some of his listeners are, “... just looking to be entertained for a little while and not necessarily looking to get into some of the minutiae about the game, whether it be about specific players or anecdotes or anything like that.” Broadcaster #5 was just one of five broadcasters to make reference to the casual fan and the ways in which he, as a broadcaster, tries to make a connection with that fan. This trend could be seen as worrisome since research suggests that type of listening does not actually exist (Gantz, 1981).

The way in which broadcasters view their audience members is obviously quite important in the adoption of sabermetrics into sports broadcasts, but it also seemed likely that there were other factors in the diffusion of advanced statistics into sports broadcasts. Some of those factors have been discussed in the trade press (Deitsch, 2014), but academic research has not touched on the topic as of yet. These factors discussed here provide a starting place for future research to explore how the trend develops.

Research Question 3: Factors Influencing Broadcasters

Experience and Exposure.

The broadcasters interviewed had a wide range of broadcasting experience, with one broadcaster in his first year and another in his 32nd year calling Major League Baseball. This information paired with the broadcasters' first exposures to advanced statistics forms an important observation. Though veteran broadcasters may not enjoy using advanced statistics quite as much as their younger counterparts, they have been exposed to advanced statistics for years and reported to be generally aware of how many of the statistics work.

Different Channels – Radio/Television Formats

Throughout the interviews, participants would regularly preface or qualify their answers with a discussion of the channel they were using to broadcast. It became evident that the channel used for a broadcast played a significant role on the thought process of each of the broadcasters in terms of using advanced statistics. One broadcaster went as far as answering a question with another question by saying, "The first thing I always start with is, 'Am I on TV or radio?' Because I think about things differently on radio than I do on TV." Six of the eight broadcasters suggested that advanced statistics were much more common on television than in radio broadcasts, with Broadcaster #2 adding, "From what I've been able to gather, it's peaking into the television broadcast more often than on radio." Six of the broadcasters mentioned that they believed it was simpler to use advanced statistics during television broadcasts because of the use of graphics.

Confusing the listener played a major part in the radio and television divide in usage of advanced statistics, but three broadcasters suggested another concern: missing something.

Multiple participants mentioned the length of time it can take to properly teach their audience about an advanced statistic with one broadcaster remarking:

“While I’m trying to explain all of [these stats], how many pitches do you think I missed? How many things are going on on the radio that you can’t draw up and the listener isn’t seeing? That’s what I’m getting at...When you’re trying to explain what’s going on, you’re probably going to miss two or three pitches and the fan at home doesn’t know what’s going on.”

The final major distinction made by broadcasters in regard to the use of advanced statistics in radio broadcasts versus television broadcasts was the production elements necessary for television. While on radio, Broadcaster #8 believes he is “just going about the broadcast and telling your audience how the game is evolving”, but participants suggested television productions require different elements to entertain viewers.

Broadcast Booth Dynamics

Along with the channel they were using to broadcast the game, another limiting factor in the diffusion of advanced statistics may be the feedback given to the broadcasters. . . Surprisingly, six of the eight broadcasters received almost no formal feedback from their employers regarding the work they did on air. There were no mentions of regular monthly performance reviews or regular feedback. With feedback rare and instructions nearly nonexistent, four participants suggested that it was their responsibility, not the organization’s, to make changes and keep up with the industry. One broadcaster said, “You’re just kind of finding your own way in that regard, which I’m fine with. I like that.”

Three participants commented on the need for a broadcast to sound “organic” and to keep anything in the broadcast from sounding “forced”, especially in reference to incorporating

advanced statistics into their broadcasts. Three participants suggested that the game will give them the opportunities they need to talk about advanced statistics if they are interested in doing that. One of the broadcasters not as keen on advanced statistics said:

“If I allow the game to tell me what to say, sometimes a statistic might be more important that comes into the moment, particularly when a manager brings out a certain pitcher to face a certain hitter. In that instance, it works. I like to find those moments for the significance of the statistic to meet the moment of the game.”

