Module 4. Scouting. Present and Future Perspectives

BARÇA INNOVATION HUB
Universitas

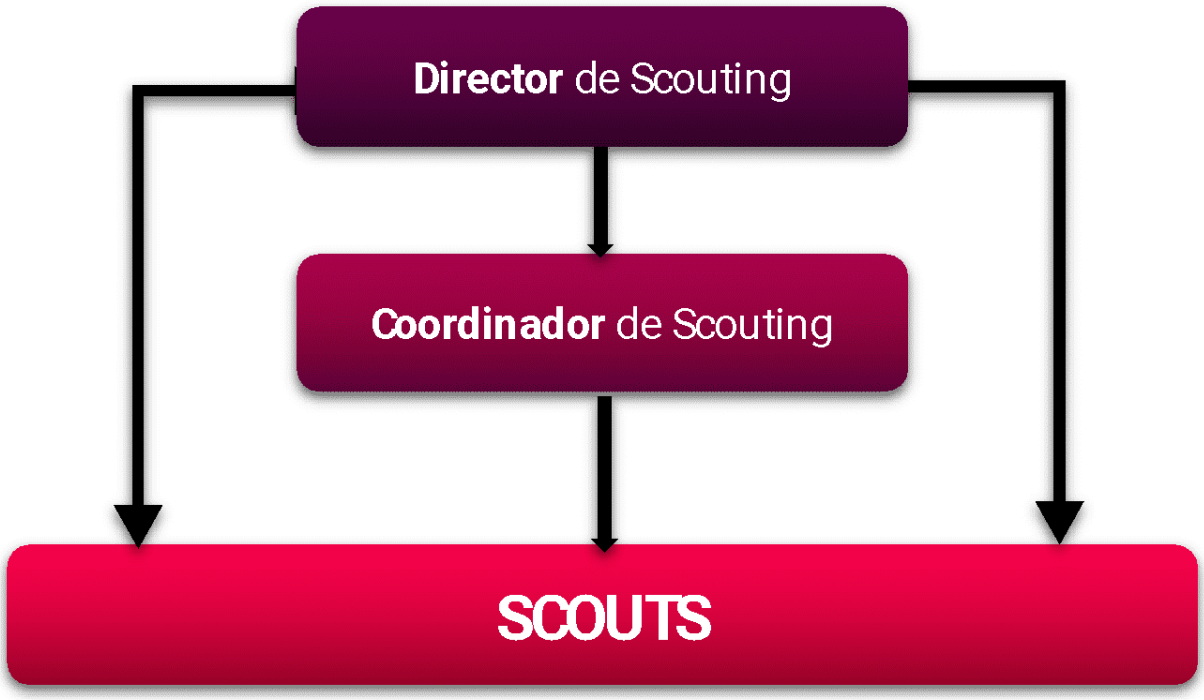
1. The Scouting Department

As discussed in earlier modules, the Scouting department has become essential for club development. With an effective Scouting department, clubs can ensure a steady stream of talent and optimize their resources, leading to both financial and athletic success. The level of professionalization in this department will depend on the club's resources.

Here's an example of a structure that works well if it's organized properly and staffed with qualified scouting professionals. Experience isn't a strict requirement but it adds significant value to the department, so it's crucial to have some experienced members.

The department will include a Scouting Director, a Scouting Coordinator, and Scouts.

