

Module 1. The Importance of SPs— An Introduction to Their Analysis

In this reading, we will try to determine the relevance of set pieces (hereinafter SPs) in current elite football, starting from the very nature of these actions until we emphasise the weight they can have in the game, the result (following its relationship with the goal) and, ultimately, the performance of a team.

Having brought to light the need for SPs analysis, we will enter the general parameters of the study of these actions by reviewing the SP analyst functions. All this will undoubtedly contribute to an exhaustive and detailed analysis of these actions, thus facilitating the optimisation of set pieces.

Unit 1.1 Introduction to SPs

Surely, when hearing about set pieces, it is inevitable for you not to think about goals from corners, free kicks or penalties that have been totally transcendental and decisive to win and lose titles or gain category promotions, among other achievements. In this first part of the module, we consider essential for the analysis and subsequent optimisation of performance in these actions to delve into the theoretical bases and in the conceptualisation of set pieces, as well as the impact that these actions have on the game and in the final score. This tour will provide you with a broad perspective on how important set pieces can be in today's football.

Clarification of Terminology

Traditionally, we have heard the term strategy to refer to corner kicks, indirect kicks, or throw-ins in a football game. Nothing is further from reality since the definition of strategy is understood as those actions that we propose and plan to achieve a specific objective. Thus, when we talk about strategy, we are referring to a term lacking specificity and that cannot encompass all the resumes of the game either. For this reason, the bibliography proposed for this module, and headed by Silva (2011), begins by introducing the concept of set pieces.

When we talk about SPs, we will refer to all restarts that take place in the game, including the following:



- kick-off
- goal kick
- throw-in
- direct free kick
- indirect free kick
- corner kick
- penalty kick

Conceptualisation/Introduction

After this necessary conceptual clarification, it is interesting to investigate the nature of this type of actions to understand the possibilities that these moments offer us from a general vision encompassing all the SPs.

In all set pieces, the game is restarted from a standing position, either with the hand or with the foot; by regulation, the opponent is obliged to respect a certain distance from the kick or throw-in. It should also be remembered that the team in possession of the ball will start the game when they find it convenient, as long as the time to resume the game is not exceeded, which may be grounds for infringement if the referee considers it. These peculiar conditions of the SPs make us identify them as relatively stable situations within the dynamic and complex context that is football, in which the great uncertainty that this sport entails is undoubtedly reduced.

This relatively restricted nature facilitates, to a certain extent, the unification of criteria to observe and categorise these actions and, consequently, it benefits the SPs analysis and their subsequent optimisation. In short, the reduction of uncertainty in these actions can facilitate, or just simplify, certain aspects to improve performance at this time, going through an exhaustive analysis of own and also rival team and, obviously, training these situations with the methodology chosen by the coach and their coaching staff.

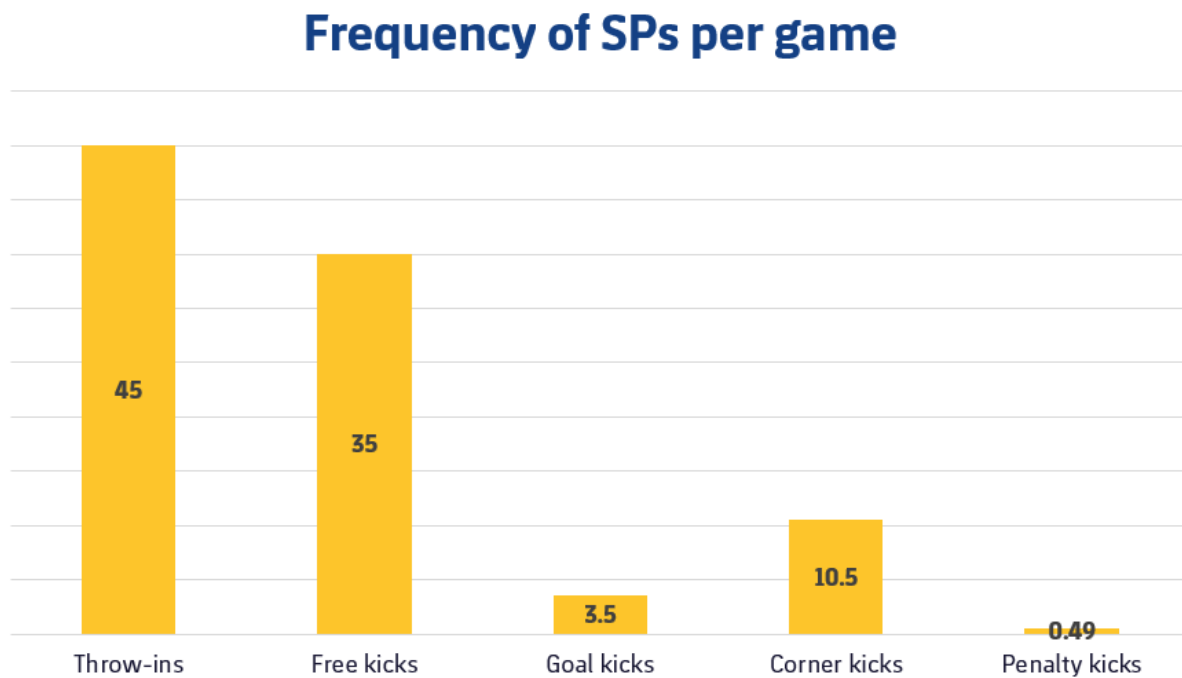
At this point, we wonder how important SPs are in today's elite football. There are many authors who have published bibliographic studies about the incidence of these actions at a statistical level with the intention of observing the importance and, in this case, the frequency that they have within game.

Based on the bibliographic review by Maneiro (2014), who investigated the main statistical studies on the frequency of SPs in professional football, we can determine that 110 SPs are produced on average per game. Along the same lines, he also added that the time referring to these interruptions, that is, the time in which the ball was not in play, could represent 40% of the total time of the game.

Maneiro (2014), summarising and specifying the different types of SPs, determined an average of 45 throw-ins, 35 free kicks, 20 goal kicks, 10 corner kicks and 0.4 penalties per game.



Figure 1: Frequency of the main SPs per game



Source: own elaboration based on Maneiro, 2014

The exposed thesis undoubtedly reinforces the idea that this aspect of the game (often overlooked or understood) must be taken on with its corresponding analysis and optimisation just because of the times the team will find itself in these situations.

Likewise, the performance of the SPs will be totally independent from each other. That is to say, it is obvious that we will not have the same objective, at least in the short term or with immediate effect, in a goal kick as in a direct free kick on the edge of the rival area. We must be very aware of this since there are many lines of research that relate SPs (especially corner kicks and free kicks) to goal scoring. However, there are few studies that relate, for example, throw-ins to keeping the ball or goal kicks to overcoming the opponent's high pressure. Therefore, we should know well that the objective will not be the same in all SPs and, consequently, the possibilities of resolving the situations in each of them will also be totally different. We will specifically address these possibilities when we dedicate ourselves to analysing each SP in particular (Module 2).

Along the same lines, the SPs analysis will be key to providing the players with resources, and that they can solve the problems arising in these situations, which, although they are restricted, do not cease to be part of this sport and the complexity and high level of interaction that it entails once the ball is in play.