With the increasing popularity of advanced statistics, participants often mentioned their responsibility to gain a better understanding of these statistics with many of them suggesting one of their major duties as a broadcaster is to be “informed” of everything going on in the baseball world. The changes these broadcasters are making though seem to be completely up to the broadcaster’s tastes and preferences, but clearly come with the rest of the industry in mind. Broadcaster #5 mentioned that he “tries to listen to games all the time – I have satellite radio in my car and usually if I’m driving home after a game, I’m listening to a baseball game.” Broadcaster #2 echoed much of the same sentiment and even added something about the changes he makes:

“If I’m listening to a game on XM or MLB At Bat and I hear the way a guy presents or talks about something and I like it, I’m absolutely going to borrow it. I’m going to use it. I’m going to mix it in. I don’t think I’ll use it all the time, but you’re always looking for some different ways to describe the same thing. When you call 162 games over 180 days, it can get a little redundant.”

While making changes seems to be up to broadcasters individually, there is a group component to every decision beyond the industry standards. Each broadcaster is a part of a

broadcast team and their broadcast partners may have different tastes and tendencies. When trying to understand how the members of a broadcast booth work together, it became apparent that there is one constant that is shared by all broadcast booths: over-preparation. Throughout the interviews, six of the eight participants volunteered their amount of preparedness in off-hand comments, often using grandiose descriptions like preparing “a thousand different things”. Though that number may not be accurate, it is quite apparent that baseball broadcasters are well-prepared and likely have done copious amounts of research, which makes the suggestion of an old-school broadcaster not understanding the numbers or even knowing what they are seem pretty unlikely. The broadcasters may not like the increased usage of advanced statistics, but they almost assuredly know about them (Garfien, 2013).

A second trend that appeared was the individual nature of how broadcasters prepare for their broadcasts. Each of the eight broadcasters explained that he prepares for the game entirely independent from his broadcast partners. A few of the broadcasters mentioned that preparing together would make the broadcast sound more like it was just one of the broadcaster’s interpretation of the game and not a collaborative effort with both of the broadcasters’ thoughts coming through during the broadcast. Four of the broadcasters mentioned that pre-prepared material can sound stale and uninteresting, which is why they prefer more “organic” conversation that occurs when hearing someone’s opinion for the first time. These thoughts raise both support and concern for a broadcaster to play the role of “advanced statistics expert”. On one hand, if the “advanced statistics expert” is able to bring up a number that his broadcast partner has not heard before or an interesting opinion based on a number, it could lead to a genuine conversation that could entertain listeners. On the other hand, if the “advanced statistics expert” will only bring up the same number, or numbers he has brought up multiple times

previously, his broadcast partner may become bored with the conversation and it could have a negative effect on the broadcast.

Limitations of the Study

There are a few limitations of the study that stand out. The first limitation of the study is that it only examines a single sport in the sports broadcasting industry. Though these results may be helpful in identifying trends in Major League Baseball broadcasts, there is no way to know if the same trends are relevant throughout all of sports broadcasting, or even among another sports broadcasters, until a similar study is replicated in those industries.

A second limitation comes from the use of just eight broadcasters. As mentioned earlier, it would have been better to send mailed invitations to each radio broadcaster in Major League Baseball to create a more representative look at the baseball broadcasting industry, but there was a limited amount of time in which to complete the study. Some may also question the use of snowball sampling through professional connections to obtain those willing to participate in the study, despite the study's relative diverse opinions and participants⁶. Play-by-play broadcasters were there only broadcasters to participate in the study. The inclusion of color commentators or sideline reporters could have made an impact on the study's results.