Figure 1. Key Hierarchy of the Scouting Department

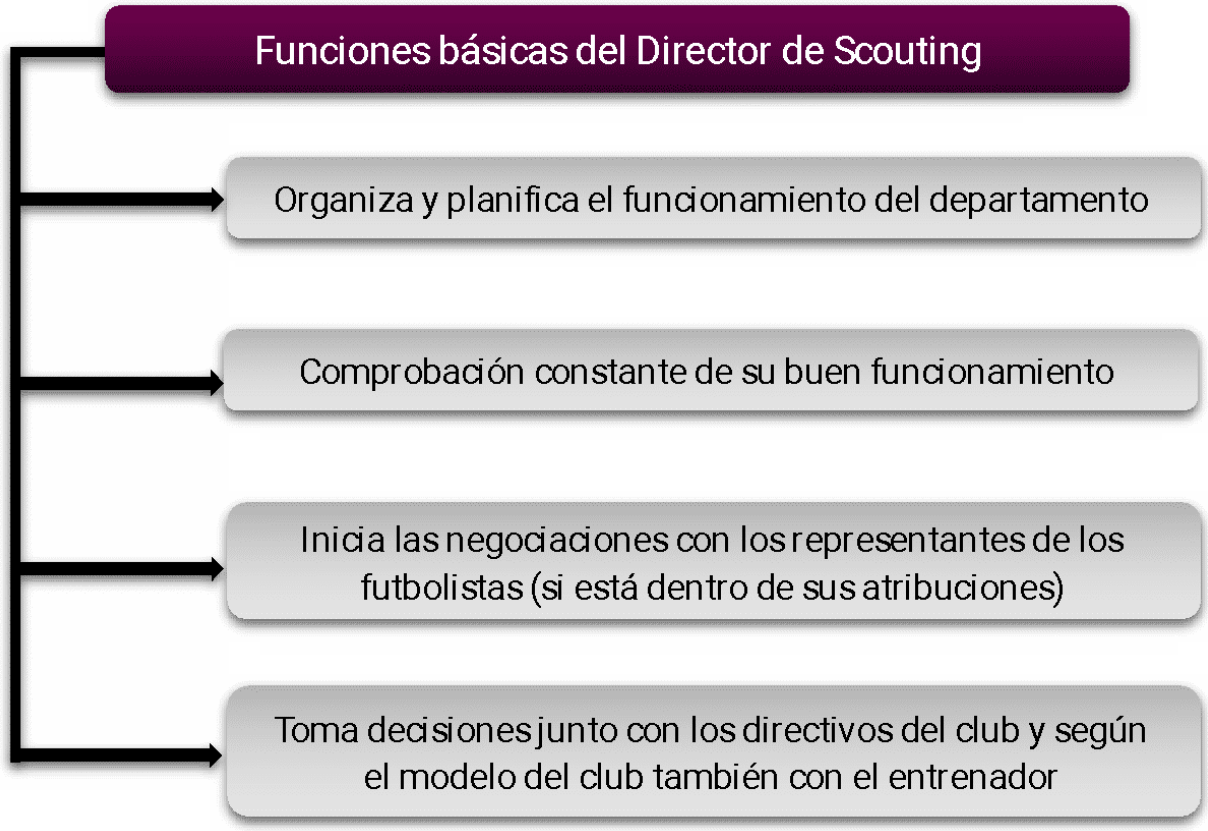


Source: Original work

Scouting Director	Director de Scouting
Scouting Coordinator	Coordinador de scouting
Scouts	Scouts

The **Scouting Director**, along with the Coordinator, oversees the entire scouting process.

Figure 2. Key Responsibilities of the Scouting Director



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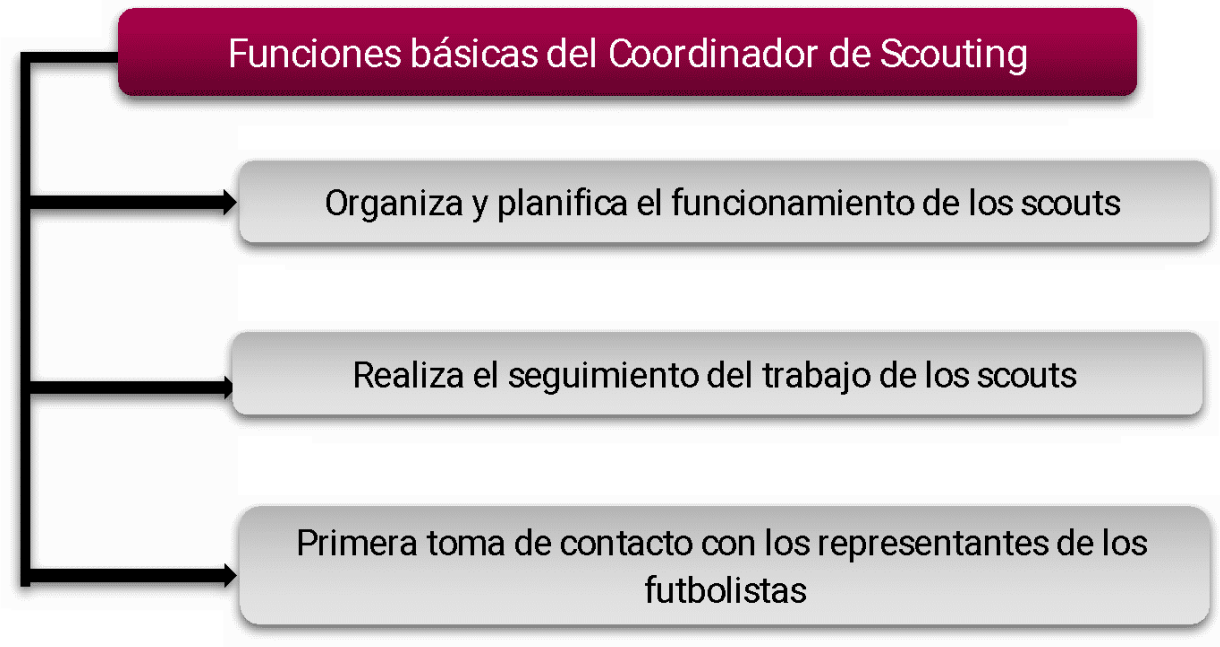
Key Responsibilities of the Scouting Director	Funciones básicas del director de scouting
Organizes and plans the department's operations	Organiza y planifica el funcionamiento del departamente