The impact of SPs on the score

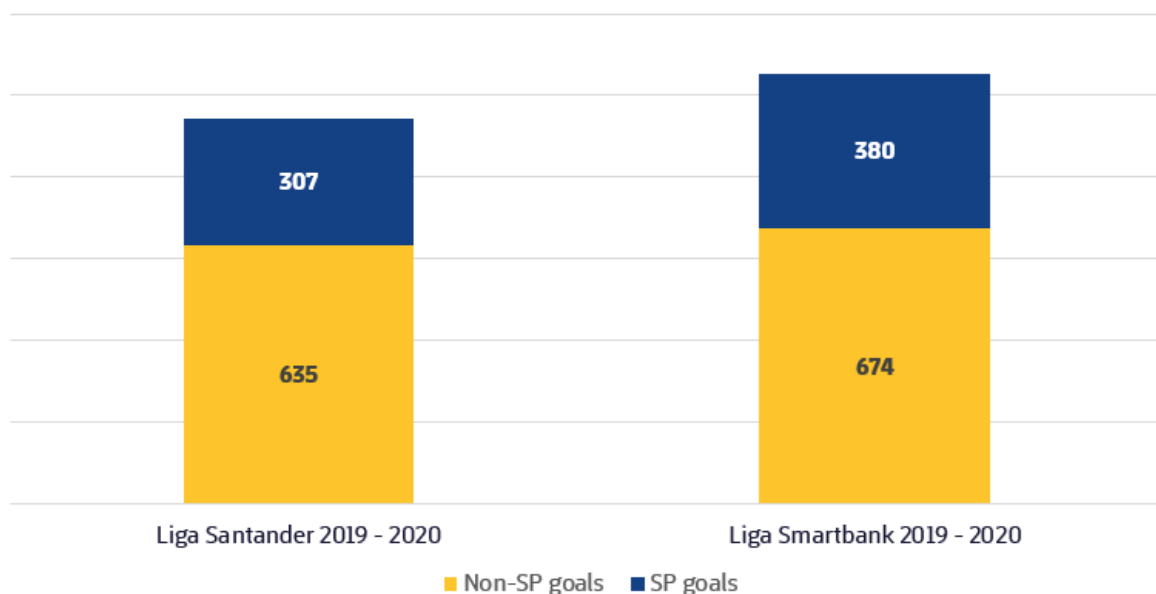
Without playing down the importance of the different objectives or goals to be achieved in each set piece, next, we proceed to determine the significance of SPs in relation to the achievement of the goal and, consequently, highlight its importance in current elite football.

Examining the data presented by Silva (2011) and Maneiro (2014), which is based on an exhaustive bibliographic review on the main studies that relate SPs to goal scoring, we can observe how these set pieces represent approximately between 30% and 35% of the goals in professional football. Both Silva (2011) and Maneiro (2014) coincide in setting the figure of this approximation at 32%, which is slightly different from the studies published before the century, where the results were very disparate and there used to be no coincidences between the authors. It should also be noted that this percentage may vary depending on the game since it has been shown that in direct elimination competitions, SPs can represent a higher percentage of the total goals of that competition.

In short, and as a summary, the authors of the current bibliography agree that between 30% and 35% of the goals come from a SP, or in other words, 1 in 3 goals is scored through a set piece.

In this sense, it can be seen how in the 2019-2020 season of the Liga Santander, a total of 307 goals were scored through set pieces. Relating this data to the 942 goals that were scored throughout the league, we highlight that SP goals represent 32.4% of the total. Similar results are found in the 2019-2020 Liga SmartBank, where of the 1054 goals scored, 380 (that is, 36%) were made through SPs.

Figure 2: Distribution of the goals scored in the Liga Santander and the Liga SmartBank
Distribution of goals 2019-2020



Source: Own elaboration of the FC Barcelona analysis department

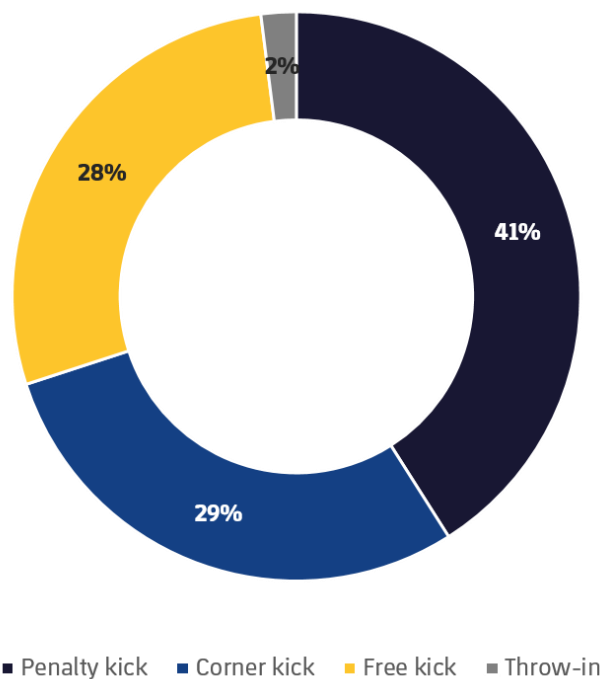
As we have said, the ratio of goals scored through an SP to the total goals of a competition is usually higher in direct elimination competitions. The most evident and recent case is found in the 2018 World Cup in Russia, where, according to Kubayi (2020), 66 goals were made through an SP, thus representing almost 40% of the total goals scored (169).

It should be remembered that within this range are penalties, an SP with a certain uniqueness due to its high rate of effectiveness or, which in this case is the same, high probability that said action ends in a goal. It is true, then, that set pieces represent a high percentage of the goals scored in current football, but it is also true that penalties take on a large part of the effectiveness of this percentage, differing, for example, from corner kicks, which are plays with a much lower effectiveness ratio.

Continuing with the data referring to the Liga Santander 2019-2020, to confirm the high incidence of penalties and identify the effectiveness in relation to the goal that each set piece has separately, let us observe how, of the total goals scored by SP, 41% were from penalties, 29% from corner kicks, 28% from kicks (considering direct free kicks and indirect free kicks) and 2% after a throw-in.

Figure 3: Distribution of the goals scored through each SP in the Liga Santander

Distribution of SP goals in the Liga Santander between 2019 and 2020



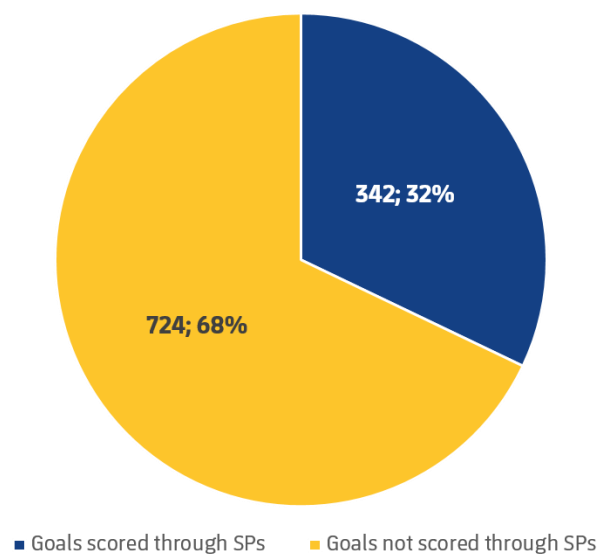
Source: Own elaboration of the FC Barcelona analysis department

With a clear vision of the number of goals that are made through set pieces, we will go a little deeper and try to specify the importance of those goals. In other words, we will proceed to determine whether SP goals are really significant in the score and, consequently, in the team's place in the standings.

To address this objective practically, and avoiding abstract and meaningless conclusions, we will focus on a study carried out by the FC Barcelona Department of Analysis (Molina, 2018), where the importance of the SPs was studied taking as a sample all the games of Spanish Second Division (at that time, Liga 123) corresponding to the 2017-2018 season. The object of the study was divided into two lines of research. A first one, where these plays were basically related to the achievement of the goals, in which results very similar to those discussed so far were obtained: 342 out of 1066 goals were scored by SPs, thus confirming the average of 32% of goals through a set piece.