Future Research

The findings from this study demonstrate that role theory concepts are applicable to the broadcasting industry. In describing how they came to their stance on advanced statistics, the participants brought up both their audience and other people throughout the industry, which shows they are thinking about the demands of groups both within and outside of the

⁶ The diversity of baseball broadcasters is relatively limited with a large majority of the broadcasters being older than 35 and white males.

organization. The processes of “role taking” and “role making” are both quite obvious in the ways that the participants described their thoughts about their audiences and the ways they work within their broadcast booths and organizations.

This study also served as another example of the diffusion of innovations theory as the adoption rate of advanced statistics into baseball broadcasts by broadcasters has nearly perfectly mirrored the user groups laid out by the diffusion of innovations theory. Even among just eight participants, relatively clear delineation between the five groups (innovators, early adopters, early majority, late majority, and laggards) described in diffusion of innovations theory is apparent. Throughout the descriptions of their views of advanced statistics, it was clear that broadcasters thought about the five critical factors that influence the effectiveness of an innovation, from a non-academic professional perspective.

This baseline exploratory study also suggests a number of implications for future research. The first thing that stood out was that there is not a single term used by broadcasters that refers to the new, more complex statistics that were discussed. Though this study used the term advanced statistics, there were various other terms used to describe advanced statistics. The various terms make it difficult to research the topic, because there is not a definitive way to pool all of the research done on the subject together when there are so many different ways that people have referred to the topic. The different terms used could also serve as an interesting study through a semantics lens as both broadcasters and audiences could be exposed to the different terms used to describe these new statistics to see if there is any sort of underlying biases or preferences affecting the way people view these different terms. Studying these potential biases could show if there is any sort of framing that can be done by broadcasters to make audiences more or less accepting of their advanced statistics message.

Throughout the interviews, the broadcasters suggested that using advanced statistics was more common and easier to do when broadcasting on television as opposed to radio. Comparing the two broadcasts would be a nearly perfect scenario in which to employ a content analysis focused on the effect of a channel as the delivery system for advanced statistics. It would be interesting to compare the television and radio broadcasts for the same games throughout the Major League Baseball season to see if there are more examples of advanced statistics usage on television than radio. Along with showing how drastic the differences can be, it could also show which broadcasters are using the most and least advanced statistics, situations in which these statistics can be used, and situations in which usage was similar in television and radio broadcasts.

The findings from this qualitative study identifying key themes provide support for expanding this research through other research methods, such as surveys and experiments. Surveys allow for data collection from the entire Major League Baseball broadcasting population, and could be adapted for other major league professional sports broadcasting populations, such as football and basketball. Usage trends and techniques could also be tested to get a fuller understanding of the industry as a whole rather than a smaller representative sample.

Replicating this study with broadcasters of different sports, as mentioned above, can provide more support for advanced statistics as a new, valuable element of broadcast content. Baseball has been seen as the leader in the use of advanced statistics, but in recent years, their use in other sports has started to pick up (Deitsch, 2014). With that increase, examining the perceptions and attitudes of broadcasters of other sports regarding advanced statistics, their perceptions of their audiences' interest in those statistics, and their usage of advanced statistics

could suggest how other sports value and subsequently adopt advanced statistics as a broadcasting tool.

Another study could possibly be a content analysis of soccer broadcasts from across the world, which would add an international research direction for this research. Since the entire world plays soccer, it could be interesting to compare the soccer broadcasts from different countries for advanced statistics use see which country's broadcasts use the most advanced statistics, which could uncover cultural differences in this developing broadcast trend.

Audiences' perceptions of the value of and attitude toward advanced statistics provide another avenue for future research. The participants' responses failed to create some sort of consensus in regard to the way in which broadcasters try to use advanced statistics in their broadcasts, but presented a number of options that could be further researched. The technique broadcasters favored most is a strategy that has already been discussed, stories. Each of the eight broadcasters talked about their fondness of stories and anecdotes that they hoped their listeners could remember, and each of them applied this use of stories to advanced statistics usage as well. Testing different versions of advanced statistics messages with varying use of these different narrative strategies among audience members could provide direction in the most effective use of advanced statistics in storytelling.