Ensures the department runs smoothly	Comprobación constante de su buen funcionamiento
Initiates negotiations with players' managers (if within their duties)	Inicia las negociaciones con los representantes de los futbolistas (si esta dentro de sus atribuciones)
Makes decisions with the club's management and, depending on the club's model, also with the coach	Toma decisiones junto con los directivos del club y según el modelo del club también con el entrenador

The **Scouting Coordinator** handles the daily operations of the department.

Figure 3. Key Responsibilities of the Scouting Coordinator



Source: Original work

Key Responsibilities of the Scouting Coordinator	Funciones básicas del coordinador de scouting
Organizes and plans the scouts' activities	Organiza y planifica el funcionamiento de los scouts
Monitors the scouts' work	Realiza el seguimiento del trabajo de los scouts
Makes initial contact with players' managers	Rimera toma de contacto con los representantes de los futbolistas

Scouts are responsible for observing matches and creating reports on players.

Figure 4. Key Responsibilities of Scouts

Source: Original work

Key Responsibilities of Scouts	Funciones básicas de los scouts
Plan their activities for the season (objectives, matches, tournaments...)	Planificar su actividad a lo largo de la temporada (objetivos, partidos, torneos...)
Attend scheduled matches	Asistir a los partidos planificados
Track player performances	Realizar el seguimiento de los futbolistas
Create reports on standout players	Realizar los informes de los jugadores destacados
Gather relevant information on players (background, representatives, etc.)	Recopilar información relevante sobre los futbolistas a seguir (entornos, representantes, etc.)
Collect and organize information about the region	Recopilar y ordenar la información sobre la zona o

or age group of players: competitions, categories...	edad futbolistas: competiciones, categorías...

In the next course, we'll explore other effective structures for a Scouting department, tailored to each club's resources and goals.

CONTINUAR

2. Types of Observation

As seen in Module 1, the world of scouting has continually evolved, driven by the need to gather as much information as possible to optimize club resources and make the best decisions when bringing new players to the teams.

Scouts have several observation methods to gather this information.

We differentiate between direct observation, video observation, and data analysis. Each of these elements provides information and complements each other to help scouts make the best possible recommendations for new recruits. The ability of the scout to select the most important aspects from each type of observation is crucial.

In direct observation, the scout attends various matches planned in advance under the supervision of the scouting coordinator, based on the club's needs.

This method is vital for assessing players' real-time performance. Scouts observe players' technical, tactical, physical, and psychological

skills live during matches. The information obtained from this type of observation is crucial for future decisions and is reflected in the scouts' reports. Some advantages of this method include:

- Observing the player's warm-up (checking their concentration, discipline, behavior before a match, skill level in certain actions, etc.). For goalkeeper scouting, it's useful to see their technical actions in saves, passes, etc., especially if they don't get much action during the match. If the player comes off the bench, you can also see them warming up on the sidelines.

- Constant observation of the player. You can always see the player, which might not be possible in a video if they're away from the ball or during a replay. In person, you can always watch them.

- You can observe their interactions with teammates, opponents, referees, coaches, etc. and see how they behave if substituted, for example. General attitudes can be observed.

- You can see the player in matches where no video is available, which is often the case in youth or amateur leagues.

- Better observation of the player. If you have a good seat, you see better live, and you can switch sides at halftime to get a closer look. Technology helps us, but nothing beats seeing a player live and feeling the same atmosphere they experience on the field.