Figure 4: Distribution of the goals scored in the 2017-2018 season of the Liga 123

Classification of the goals based on whether they were after SPs or not



Source: Molina, 2018. p 7.

On the other hand, and focusing on the influence that these SP goals really had on the game result and classification, the second line of research tried to give a SP score to each team comparing 3 different methods.

- Method A: a score was awarded to each SP goal based on the importance that goal had on the scoreboard, following the criteria set out in Table 1.

Table 1: Method for determining the importance of goals scored through SPs

1. *Maximum 1: the goal after SP has broken the tie and has allowed winning the game, being the decisive goal. (3p)*
2. *Maximum 2: the SP goal has allowed them to take a 2-goal advantage that has given tranquillity and the game has been won. (3p)*
3. *Maximum 3: the goal after SP has allowed getting ahead of the scoreboard, and then, some more goals have been scored and the game has been won (it has been won by 1, 2 or more goals difference). (3p)*
4. *Maximum 4: the goal has allowed taking a two-goal advantage and then the rival has scored and is one goal away from tying the game. (3p)*
5. *Medium 1: the goal after SP allowed tying the game and then winning it. (2p)*
6. *Medium 2: the goal after SP has allowed tying the game (regardless of whether it has been scored to get ahead on the scoreboard or to tie it). (1p)*
7. *Medium 3: the goal allowed taking an advantage of more than one goal, but then the game was tied. (1p)*
8. *Null 1: the goal after SP allowed getting ahead of the opponent or increasing the advantage, but in the end, the game was lost. (0p)*
9. *Null 2: the goal after SP allowed tying the game, but then it was lost. (0p)*
10. *Null 3: the goal after SP has allowed taking an advantage of 3 or more goals. (0p)*
11. *Null 4: the goal after SP has reduced the gap on the scoreboard but has not given any advantage to get any points. (0p)*

Source: own elaboration based on Molina, 2018

Following the method set out in the previous table, the maximum score that a team can have in a game is +3, with which, in the event that it scores more than one SP goal, the most decisive one in relation to the final result, that is, the one that gives the most points in the previous table, will be considered. It should also be noted that the score obtained by one team will automatically be the same as that obtained by the other team in negative. For example, if one team gets +3, the other team would get -3 and therefore it would have a negative SP score in that game.

- Apart from the previous example, an analysis was also performed using a second method where only differential goals were scored, that is, those that make win or tie the game. In conclusion, goals that do not give that advantage on the scoreboard, whether scored before or after the “differential goal”, will not be taken into account.

- The latter method, however, established a weighting system in which the number of SP goals by the points obtained among the goals scored in that game was taken into consideration.

Next, the classification table is presented relating the 3 commented methods (method 1: C-A, method 2: G-D and method 3: G-PO), based on the performance in SPs of the 2017-2018 season of Liga 123 (Spanish Second Division).

Table 2: Relationship between the classification table and the performance in SPs

		Totals			Totals +			Totals -			Total Games Scoring +	Total Games Scoring -
		C-A	G-D	G-PO	C-A	G-D	G-PO	C-A	C-A	C-A		
1	Rayo Vallecano	32	36	26,05	41	39	28,8	-9	-3	-2,75	17	3
2	Huesca	28	10	16,5	41	20	22	-13	-10	-6,5	15	5
3	Zaragoza	10	4	5,5	22	13	13,5	-12	-9	-8	10	4
4	Sporting	0	3	-0,25	23	17	14,5	-23	-14	-15,5	9	9
5	Valladolid	25	16	15,2	37	28	22,95	-12	-12	-8,75	17	5
6	Numancia	5	-4	2,5	22	13	16	-17	-17	-13,5	10	7
7	Oviedo	10	4	8,5	27	18	19,5	-17	-14	-12	11	7
8	Osasuna	21	15	12,75	31	25	24,25	-10	-10	-11,5	15	5
9	Cadiz	21	21	17	28	28	23	-7	-7	-6	12	3
10	Granada	-3	-12	-6,5	24	15	14,5	-27	-27	-21	10	11
11	Tenerife	9	6	3,6	25	16	13,35	-16	-10	-8,75	11	6
12	Lugo	-2	7	-3,5	32	29	23	-34	-22	-26,5	14	12
13	Alcorcon	-12	-6	-8,25	15	12	8,25	-27	-18	-16,5	7	9
14	Reus	-5	-3	-3,5	19	16	15	-24	-19	-17,5	7	11
15	Nastic	-21	-15	-14,25	10	4	5,5	-31	-19	-19	4	11
16	Cordoba	-7	5	1,45	18	15	13	-25	-10	-11,55	8	10
17	Albacete	5	5	2	24	21	16	-19	-16	-14	10	7
18	Almeria	15	9	7,5	30	21	18	-15	-12	-10,5	12	6
19	Cultural Leonesa	-16	-4	-7,55	23	20	13	-39	-24	-20,55	10	15
20	FCB B	-20	-17	-15,75	12	9	5,75	-32	-26	-21,5	5	14
21	Losca	-32	-29	-14	13	10	7,5	-45	-39	-20,5	5	16
22	Sevilla Atl.	-25	-16	-11	15	15	12	-40	-31	-23	7	14

Source: Molina, 2018. p 8.

When analysing the results of table 2, it can be seen how the 2 teams that obtained the best difference between points obtained and points subtracted, due to their SP goals, ended in 1st and 2nd place; therefore, they were promoted to First Division. In addition, we can also highlight that none of the first 9 obtained a negative score in SPs. On the contrary, we see how 3 of the 4 relegated teams obtained the worst results in SPs, a fact that is reaffirmed in any of the 3 methods used. Another aspect to highlight is the positive score



that Almería presented with respect to its direct opponents, a factor that undoubtedly contributed to achieving its goal of remaining in the category.

Despite presenting only data relating to one season, this study reveals the weight of SP goals in the final result. Obviously, the results obtained are not a constant in all leagues or in all seasons, what is more, we would fall into an error if we believed that the relegated teams are always the ones that get the weakest performance from the SPs and that the champion is the one which optimises the most those types of actions.

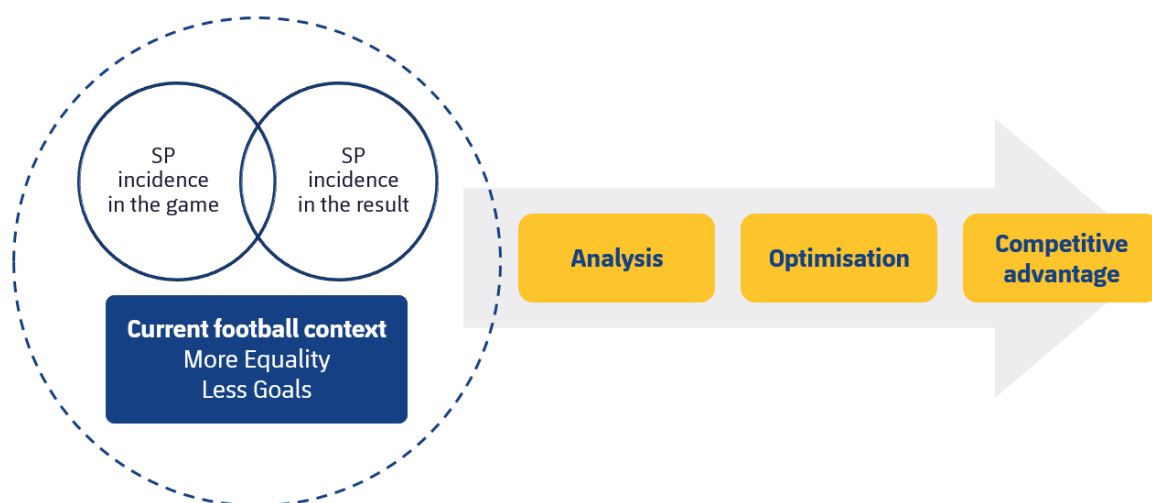
Even so, and being clear that there is no directly proportional relationship between our performance in SP and our place in the standings, we are right if we consider this moment of the game as a key factor that can bring us closer or further away from our objectives.