An interesting finding of this study has to do with the way in which broadcasters view their audience members, as there seems to be a stark contrast between what research has shown and how the broadcasting industry actually feels about the topic. Further research could provide a better understanding for the rationale of broadcasters who try to broadcast to the casual fan's sensibilities. It may be interesting to know if the participants' views and the views of other broadcasters are individually developed or if it is something that is being taught to them in their

journalism classes or through their professional training. With recent polls showing a decrease in interest in baseball among casual fans (Canepa, 2009), part of the motivation behind the targeting of the casual fan may be an attempt by broadcasters to attract new audience members who do not normally listen to baseball games. A shift in the broadcasters' thinking could have a drastic effect on the sound of future broadcasts and could potentially create a broadcast that more accurately fulfills the desires of the audience. Although it could provide a more appealing broadcast for a larger majority of the existing audience, it may be less effective in attracting new fans to the sport. The balancing act between appealing to new listeners and appeasing current listeners is a topic that could certainly be studied further in all sports. Making broadcasters aware of this cognitive dissonance could lead to better broadcasts or, at least, broadcasters more aware of the actual preferences of fans.

The results from this study clarify there are varying levels of understanding among broadcasters in regard to advanced statistics. Further research could certainly be done to attempt to identify the depth of understanding among the baseball broadcasting industry, but greater training may be a useful exercise for those that employ baseball broadcasters. The participants responded that advanced statistics are going to be a part of baseball broadcasts going forward, so it may be helpful for employers to begin requiring some very basic advanced statistics training for their broadcasters. It may also be useful to also start implementing more regular feedback for broadcasters. There were some participants who mentioned their love of the freedom they have as broadcasters, but more regular feedback may help the industry implement changes, no matter how large or small, more easily.

Strengths

The data provided by industry professionals is a major strength of this study. The participants are the baseball industry's top professionals and the people who are making the major decisions regarding the adoption of advanced statistics in baseball broadcasts. The in-depth interview techniques used in this study allowed the participants to speak freely and use their own words, which helped shed a light on the things actually being done by baseball broadcasters. This study offers an in-depth look at the factors that go into the decision-making process of broadcasters in the actual broadcast booth as they grapple with the use of advanced statistics and the potential changes to their role, not just a theoretical construct of what should or could be happening in the broadcast booth. This study is also important because it identified a new trend in sports broadcasting. Though the trade and professional press suggested that advanced statistics may be a part of baseball broadcasts in the future, this study showed that broadcasters believe advanced statistics will be a part of baseball broadcasts going forward.

Conclusions

Despite the limitations of the study in general, this study is of value, as it reflects an initial attempt at describing the use of advanced statistics in baseball broadcasts and how the use of advanced statistics may affect the roles of baseball broadcasters. Though different components of the study have parallels in the extensive literature of role theory and diffusion of innovations theory and offer support for much of the theoretical literature, the real value of the study is practical, in that it is based solely on how active baseball broadcasters make decisions on the amount of advanced statistics to use in a broadcast based on their perceived importance of the statistics and how the use of those statistics might affect their roles as a broadcaster. This study

is also valuable because it is the first look at the effect advanced statistics may have on the roles of broadcasters and the impact advanced statistics are having on broadcasters.

This work can also be helpful to educators as it provides a practical look at a developing trend in sports journalism. With some disconnect between academia and the actual practitioners, this study should serve as a bridge between the two worlds. It should also be helpful to educators as they can now see the future importance of advanced statistics and begin preparing to teach their students potential strategies for using advanced statistics. If educators do not feel comfortable teaching advanced statistics usage to their students, at least this study should show that the topic needs to be discussed and students need to be aware of the potential usage of advanced statistics going forward.

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Appendix A - Informed Consent Form

Informed Consent Form for Participants

The study involves research of Major League Baseball (MLB) broadcast professionals conducted through in-depth interviews with MLB broadcast professionals.

