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# Research-in-Progress: Decision Support Systems for Recruiting College Athletes

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**ABSTRACT (REQUIRED)**

The sports industry is bringing in global revenues of $620 billion yearly. It is one of the fastest growing industries and it has increased its use of technology. From video challenges, to online ticket sales, and broadcasting, the sports industry is using technology in many areas. Coaches use technology and information systems to gather data about current athletes and prospects. Coaches gather useful data, but this data is often raw and difficult to use for decision-making. Decision support systems have been successfully used by other industries to improve business profitability and to aid in making decisions that are crucial for success. While some areas of sports information systems have implemented decision support systems, there is room for more growth. This paper calls for further research of decision support systems for recruiting athletes for a collegiate team, as this could lead to multiple benefits for the team and the academic institution. The call for research is to design a system that includes knowledge of the end users and stays within the regulations set by the National Collegiate Athletics Association.

**Keywords (Required)**

Information systems, decision support systems, collegiate athletes, recruiting

**INTRODUCTION**

The sports industry is one of the largest industries worldwide. “The global sports industry is worth up to $620 billion today” (AT Kearney, 2011). With the continuous improvements in information technology and a large, yet still growing, sports industry, the latter started making use of the former. “The role of technology in sports industry has been intrinsically involved in the development of sports events” and “[t]echnological innovation is essential to the future well-being of sports industry” (Petrovic, Milovanovic, Desbordes, 2015).

From broadcasting to training the athletes, to business functions of individual leagues and clubs, some sort of technology is used to fulfill the goal of producing a profitable product. “Sports coaching is using available technology to analyze performance and provide feedback.” The technologies described are often of the optical kind, to capture movement patterns, to analyze opponents, and to scout prospects as well as geographical information systems (GIS technology), to track an athlete’s movement throughout competition and training (Clark & Nash, 2014). Furthermore, “it would be impossible to manage stadiums without technology” (Stair & Reynolds, 2013).

Although it is easy to just tune one’s TV to a sports channel and watch live sporting events, all possible through technology, there are some areas of the industry that are lacking sufficient use of information systems. As any large company, sports teams make use of data and information systems to make the best decisions for their organizations. Looking at sports in the entertainment industry, one of the big factors driving revenues are athletes. Skilled athletes could lead to team success if the athletics skills and the athlete fit into the organization. Chances are, the more successful the finished product is, the more revenues can be generated. However, information systems to support the decision-making around the fit of an athlete with an organization are lacking. One potential solution is the development and use of decision support systems (DSS). DSSs are often thought of when speaking of enterprise resource planning systems, but not when it comes to Sports recruiting. They can be defined as including

> repository of knowledge that describes aspects of the decision-maker’s world. It can have the ability to acquire and maintain this descriptive knowledge. A DSS can present knowledge on an ad-hoc basis in a customized or standard format. They can interact directly with a user to allow flexibility and choice in the execution and pattern of management activities. (Sena, 2001)

Although some attempts have been made to include a DSS in other areas of maintaining athletes, no support system currently exists that aids in the procurement of athletes to a team or university. Currently, the decisions are left to the recruiting coaches, and some tools are available, that track information easier.

The aim of this paper is to propose a call for further research in developing DSSs for the recruiting of athletes, specifically in the world of college sports. College sports pose a difficult situation, as athletes are not considered professional athletes, and the only compensation they may receive is financial aid in the form of a scholarship. Although the players do not receive a salary, the university still must spend money to recruit athletes, and will not receive any funds directly from the athlete, as said athlete receives a tuition waiver, and does not have to pay for room and board. Furthermore, the National Collegiate Athletic Association (NCAA), the governing body of most collegiate athletic activities, has regulations that constantly change the rules for securing new talent. Development and further research can be achieved through studying what advances have been made in the taxonomy of DSSs and combining that with experience from coaches at the collegiate level.