Need for analysis

It is no secret that today much fewer goals are made than 70 years ago, nor is it the obvious evolution that football has had, focusing on parameters such as the professionalism of athletes and coaches or the appearance of game systems, with the increased “order” and rigidity that this entails, among others.

Everything discussed so far confirms the incidence of SPs in football and, therefore, the need to examine them. Now, as in the dynamic game analysis, we must add a key factor to the study of these actions, much commented on in the first edition of the certificate: *big data* or, rather, *smart data* since we are talking about intelligent data, the one that will be useful to us. With the help of the appropriate technology, we will have much easier analysis of set pieces and our reports will increase their value and reliability.

Figure 5: Need for SPs analysis in the context of current football



Source: own elaboration

There is no doubt that in the context of equality and tactical rigidity in which current football finds itself, SPs emerge as a golden opportunity to score the goal. For this reason, the need for an in-depth analysis of these actions arises with increasing force in order to optimise their performance and obtain a competitive advantage over the rival.



Unit 1.2 Introduction to SPs analysis

At present, the figure of an analyst or technical expert in set pieces within the coaching staff or people with that function within the club's own analysis department is increasingly necessary. The fact of having a person, with football knowledge, specialised in SPs, already makes by itself that we are giving importance to this facet of the game, which will have a much deeper and more exhaustive analysis than if that task had to be performed by the coach or the assistant coach. The level of specificity to dedicate to the study of SP has to be high and, surely, in clubs where there is no figure of an expert in SP, these actions may remain in the background for the analysis of the second coach or the analyst.

Nothing is further from reality: it is key to understand that an aspect or facet of the game that determines 32% of the goals and with a frequency of approximately 110 times per game must be addressed in depth and with the maximum level of detail possible.

Realistically, it is obvious that not all professional football clubs have sufficient resources or, sometimes, the intention to include an analyst or technician exclusively for the SPs or to have analysts in their department who have among their main functions to examine these actions. Even so, the people in charge of it must carry out an exhaustive analysis for the subsequent optimisation of these plays, so the analysis will always be based on the coach's demands and should focus on providing information that can later become a resource that helps the players to solve these plays in the most optimal way possible.

Although the focus that we dedicate to each SP will depend on the demand of the coaching staff, the most transcendental actions must always be addressed due to their relationship with the goal, such as corners, penalties, free kicks and, perhaps to a lesser extent, throw-ins in the finishing zone. Depending on the coach's requirement, we will assign more or less importance to actions that are further away from the goal, such as the kick-off, the throw-ins in the middle zone or the free kicks away from the goal.

In addition, it may be common that, depending on the context, the same person is not in charge of the analysis of all the SPs. Thus, as a specific case, it may happen that the person responsible for the analysis of direct free kicks (referring only to those which are kicked directly at goal) and from penalties, be the goalkeeper coach. This may be due to their close relationship with the goalkeeper and the technical-tactical needs of the action in question. Although without a doubt, it will depend, among other things, on the level of analysis that said coach has.

Another case where there are more people working in SPs (common in clubs with large infrastructures) would be in the information leaked by the data analysts directly to the set piece analyst. In this case, they would stick to their demand to try to extract only that useful data which the analyst can then use with added value, in front of the technical staff.



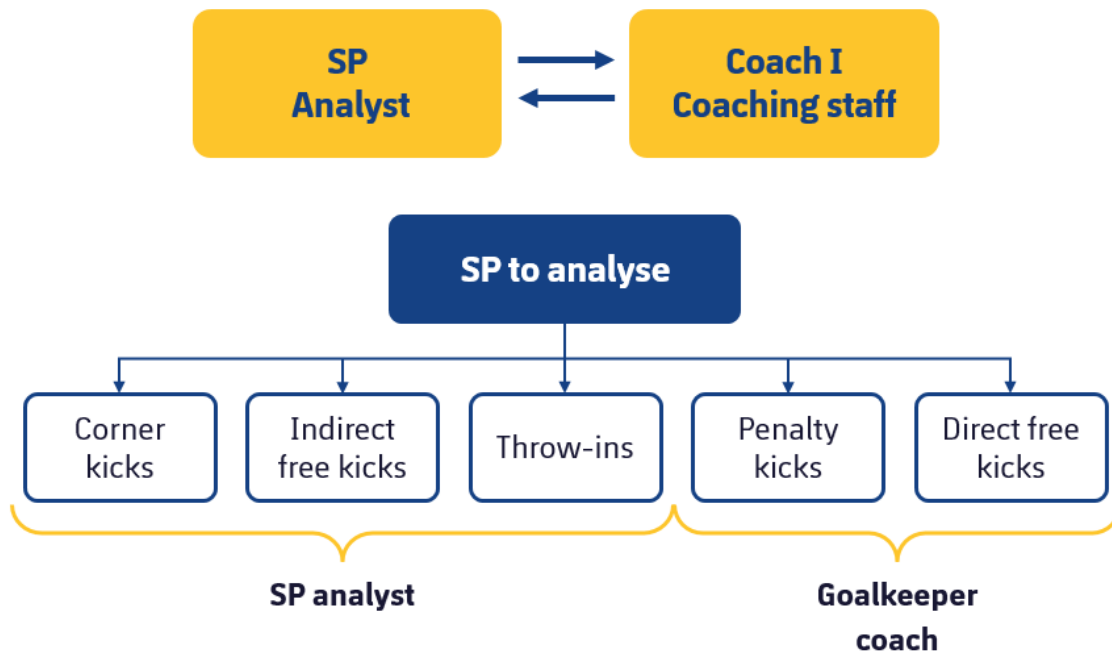
General parameters of the SPs analysis

Next, the process of organising the parameters or general aspects of the analysis of the SP is exposed, understanding it as the establishment of the bases that will make up a concise and detailed analysis method of a flexible nature, which will be in continuous adaptation based on two key variables that we must bear in mind: the coach's demand and competitive demands. In this process, the main pillars of SP analysis will be established and, therefore, a constant synergy will be maintained with the requirements of the coaching staff, obviously in tune with the expert vision of the analyst. First, the relevance of each SP will be determined, the criteria to define and limit them will be established, the variables or important aspects to be analysed in each SP will be identified and, last but not least, the mode and timing in which to present such information will be determined.

For the analysis of set pieces, it will be essential to clarify with the coaching staff the main needs or demands for analysis. First of all, we must understand the coach's sensitivity towards each SP, and from there, agreeing with them, establish how the set pieces will be organised in general terms, that is, we will define to which extent we will approach each action. It should be noted that this part of the process will be especially variable and flexible and may be modified at specific times of the season. For example, surely in a team that has scored 4 goals from throw-ins in 5 games, the need to give more importance to the analysis of said action arises and, with it, more study time to be more likely to optimise it as soon as possible.