The study hopes to gain a better understanding of your perceptions regarding the use of advanced statistics in your broadcasts. It also hopes to get a better understanding of the roles broadcasters attempt to play in the broadcast booth.

You should expect to spend 30-60 minutes participating in the in-depth interviews with the main researcher. The duration of the interview depends on the depth of the your answers.

In-depth interviews will be conducted in person or digitally (either on Skype or Zoom). The researcher will ask you a variety of questions about your broadcasting habits, including your perceptions regarding basic procedures, content, and use of statistics.

The procedures of the in-depth interviews should not lead to any discomfort for the participants, but you may withdraw from the study at any time.

You will be given a chance to think critically about your broadcasting style and content and how new content can contribute and improve your role in the broadcast. You may also learn better ways in which to interact with your audience.

The recorded information will not be dispersed and will only be used for the study. The interviews will be transcribed and then stored in a locked cabinet at Kansas State University after the study has been completed.

For answers to questions about the research and the rights of research subjects, please contact:

University Research Compliance
comply@k-state.edu
785-532-3224

Eric Nehm
enehm@ksu.edu
262-305-9014

Dr. Barbara DeSanto
bdesanto@ksu.edu
785-554-3718

Participation in the study is completely voluntary. You can withdraw from the study at any time without penalty. Refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled and you may discontinue participation at any time without penalty or loss of benefits, to which the subject is otherwise entitled.

Signature

Date

Appendix B - Questions Used in Interviews

Advanced Statistics in Broadcasting Questionnaire

1. How long have you been broadcasting professionally? Major League Baseball games?
2. What was your first exposure to advanced statistics?
3. How would you define “advanced statistics”? What is the difference between a normal statistic and an advanced statistic?
4. How do you try to use advanced statistics in your broadcasts?
5. Is your advanced statistics usage conscious? Are you specifically looking for a way to use certain statistics?
6. Are there certain ways to include advanced statistics that you have found particularly successful?
7. Do you attempt to use stories or narrative accounts to try to get convey the importance of a stat?
8. How do you attempt to make these stats stand out? Or do you feel it is necessary to make the statistics "exciting"?
9. Do you feel like you need to explicitly define your statistics? Or do you just try to use context clues?
10. What do you think the general public (average listener) knows about advanced statistics?
Are they well-informed?
11. How do you attempt to combat the knowledge gap between you and the audience?
12. Do you think using advanced statistics is part of your responsibility as a broadcaster?
13. Do you think new statistics are important for listeners?

14. Do you get any feedback on the statistics you use from your audience? Good, bad, or indifferent?
15. Does that feedback help you shape your message more effectively? If so, how has feedback changed your typical message?
16. Do you ever think about the way audiences perceive you? Do you ever think about audience's perceiving you as "a sabermetrics guy" or "an old-school guy"?
17. Do you have specific instructions from your bosses to use these stats in a specific way?
18. How do you make the decision to use a specific stat? Is it a personal decision? Is it a group decision?
19. How do you see old-school, experienced broadcasters using advanced statistics? Is it something they will willingly accept or blindly reject? Or is there more of a middle ground?
20. Do you try to pattern your usage off of anyone else? Is there someone you think does a particularly good job using advanced statistics in broadcasts?
21. Are advanced statistics a fad or are they here for good?