Video observation supports and backs up live observations. When it's difficult to attend matches or there are multiple games at the same time, video observation helps scouts gather more information. This way, they can rewatch standout players seen live to focus on specific details or catch what was missed. Video platforms are increasingly accessible, making it easy to watch live or recorded matches.

Video observation is a crucial tool for scouts to complement live observations. Advantages include:

1. Video allows for more detailed player reports by reviewing certain actions repeatedly and examining them closely.
2. Scouts can add video clips to written reports to provide a concrete illustration of points made in the report.
3. It reduces travel costs for the club. Watching games on video makes scouting more economical by cutting

down on travel expenses.

4 It's more productive, especially in professional scouting. In youth football, many games are nearby, but in professional football, there are fewer matches per weekend. For instance, in the first division, if a scout travels to Seville to watch professional matches, they'll likely see only a few games over the weekend because there are fewer professional matches than youth games. Moreover, traveling takes more time compared to youth matches, which are often played in locations that are closer together. With video, you can watch 4-5 matches a day, which is hard to do live in professional football.

Data has become an indispensable tool in scouting departments, complementing and reinforcing direct and video observations.

Before data, scouts and analysts relied solely on their experience and observations. Now, scouting departments can access real-time data on all aspects of the game, like player speed, distance covered, and passes completed.

SOME ADVANTAGES OF SCOUTING WITH DATA INCLUDE:

1. Data helps identify patterns and behaviors in the players being evaluated.
2. Scouts use current and historical data to predict players' future performance.
3. It provides an objective view of player performance across different aspects and areas.
4. Data allows objective performance tracking in every game, not just a few. Live scouting may only allow you to see a player several times per season, depending on interest, but not all games. Data provides insights from all games for thorough analysis and follow-up.
5. Data can guide subsequent live or video scouting. For instance, if data shows a player excels in a specific variable, you can focus on them in video scouting.
6. Data can confirm or challenge our assessments. Data can help us confirm or challenge our assessments of the player. If data supports that a player has good numbers in critical areas, it can confirm our assessment. Conversely, if data is poor, it may lead us to reassess and scrutinize certain details.

As shown, these three types of observation provide relevant information to assess current performance and predict future performance.

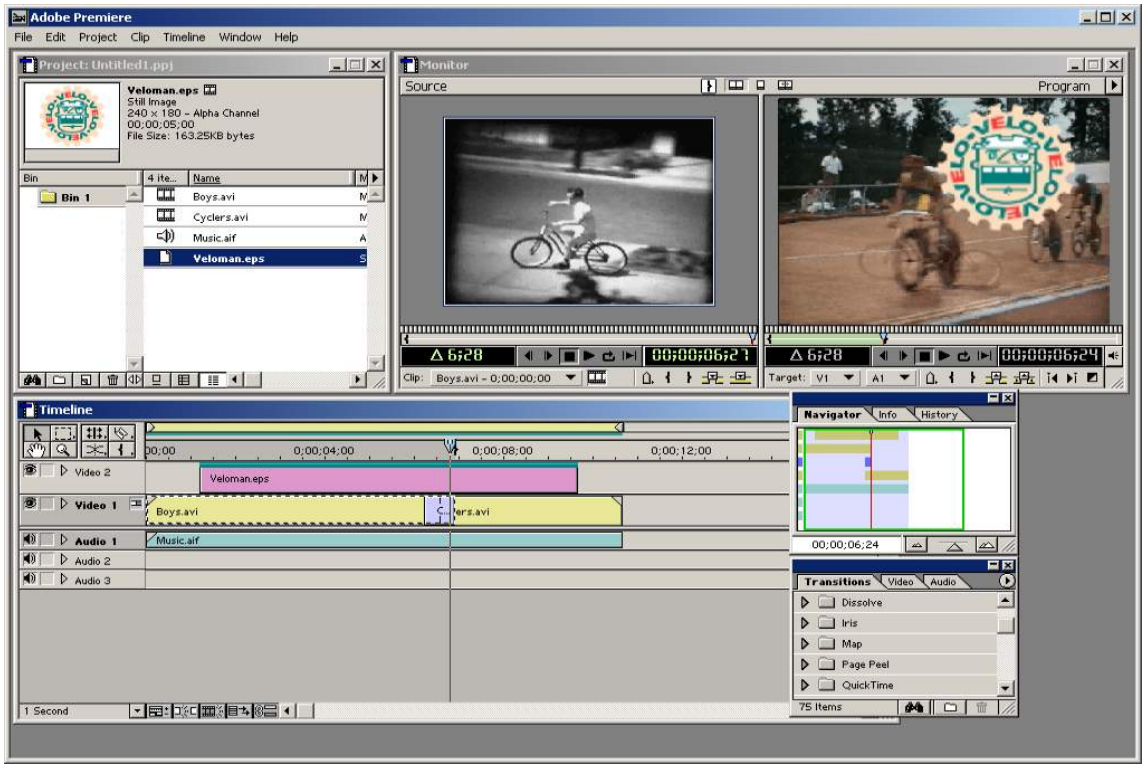
In video observation, the "**expert eye**" is crucial. This "expert eye," often seen as a natural talent, actually results from learning and experience. We process what we learn and experience to form an "expert" conclusion.