Figure 6: Proposal for the organisation of general demands for SPs analysis



Source: own elaboration

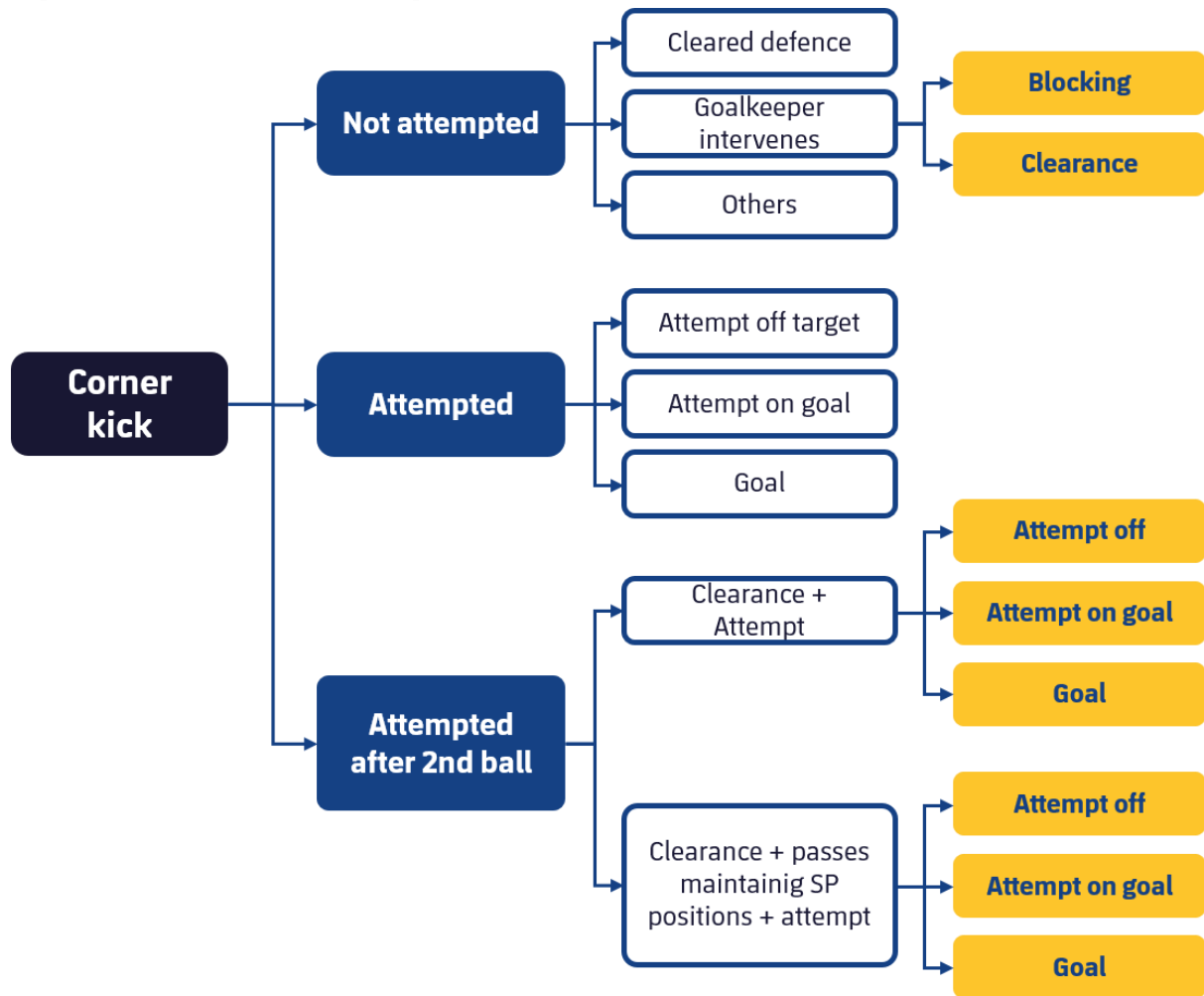
Once the SPs to be analysed have been defined, the analyst, sharing their knowledge and based on the coach's point of view, will set the criteria that will define each set piece.

This step, undoubtedly of a rigid nature, will be of great importance in the process and is essential for the analyst, the coach, and technicians to speak a shared language in each SP. Everyone knows how to define or identify what a corner kick is, but doubts arise when asking questions such as the following: Is a clearance goal considered a corner kick goal? When do we understand that a throw-in becomes an organised attack? It will be key, therefore, to agree on parameters or criteria to clarify the scope of each set piece. The ideal scenario would be to establish criteria in detail with the help of the analysis department, always respecting and adapting to the coach's point of view.

Below is a practical proposal of criteria for each SP.



Figure 7: Proposal for defining criteria for a corner kick



Source: own elaboration

We can see how, in the previous proposal, it is specified that the corner kick can end in three different ways: **not attempted, attempted, and attempted from 2nd ball**. In the first option, this can end with the intervention of the goalkeeper (either blocking or clearing), with the clearance of a defender or with other possibilities such as an attacking free kick, an offside, a loss, a crossed ball that goes directly out or a corner kick that ends in an organised attack at the moment in which the players recover their usual positions. In the other two options, understanding that there is an attempt, we differentiate the direct attempt and the attempt from 2nd ball. In the latter, the **2nd ball clearance + attempt** has been distinguished, that is, the one in which the team does not make any pass, but the player who obtains the clearance attempts directly. And, on the other hand, the **2nd ball clearance + passes maintaining SP positions + attempt**, that is, the team obtains the 2nd ball and makes a certain number of passes, the players maintaining the same positions in which the corner kick started (the players have not returned to their normal positions yet) before attempting. This criterion is key and will be basic since in the 2nd balls and clearances are where doubts usually appear, which becomes latent when we observe

that the analysis platforms, with the same sample of games, present different results of goals scored in corner kicks or lateral free kicks.

Unlike the beginning of the SP, there is no written and universal law that determines when actions such as corners and free kicks end; therefore, the entire coaching staff have to believe in the established criterion, being the right one for them. In this case, for example, as we have commented, it is considered that as long as the players maintain the SP positions, it is still considered a corner kick and if there was an attempt after making 8 passes in the box front after a short kick or after collecting a 2nd ball would still be considered an attempt or SP goal.

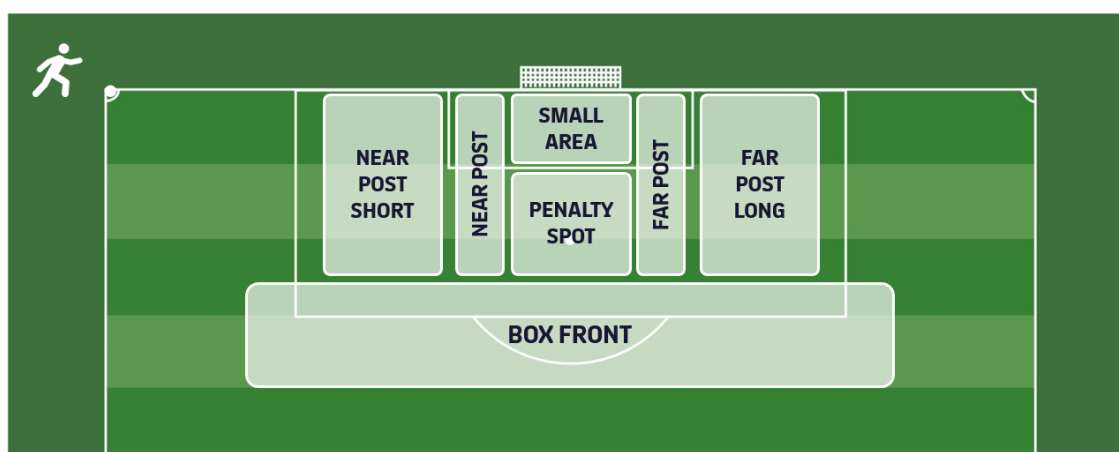
In other cases, however, being just as lawful and correct, it is possible to establish a criterion, such as the number of passes, to stop considering this action as SP. For instance, when a team obtains the clearance of the defender, makes less than 4 passes and attempts, it will be considered a 2nd ball SP attempt; on the other hand, if it makes 5, by the same criteria, that attempt will not be considered SP for that certain coaching staff.