Appendix C - Statistics Glossary

Statistic (Abbreviation)	Formula	Definition	Explanation
Batting Average (BA)	$\frac{\text{Hits}}{\text{At Bats}}$	A statistic that measures how often a player gets a hit during their at bats.	-Triple Crown Statistic- Batting average has been around forever and everyone knows and understands it.
Batting Average on Balls In Play (BABIP)	$\frac{\text{Hits} - \text{Home Runs}}{\text{At Bats} - \text{Strikeouts} - \text{Home Runs} + \text{Sacrifice Flies}}$	A statistic that measures how often non-home run batted balls (often called "balls in play") fall for hits.	BABIP is helpful in determining the quality of a hitter/pitcher and how luck of the performance of the defense affected their numbers.
Chase Rate (Chase %, also known as O-Swing %)	$\frac{\text{Swings at pitches outside the strike zone}}{\text{Pitches outside the strike zone}}$	A statistic that measures a hitter's plate discipline and a pitcher's ability to get hitters to swing at non-strikes.	Chase rate can be helpful in showing a hitter's "eye" or a pitcher's ability to make bad pitches look attractive.
Earned Run Average (ERA)	$\frac{\text{Earned Runs} \times 9}{\text{Innings Pitched}}$	A statistic that measures how many runs a pitcher gives up per nine innings (traditional length of one game) pitched.	ERA is one of the most basic statistics used to judge pitching performance. It is well known and easily understandable.
(Adjusted) Earned Run Average Plus (ERA+)	$\left(\frac{\text{Park Factor} \times \text{League Average ERA}}{\text{Pitcher's ERA}} \right) \times 100$	A statistic that measures a pitcher's earned runs average in ways that control for the ballparks and time period that he played in.	ERA+ gives more context to a basic ERA. It also makes it easier to compare two pitchers despite differences in leagues, time period, and ballparks.

Fielding Independent Pitching (FIP)	$\frac{(13 \times \text{Home Runs}) + (3 \times (\text{Walks} + \text{Hit By Pitch})) - (2 \times \text{Strikeouts})}{\text{Innings Pitched}} + \text{FIP constant}$	A statistic that estimates a pitcher's run prevention independent of the performance of their defense.	FIP is used to grade a pitcher's performance, but strip out the role of defense and luck in order to give a more accurate look at a pitcher's performance.
Fly Ball/Ground Ball/Line Drive Percentage (FB%/GB%/LD%)	$\frac{\text{Fly Balls} \quad \text{Ground Balls} \quad \text{Line Drives}}{\text{Balls in Play}}$	Statistics that express the share of a pitcher's or hitter's balls in play that are fly balls, ground balls, or line drives.	Batted Ball Statistics are helpful in showing how well a hitter is striking the ball and what type of contact a pitcher is giving up.
Hard Hit Ball Average (Hard %)	(Formula from Baseball Info Solutions is not available publicly.)	A number that represents the percentage of a hitter or pitcher's batted balls that have been hit with a certain amount of authority.	Hard Hit Ball Average, like batted ball statistics, attempt to help show how well a hitter is striking the ball or what type of contact a pitcher is giving up.
Home Runs (HR)	Count the number of home runs hit by a particular player	A fair hit that allows the batter to make a complete circuit of the bases without stopping and score a run.	-Triple Crown Statistic- Home runs have been tallied forever and everyone knows and understands them.
On-Base Percentage (OBP)	$\frac{\text{Hits} + \text{Walks} + \text{Hit By Pitch}}{\text{At Bats} + \text{Walks} + \text{Hit By Pitch} + \text{Sacrifice Flies}}$	A statistic that measures how well a player gets on base	OBP is preferred by some over batting average because it credits hitters who reach base via walk or HBP, both of which BA ignores.
On-Base Plus Slugging (OPS)	On Base Percentage + Slugging Percentage	A statistic that attempts to show a hitter's value by combining their on-base percentage and their slugging percentage.	OPS has caught on because it is easy to comprehend, but treats OBP as equal in value to SLG, while most sabermetricians would tell you OBP is roughly twice as important as SLG