The more experiences we accumulate watching football and tracking players, the more we develop this "expert eye." Predicting a player's potential performance is easier if we've had similar experiences before.

Today, no scouting department can function effectively without **video analysis** for player tracking and reporting.

As seen in Module 1, advances in football have continuously improved decision-making processes in clubs. **Adobe Premiere** might have been one of the first video analysis tools used in scouting departments. Adobe is a video editing software that offers key tools for cutting, editing, and manipulating video clips. Although not originally designed for sports scouting, teams began using it frequently.

Figure 5. Adobe Premiere Interface



Over time, more specialized video software emerged. Today, programs like **Hudl, Sportscode, Longomatch**, and **Nacsport** are essential tools

in football scouting. These programs allow teams to analyze match videos to identify tactical patterns, strengths, and weaknesses of players and the team as a whole. They also offer tagging and marking tools to highlight key moments in the match.

Figure 6. Nacsport Software Interface

Source: Objetivo Analista, s.f., https://lc.cx/VPNwWS

Figure 7. Longomatch Software Interface

Source: Longomatch, s.f., https://lc.cx/5hygnm

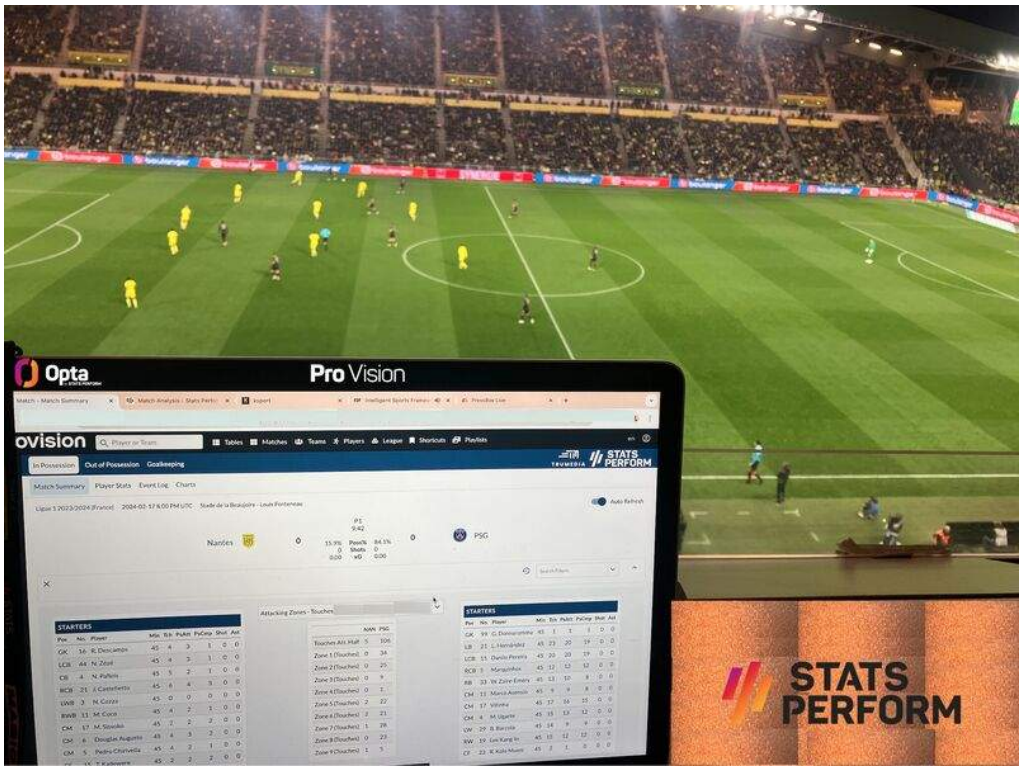
The advent of **data** in scouting departments has been revolutionary, making it unimaginable to operate without it in talent searches.