We also include, within the definition of criteria, an aspect such as the delimitation of zones for each SP. It will be essential that all members of the coaching staff understand in the same way what a corner kicked to the near post or to the penalty spot is.

We are not only talking about delimiting those zones in which the ball can go in order to structure the area, but at this point in the process it is also relevant to delimit the field zones based on each SP. For example, the free kicks that are thrown indirectly (crossed) can be delimited or named in different ways.

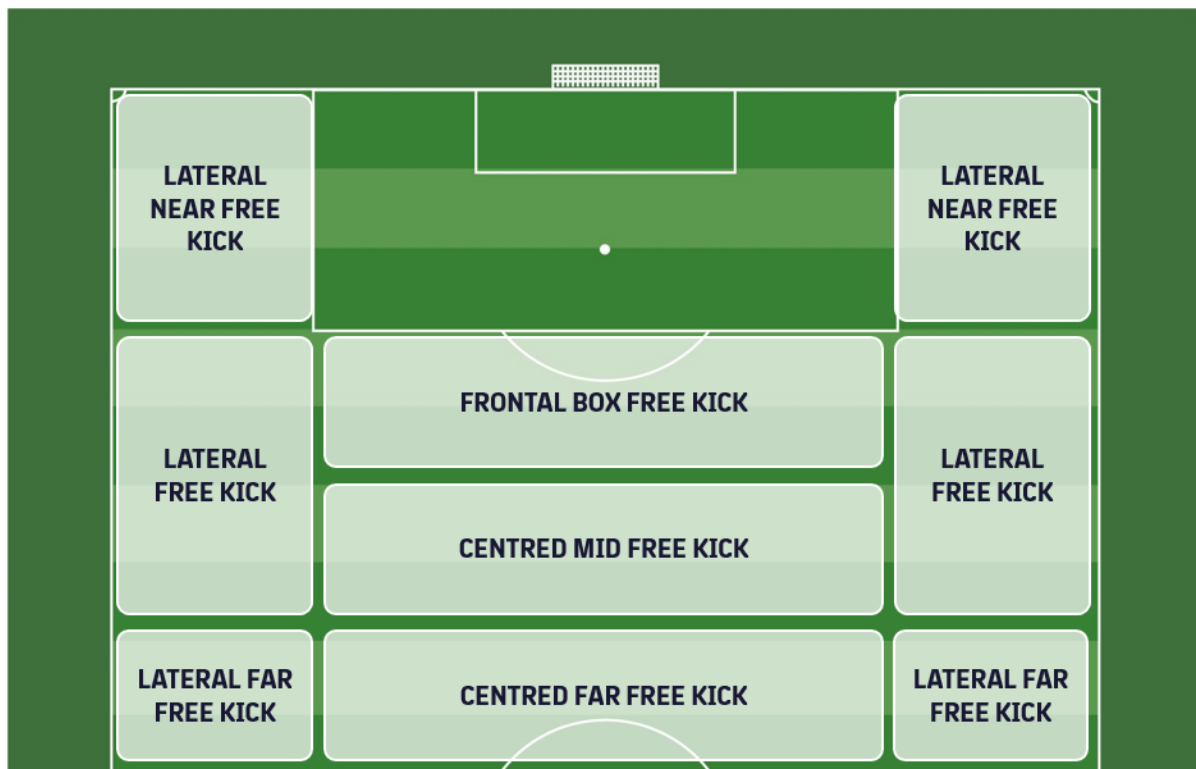
Next, a proposal is made to delimit the spaces of the zones of the box in a corner kick (Figure 8) as well as the different spaces that we can take advantage of to classify the free kicks (Figure 9).

Figure 8: Proposal for defining criteria in a corner kick (zones of the box)



Source: Own elaboration based on the FC Barcelona Analysis Department.

Figure 9: Proposal for defining criteria to classify free kicks according to zones



Source: own elaboration based on the FC Barcelona Analysis Department

In conclusion, the relevance of this point lies in establishing criteria that are in accordance with the vision of the coach and the coaching staff, that clearly delimit the end of each SP and address the possibilities of finishing the action in question.

Being clear about the SPs that will be analysed in greater detail and the criteria that we will follow to define and limit them; the analyst must also know the aspects that the coach considers most relevant in each action. Therefore, it is essential that the analyst, based on their knowledge and the coach's demand, determine, together with them, the variables to be considered in each SP. Generally, we will try to establish a nomenclature and set the aspects or behaviours that we will focus on when analysing each SP. Just as in the beginning of the process the analyst was based purely on the actions that the coach demanded (always being able to give their point of view), in this case it is a symbiosis between analyst and coach (and coaching staff), where, starting from their knowledge, a common nomenclature and some variables to consider arise.

These variables can be specific to a particular action, such as, for example, the tendency of a certain player to shoot free kicks over the wall or to the goalkeeper's side, or of a transversal nature, such as the number of players with those that the rival team can enter to attempt both in a corner kick and in a lateral free kick. Understanding the relevance of

this point within the SP analysis process and addressing this content in a much more practical way, a proposal of variables will be made in modules 2 and 3.

At this point, we could say that analyst and coach understand SPs in a very similar way, and both agree on the object of analysis. With the “What?” clear, we would ask ourselves two other key questions in the analysis process: “When?” and “How?”. The analyst and the coaching staff will agree on the presentation method and the time when the information regarding set pieces is necessary. Depending on the coaching staff, the option that the analyst only presents the information to the staff will be valued and they are the ones who transmit it to the players, or the other option will be considered, with much more sense, that it is the analyst themselves who, first, presents the information to the staff and then communicates it to the players, varying or not the specification and extent of the analysis. To delve into this, next is a practical proposal based on a timetable (Table 3) where four moments can be distinguished in which the analyst provides information to the coaching staff through a pre-game report, a post-game report, an *in-situ* analysis on the game day and a cumulative report.

Table 3: Proposal for the monthly organisation of the SPs analysis

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
PRE-GAME 1 REPORT					PRE-GAME SP Adjustments Game 1	POST-GAME 1 REPORT
PRE-GAME 2 REPORT			PRE-GAME SP Adjustments Game 2	PRE-GAME 3 REPORT		PRE-GAME SP Adjustments Game 3
CUMULATIVE POST-GAME 2 and 3	PRE-GAME 4 REPORT				PRE-GAME SP Adjustments Game 4	POST-GAME 4 REPORTS
PRE-GAME 5 REPORT					PRE-GAME SP Adjustments Game 5	POST-GAME 5 REPORTS

Source: own elaboration based on the FC Barcelona Analysis Department

In the above timetable, it can be seen how, due to competition demands, a cumulative report of two games has been made due to the difficulty of presenting a post-game report



for games 2 and 3. Next, the main characteristics of these 4 types of report are highlighted, which will be exemplified with practical proposals in modules 2 and 3.