Platoon Numbers (also called platoon splits)	Calculate any statistic using these formulas, except only in plate appearances against a left-handed or right-handed opponent	Statistics that measure how well a player performs against players of a specific handedness.	Platoon numbers can be helpful in showing performance differences against players of a particular handedness.
Runs Batted In (RBI)	Count the number of runs a particular player bats in	A statistic that credits a batter for making a play that allows a run to be scored (except in certain specific situations).	-Triple Crown Statistic- RBIs have been tallied forever and everyone knows and understands them.
Slugging Percentage (SLG)	$\frac{\text{Singles} + (2 \times \text{Doubles}) + (3 \times \text{Triples}) + (4 \times \text{Home Runs})}{\text{At Bats}}$	A statistic designed to measure the power-hitting capabilities of a hitter	Slugging percentage attempts to show how well a particular player can hit for power.
Ultimate Zone Rating (UZR)	Synopsis: Field is split into 64 zones. Play-by-play data is used to figure out a fielder's capability. (Full formula might take up to 20 pages to explain.)	A statistic that attempts to show how much a player contributes to his team defensively on an above/below positional average scale.	Much of the game of baseball lends itself to statistical analysis, but fielding does not. UZR is one of the best attempts at quantifying player's contributions in the field.
Walks plus Hits divided by Innings Pitched (WHIP)	$\frac{\text{Walks} + \text{Hits}}{\text{Innings Pitched}}$	A statistic that measures how many base runners a pitcher allows.	WHIP is another statistic that is very easy to comprehend and helps examine some of the underlying tendencies of a pitcher, but ultimately doesn't give you much more information.
Stats and definitions compiled using these articles: Sabermetric stats primer – Cockcroft, 2015 / Baseball basics: stats 101 – MLB.com / Everything you always wanted to know about ERA+ and ERA- – Rimington, 2011 / Saber 101: ultimate zone rating – Rogers, 2010			

<p>Win Expectancy (individually measured in Win Probability Added or WPA)</p>	<p>Synopsis: During every single plate appearance of a baseball game, each team has a win expectancy percentage. When combined, the two numbers = 100.</p> <p>Example: Single on first play of game increases away team's win expectancy from 50% to 52%. That increase equals .02 WPA.</p>	<p>Win Expectancy – A statistic that attempts to measure a team's probability of winning the game at a particular moment.</p> <p>WPA – A statistic that attempts to measure a player's contribution to a team's effort in a particular game or season.</p>	<p>While most advanced statistics attempt to control for the circumstances of a game or season, Win Expectancy is completely context dependent. It is not predictive, but can be a fun storytelling tool for broadcasters.</p>
<p>Wins Above Replacement (WAR) <i>(calculated differently by different organizations because of differences in performance estimates)</i></p>	<p>(Batting Runs + Base Running Runs + Fielding Runs + Positional Adjustment + League Adjustment + Replacement Runs) ----- (Runs Per Win)</p>	<p>An attempt by the sabermetric baseball community to summarize a player's total contributions to their team in one statistic.</p>	<p>WAR attempts to estimate a player's value in one all-inclusive number. It should be helpful in deciding the most valuable player in different situations.</p>
<p>Weighted On Base Average (wOBA)</p>	<p>(.69 x Walks) + (.72 x Hit By Pitch) + (.89 x Singles) + (1.27 x Doubles) + (1.62 x Triples) + (2.10 x Home Runs) ----- At Bats + Walks – Intentional Walks + Sacrifice Flies + Hit By Pitch</p>	<p>A rate statistic which attempts to credit a hitter for the value of each outcome rather than treating all hits or times on base equally.</p>	<p>wOBA attempts to give a more accurate representation of a hitter's contribution. By weighting each of the different events (single, double, etc.), it more accurately shows a player's value than something like OPS.</p>
<p>Weighted Runs Created (wRC)</p>	<p>((wOBA – League wOBA)/wOBA Scale) + (League Runs/Plate Appearances) x Plate Appearances</p>	<p>A cumulative statistic that attempts to measure a batter's value by crediting a player for total production rather than on an at bat by at bat basis.</p>	<p>wRC tries to quantify how many runs a player helps create for his team in a given season. It helps in quantifying a player's total offensive value.</p>