We will now present the various options currently available that are based on both current and historical data of each player. The current options for data analysis include **big data, small data, artificial intelligence, clusters,** and **machine learning.**

Big data in football scouting leverages technological advances to gather large volumes of data to assess player, team, and tactical performance. It helps collect, process, and analyze data beyond traditional statistics.

Some companies in the big data market include:

- **Wyscout** is a football scouting and analysis platform offering detailed statistics on players, teams, and matches. It provides tools for player scouting, performance evaluation, and talent management.
- **Opta Sport** is a leading company in collecting and analyzing sports data, including football. It provides detailed statistics on players, teams, and matches and offers data analysis solutions for clubs and media.
- **Stats Perform** offers a range of sports data analysis solutions, including real-time data, advanced statistics, player tracking, and video analysis tools.
- **Prozone Sports** is known for its sports performance analysis solutions, including real-time data analysis, player tracking, and video analysis tools. The company has worked with numerous elite football clubs worldwide.
- **Catapult Sports** provides performance tracking and analysis technology for football teams. Their solutions include wearable devices that track biometric and performance data during matches and training sessions.



The term small data

in football refers to the use and analysis of smaller, specific datasets, contrasting with the large volumes handled in **big data**. **Small data** focuses on more manageable and precise data, which is more relevant for making better decisions.

Brentford and Brighton, English teams, have developed algorithms to obtain their own data. Teams using small data need qualified personnel to collect and analyze this data.

Artificial intelligence is advancing rapidly, with companies specializing in football scouting using **AI** to process data. Some companies currently in the market include:

- **Olocip** is a predictive performance analysis platform for scouting and analyzing players based on scientific rigor, objectivity, and club-specific context.
- **Second Spectrum** provides teams with AI-driven video analysis tools. Their technology tracks every player movement on the field and offers

detailed performance data to coaches.

- **Sportradar** is a Swiss company that uses AI in its data analysis systems to provide more detailed player performance information and identify game trends. They present information through **radars** and visuals to compare players from different teams, making it easy for clubs to evaluate key characteristics.
- **S3Global** is a Seattle-based company pioneering human athletic movement and performance science through computer vision and AI. Founded by Jeff Alger and Laurence Leydier, they lead the sector in applying computer vision and AI in the football industry.
- **Zelus Analytics** is a U.S. company revolutionizing football with its algorithm, employing world-renowned data scientists.
- **EPV** uses an algorithm to measure a player's contribution to team performance.

Figure 9. Effectiveness of Spanish league forwards according to the artificial intelligence of Olocip. 2021-2022 season