- **SP pre-game report:** file that can include videos (they can also be presented separately) where the trends or regularities that the rival has in the SPs to be analysed are highlighted in a clear and concise manner. For example, strengths and weaknesses of the opponent in lateral free kicks and corner kicks.
- **SP pre-game adjustments (*in situ* SP report):** out of the 4 types of reports, this is surely the least frequent in professional clubs, although a correct application can really have a transcendental benefit within the game. The *in-situ* report consists of, once the rival line-up is published, trying to give nuances, through visual support or not, to the coaching staff on specific aspects of the rival team. For instance, adjusting the markings and the functions of the players in actions such as corner kicks and indirect kicks (referring to the crossed ones).
- **SP post-game report:** file that is presented a day or two after the game in order to highlight the performance of the own team in SPs, commenting on the most prominent strengths and weaknesses that the group had in the game. It is essential to include the videos of the commented actions.
- **SP cumulative report:** file with a very similar or identical structure to the post-game report where we try to have a broader vision of the performance of the own team in SPs, performing it approximately every six games. As we have seen in the example, it can be very useful in weeks where there is a high competition load and there is little time to submit a post-game report.

It is very convenient that, in the reports, the analyst tries to present their analysis combining two views already commented on in the first certificate: the qualitative and the quantitative. Knowing that it will depend to a great extent on the understanding of the analysis that said person has and, above all, on their previous experiences and the context in which they find themselves, the analyst should try to point out from both perspectives, either from a more heuristic-inductive approach, in which most of its analysis is composed of intuitions and conceptions of the competition that can later be contrasted with data, or from a more algorithmic-deductive approach, where drawing conclusions from the data is sought. We understand that both perspectives are part of the process, and, without a doubt, their understanding will allow us to provide a more robust and reliable analysis regarding the performance of the rival or own team in set pieces.

As it happens throughout the process, the “how” we present our analyses will depend absolutely on the requirement of the coaching staff, surely influenced by their experience with certain methods. There are many possibilities that we have to present information, from a written report to a graphic video report, going through a multitude of programmes and software. In the event that the coaching staff is not in favour of a specific tool, we must try to take advantage of the resources at our disposal, not to overload our report or



to appear to have a more valid content, but to be able to capture, in a clear and concise way, those ideas that we want to convey with our analysis. The method in which we present the information will undoubtedly influence the perception and understanding of the content to be transmitted. A tedious or overloaded presentation can cause a certain distancing on the part of the coach or the players towards the SPs analysis and, consequently, towards the SPs themselves.

The role of the SP analyst

So far, we have emphasised the importance of SPs and highlighted the advantage of having analysts focused on these actions. We also consider the general parameters of the SPs analysis and emphasise the functions that an analyst specialising in them should have. Let us now address what the specific role of the SP analyst is.

The main task of the analyst, as we have commented, is the exhaustive analysis of the SPs agreed with the coach, after having defined the criteria or variables to take into account in each set piece. All this should be presented to the staff and the players through video, graphic or written support, in various report formats that will be distributed throughout the week, depending on the demands of the competition.

The importance entailed by this main function does not exempt the analyst from carrying other tasks, which are also of great relevance for the performance of the team and the growth of the club, among which we could highlight the following.

- **Guide coaches and/or participate in the proposal of plays or modifications to be made in a specific SP**, based on the capabilities and organisation of the rival's SPs. Thus, always respecting the structure of the coaching staff, the analyst specialised in these actions must contribute their point of view and advise the coaches about the possible changes that the team should make in terms of organisation or addressing more specific levels, plays or small tasks depending on the performance of the team itself or adaptations depending on the next rival. This function, like a large part of the SPs analysis process, must be in total harmony with the coaching staff since it will be the coach who, following the recommendations and ideas of the SP analyst, will decide whether or not to make modifications to certain SPs, thinking about optimising the team in that sense, or simply with the focus on obtaining an advantage for the corresponding game.
- **Train other analysts in SP** or, basically, enhance their training taking advantage of the analysis department structure. If we really believe in the competitive advantage that analysis and later optimisation of set pieces offers us, we cannot concentrate all this range on a single person. Therefore, from the club itself, taking advantage of the analysis department structure, SPs analysis training can be offered to other analysts, as well as promoting ways of studying these actions



through said people; all this, without a doubt, for the optimal growth of the workers and the club.

- Keep **constant contact with the club's data analysts** since, by automating certain processes, they may be able to retrieve a lot of information about, for example, the rival organisation in SPs. The key will be to specify with them at the beginning of the season those interesting and relevant data for the analysis, so their information can be of great help to us. It should be remembered that this will never be the basis of our work, but it can become an incentive that adds more value and reliability to the analysis.
- Like any other worker, the SP analyst must **always be at the disposal of the coaching staff and the club**. Therefore, even if it is a specialist who concentrates their work on a certain stage (in this case SP), they must be available and willing to help other analysts or technicians when the situation requires it. More specifically, the relationship and interaction with the other analysts must be constant for the collective benefit. Events like this can occur, for example, in weeks with a lot of competitive loads where, for certain reasons, analysts do not have real time to finish their reports.
- As a specialist in the subject, the SP analyst must keep **informed of innovations regarding set pieces that appear in the main professional leagues**. On many occasions, the immediacy of the competition or the continuous and demanding competitive load can cause this function to remain in the background. For this reason, it will be important to take advantage of "dead" hours to, through the club's subscription platforms, perform a small analysis of the outstanding SPs in the most important leagues. Undoubtedly, a task like this takes time and work, and an idyllic context would be to have analysts within the department, who may have among their functions the investigation and review of certain actions such as corner kicks in the main leagues.
- In relation to the previous function, it will be vitally important **to know the context of the main European countries in order to be able to know how SPs are performed in each league**. Obviously, the current situation and the abundance of foreign coaches in the major European leagues, means that there is not a homogeneous line between all the teams in the competition in terms of the understanding and application of the SPs. However, the context of the country has great influence on many teams in a certain league, and added to the intervention of foreign coaches (often causing the "fashion" effect, if this method has been successful), we can establish certain trends in SP in each of the major leagues.