## DECISION SUPPORT SYSTEMS IN SPORTS

"A DSS is just as appropriate to professional sports as it is to the business environment. There is definitely an extensive array of opportunities to develop DSSs for professional sports" (Moscato & Moscato, 2004). The use of a traffic light DSS has been researched, which can be used to see if an athlete is able to train, or if the athlete should not participate in team drills. "DSSs have been used for tournament scheduling, evaluating athlete performance, and informing team selection" (Robertson, Bartlett, & Gastin 2017). The research is focused on the athlete wellbeing in order to make the athlete more profitable to an organization, since the results can be monitored, and the athlete can be kept ready for competition. From personal experience, another type of DSS that makes use of a system similar to the traffic light system is the Impact Test. This is a test given by athletic trainers to athletes who suffered a concussion. The system receives initial test scores when the athlete arrives on campus. If a concussion occurs, the athlete follows the concussion protocol, and then retakes the test. If the score is not considered a passing score, the medical staff of the team will then rule out the athlete. The system provides numbers to decide for how long the athlete cannot participate in practices or competition. It can be observed, that although there are DSSs in place, they usually are focused on current athletes, and they lead to decisions based on physical health and wellbeing of the athlete. These are important, but the question remains how could DSSs aid a university or team in the recruiting of athletes?

## CURRENT RECRUITING PROCESS

Having a lot of personal experience in the recruiting process, the recruitment starts with technology, and is finished with technology, but no system helps an athletic management team decide whom to recruit. As each coach has a unique style, and they are often not willing to reveal strategies, there is not much of the process captured in journals or articles. Having worked as a coach with three different coaching staffs, it can be said that the way technology is used does not differ much. The process starts by coaches being made aware of a prospect through social media then basic academic, contact, and physical information about the prospect is gathered, and dumped into a spreadsheet.

Once the basic information has been captured, the university tracks the visits a coach had to the school, as there are limits how often a school can be visited. Phone calls need to be monitored, as there is a limit of one call per week. The university will invite the prospect to campus for recruiting camps, which include athletic testing. The athletic testing captures some data manually, which is recorded in the initial spreadsheet. It is important to note that camps are open to any high school student, even some non-prospects, which often results in data captured for hundreds of athletes. When the season of the prospect starts, film becomes available, and is evaluated by the recruiters. Having the evaluated film and the data from the previous recruiting efforts, the coaches review the prospect list, and then must decide which prospects to offer.

At this point a lot of data is available, and not easy to see through, as it is stored in one spreadsheet or database. With NCAA regulations, the offer that goes to the athlete is often a 4-year scholarship, which is a long-term investment for the university. Although some athletes excel in athletic ability, it does not mean they are a good fit for the university. Thus, extending an offer is a greater risk. The available data does not offer insight on facts that relate to the current team and to which prospects it would be best to extend an offer. Every sport has a limited amount of available offers that can be made, which makes the decision process much more challenging.

## PROPOSED RESEARCH AGENDA

Having the details about the recruiting process at the collegiate level and seeing how DSSs are used in other areas of the sports industry, I propose to further research how DSSs can assist coaches to decide how to recruit talent more effectively. Further research into DSSs and how they can be designed to specifically fit the recruiting process is needed. The proposed research should aim to work with the end users to bridge the gap between current research in DSSs and include a review of recruiting guidelines set by the NCAA Bylaws. As collegiate football and basketball are the largest sports and cover all the recruiting periods including the ones smaller sports have, I propose to focus research on these sports first. A great amount of

research would include spending time with the end users, so that a system can be designed that includes the knowledge of how decisions are made. Furthermore, focusing on research of DSSs in sports could include the use of Artificial Intelligence to help with the decision-making process.

## CONCLUSION

As this call for research has presented, sports are starting to use DSSs in some aspects of the industry, but there is room for further research, specifically in the recruiting of athletes in collegiate sports. Having had personal experience as a coach, and being involved in the recruiting process, the technology is already in place, but the information was often not presented in a way that allowed for favorable decisions. The need for a DSS exists and, with regulations in collegiate sports changing often, it would be beneficial for coaches to have a system that helps in making the right decision when recruiting athletes. It would make it simpler to stay within NCAA regulations, which saves the university money, as breaking regulations often includes financial penalties, as well as being sanctioned from competitions that are generating high revenues. The potential benefits are not only for the coaches, but the whole athletics department. Since the sports industry makes a lot of revenue through ticket sales, having a DSS that helps recruiting the right talent could lead to increases in revenues. Saving costs and increasing revenues in a collegiate athletics department would also benefit the academic institution as a whole, as funds generated through athletics can be used to improve the institution.

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