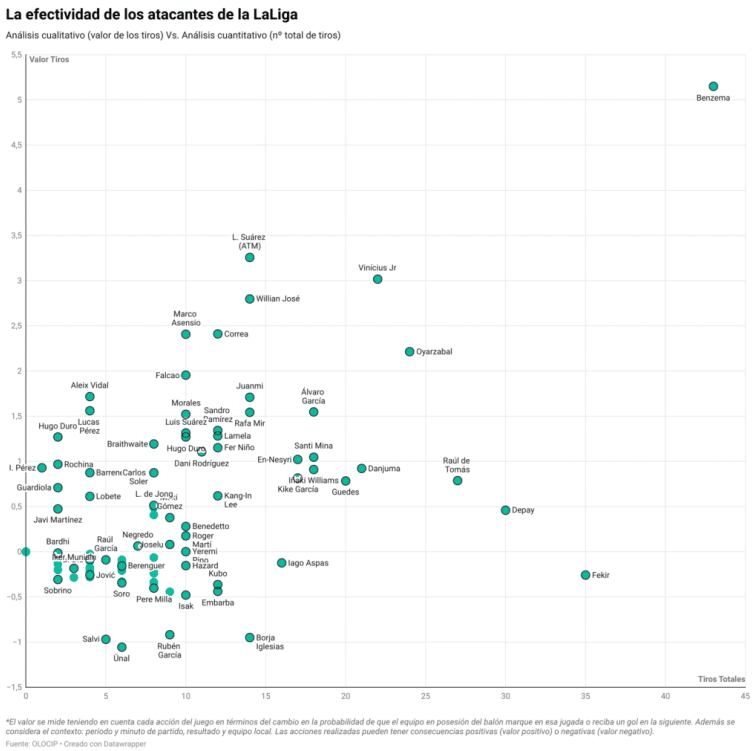
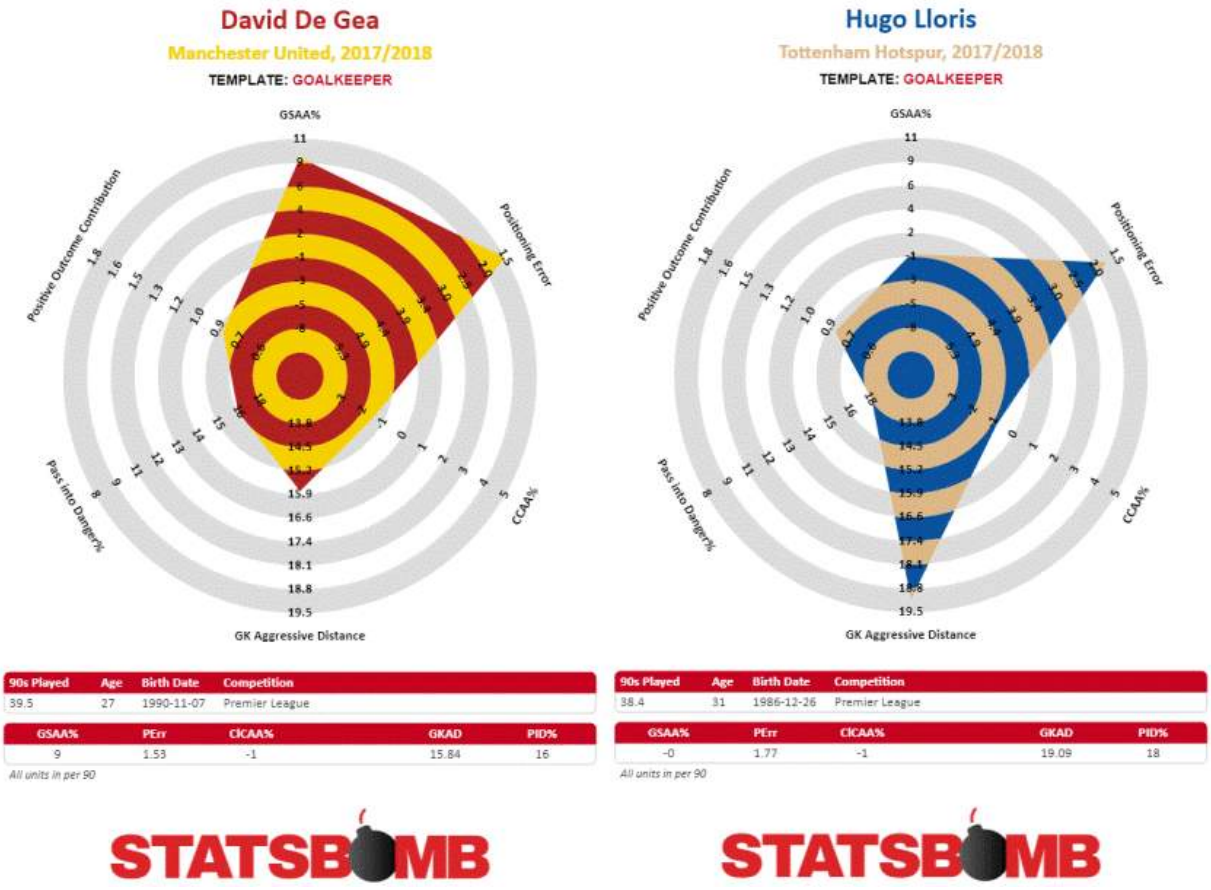


Figure 10. Comparative radar of goalkeepers David De Gea and Hugo Lloris provided by StatsBomb.



Source: StatsBomb, 2020, https://lc.cx/4sPjc9

Clustering is a method that organizes data into groups. Each of these groups, called **clusters**, is analyzed based on the attributes of each player. Companies like **Olocip** offer this technology to their clients.

They are used to identify specific player profiles in various competitions.

Finally, we have the term **machine learning**, which refers to the science of developing and implementing algorithms and statistical models that computer systems use based on observed patterns in data sets. The idea is for the system to learn from millions of plays, assigning a score to each one and thereby assessing the impact each player has on their team's performance and the opponent's. This provides an objective evaluation of the player's performance and predicts how they would perform at their new club.

Figure 11. Hypothetical Spanish national team lineup for the 2024 Euro Cup, according to artificial intelligence.

Source: AS, 2022, https://lc.cx/-VNOrY

The following table summarizes the content developed so far:

Table 1. Data Analysis Methods Applied to Footbal Today

DATA ANALYSIS METHODS APPLIED TO FOOTBALL TODAY	
BIG DATA	• This involves processing large volumes of data to evaluate player and team performance.

	• Its analysis goes beyond traditional statistics.
SMALL DATA	• It analyzes smaller volumes of data compared to big data. • It focuses on more manageable and precise data, losing volume but gaining relevance.
ARTIFICIAL INTELLIGENCE (AI)	• AI emulates and enhances human analytical capabilities. • In player scouting, AI is used to analyze, evaluate, and predict a footballer's performance in a specific context with certain variables.
CLUSTERS	• It organizes data into groups (clusters) based on player attributes. • They are used to identify specific player profiles in various competitions.
MACHINE LEARNING	• A system processes information from thousands of plays made by a

player, assigns scores to them, and creates a numerical profile of the footballer.

- These scores provide an objective assessment of the player and a prediction of their future performance.

Source: Original work

In summary, all these methods of data analysis, with their unique nuances, share the common goal of mimicking and improving human analytical capabilities, or at least covering a larger volume of data than humans can.

Their usefulness is clear. The debate over how useful they will be remains open.

CONTINUAR

3. Human Knowledge vs. Big Data

As we saw in Module 1 of this course, technological advances have gone hand in hand with scouting, providing more resources and objectivity to their decisions.

The combination of both types of knowledge is what will bring success in this field; teams considered benchmarks with successful signings have integrated both types of knowledge from the start.

A good scout brings all their knowledge, and as we mentioned earlier, that irreplaceable "expert eye"—based on all their experiences—adds value to the data provided by specialized companies in this sector today.

Data analysis can identify recurring patterns in players and deduce their future performance trends.

But it will be the human perspective that allows us to understand and contextualize those data to better grasp the individual circumstances of each player. For evaluating less quantifiable factors —such as attitude, work ethic, character, and environment—the human eye and scouts with training in scouting and experience in these situations are indispensable.

Therefore, the combination of technology and human experience allows for a more accurate and complete evaluation of players. The interpretation of data provided by technology will depend on the scout's skill, experience, and knowledge. A good combination of both types of knowledge will help Scouting Departments find the ideal player for their club and move closer to success.

The future of scouting will increasingly involve integrating advanced data provided by technology and the scout's human experience. A Scouting department that relies solely on one or the other option separately is not viable.

CONTINUAR

Self-Assessment

1. What benefits can clubs achieve with an effective scouting department?

- ○ Attract more sponsors.
- ○ Host additional fan events.
- ○ Ensure a steady influx of talent and optimize resource allocation.
- ○ Upgrade stadium facilities.
- ○ Develop innovative marketing strategies.

SUBMIT

Which of these are core responsibilities of a scouting coordinator?

- [ ] Establishing initial contact with players' managers.
- [ ] Establishing rapport with the club's president.
- [ ] Conducting in-depth analysis of training data.
- [ ] Monitors the scouts' work.
- [ ] Organizes and plans the scouts' activities.

SUBMIT

1. What does direct observation entail in the scouting process?

- Scouts only review match footage.
- Scouts organize fan engagement events.
- Scouts attend pre-selected matches under the guidance of the scouting coordinator, focusing on the club's requirements.
- Scouts handle administrative tasks for the club.
- Scouts exclusively analyze player statistics.

SUBMIT

1. What is the primary role of video analysis in football player scouting?

- To completely replace in-person match attendance.
- To support and enhance live observations.
- To organize events for players' families.
- To focus solely on statistical analysis.
- To develop club strategies.

SUBMIT

1. Big Data in football scouting leverages technological advances to gather large volumes of data to assess player, team, and tactical performance.

- True

False.

SUBMIT

CONTINUAR

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