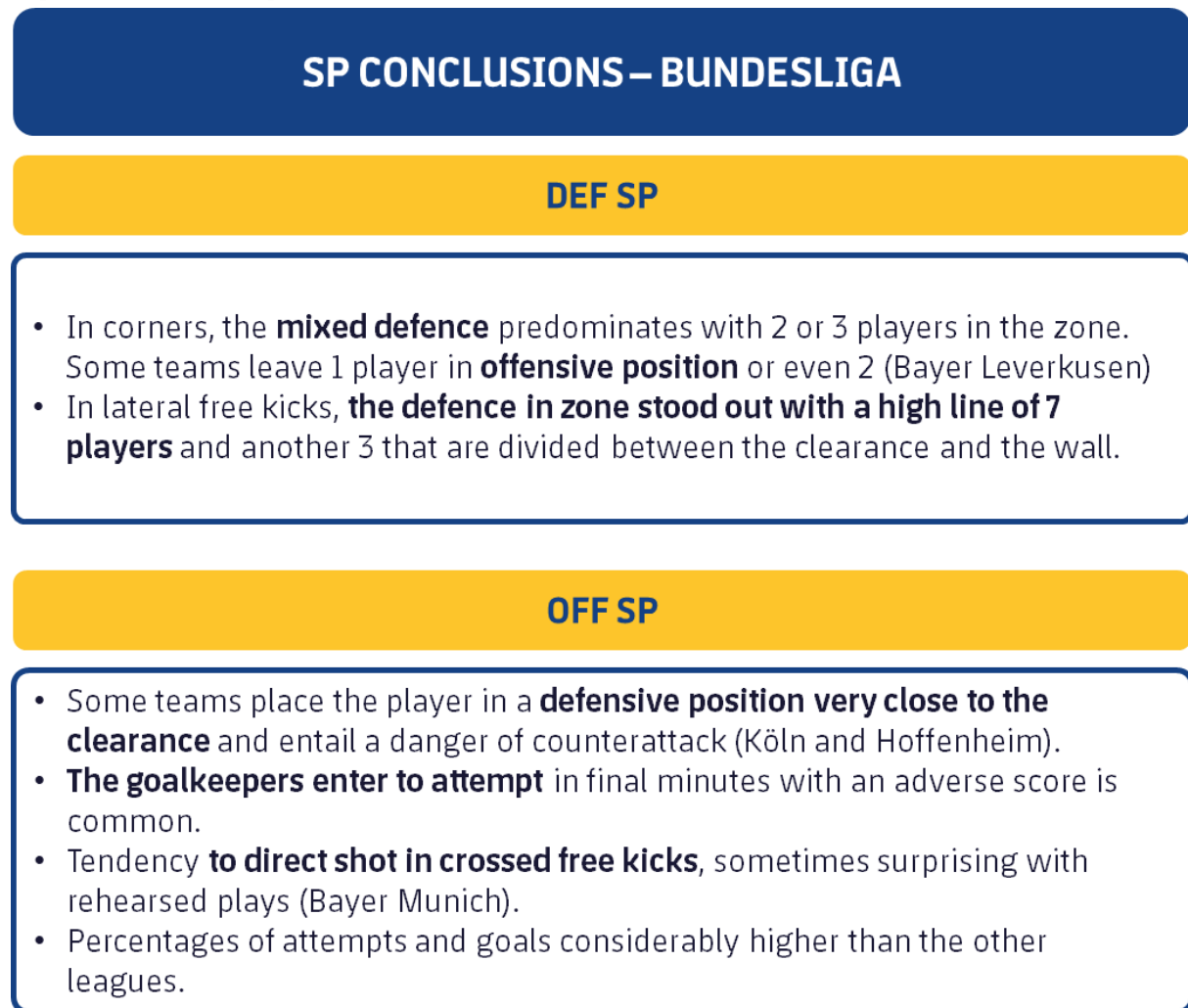
Next, in Figures 10 and 11, an extract of the results of a study performed by the analysis department of FC Barcelona in 2020, in which from a mostly qualitative perspective, the corner kicks and indirect free kicks (understanding those crossed) of 4 major European leagues were analysed. The study focused on observing and analysing the behaviour of each team in the SPs in question, and thus being able to roughly identify trends or distinctive points of each league. For example, as can be seen in Figures 10 and 11, there is a relevant difference in the way the Italian and German teams defend indirect free kicks (mostly lateral). In this way, if tomorrow we face a team from Serie A, we know that they will probably have a tendency to place the defensive line at a low height in lateral free kicks, while if we come across a team from the Bundesliga, they will tend to place their defensive line further from their goal.

Figure 10: SP tendencies in the Serie A



Source: Own elaboration of the FC Barcelona Analysis Department, 2020.

Figure 11: Bundesliga SP tendencies



Source: Own elaboration of the FC Barcelona Analysis Department, 2020.

- Another function that can be organised through the analysis department is to design a database for a specific SP where the performance and organisation of the rival team in the game are classified by means of established criteria. A variable that can be very interesting is to include the coach since, in this way, to prepare for a future game, we will have information (clear and concise) of how said team and said coach acted in a certain SP, although they have separated their paths.

Next, a database proposal (hereinafter DB proposal) for an attacking corner of rival teams is presented (Table 4) in which it is possible to observe general variables such as season, date and team or coach name. These data will be useful for us to filter the information and to be able to conduct future studies. On the other hand, we also find those variables, which have been previously considered and debated, that will provide us with useful information that we wish to extract. In the proposed example, we find among these variables the way of kicking the corner, the trajectory of the cross (there may be a trajectory, even if it is kicked in short),

the number of finishers and players who are positioned in the clearance zone and if said corner ends in an attempt or a goal.

A tool like this can be very useful for future seasons and can help us, among other things, to see if there are changes or not over the years in a certain team or coach.

All this, in short, will facilitate our work when preparing the pre-game report since we will have information on how the rival has acted in the SP in question.



Table 4: Rival teams' attacking corner DB proposal

Season	Competition	Game	Date	Rival	Where It Is played	Coach	Way of shooting	Trajectory	Finishers	Clearance	Attempt	Goal
2019 – 2020	LEAGUE	1	18/8/19	Team 1	HOME	Coach 1	Direct	Outswinging aerial ball	5	2	No	No
2019 – 2020	LEAGUE	1	18/8/19	Team 1	HOME	Coach 1	Direct	Outswinging aerial ball	5	2	No	No
2019 – 2020	LEAGUE	1	18/8/19	Team 1	HOME	Coach 1	Direct	Outswinging aerial ball	5	2	No	No
2019 – 2020	LEAGUE	2	25/8/19	Team 2	VISITOR	Coach 2	Direct	Inswinging aerial ball	5	2	No	No
2019 – 2020	LEAGUE	2	25/8/19	Team 2	VISITOR	Coach 2	Short		4	3	Yes	No
2019 – 2020	LEAGUE	2	25/8/19	Team 2	VISITOR	Coach 2	Direct	Outswinging aerial ball	5	2	No	No
2019 – 2020	LEAGUE	2	25/8/19	Team 2	VISITOR	Coach 2	Short		5	3	No	No
2019 – 2020	LEAGUE	2	25/8/19	Team 2	VISITOR	Coach 2	Direct	Inswinging aerial ball	6	2	Yes	No
2019 – 2020	LEAGUE	3	1/9/19	Team 3	HOME	Coach 3	Direct	Inswinging aerial ball	5	2	No	No
2019 – 2020	LEAGUE	3	1/9/19	Team 3	HOME	Coach 3	Direct	Inswinging aerial ball	5	2	No	No
2019 – 2020	LEAGUE	3	1/9/19	Team 3	HOME	Coach 3	Short	Inswinging aerial ball	6	1	No	No
2019 - 2020	UCL	4	4/9/19	Team 4	VISITOR	Coach 4	Short		5	3	Yes	No
2019 - 2020	UCL	4	4/9/19	Team 4	VISITOR	Coach 4	Direct	Inswinging aerial ball	5	2	Yes	No
2019 - 2020	UCL	4	4/9/19	Team 4	VISITOR	Coach 4	Direct	Outswinging aerial ball	5	2	No	No
2019 - 2020	UCL	4	4/9/19	Team 4	VISITOR	Coach 4	Direct	Outswinging aerial ball	6	1	No	No
2019 - 2020	UCL	4	4/9/19	Team 4	VISITOR	Coach 4	Direct	Inswinging aerial ball	6	1	Yes	Yes
2019 – 2020	LEAGUE	5	8/9/19	Team 5	HOME	Coach 5	Direct	Outswinging aerial ball	5	2	No	No
2019 – 2020	LEAGUE	5	8/9/19	Team 5	HOME	Coach 5	Short	Inswinging aerial ball	5	2	No	No
2019 – 2020	LEAGUE	5	8/9/19	Team 5	HOME	Coach 5	Direct	Inswinging aerial ball	5	2	No	No
2019 – 2020	LEAGUE	6	15/9/19	Team 6	HOME	Coach 6	Direct	Inswinging aerial ball	5	3	No	No
2019 – 2020	LEAGUE	6	15/9/19	Team 6	HOME	Coach 6	Direct	Inswinging aerial ball	5	2	No	No
2019 – 2020	LEAGUE	7	21/9/19	Team 7	VISITOR	Coach 7	Short	Outswinging aerial ball	6	2	No	No
2019 – 2020	LEAGUE	7	21/9/19	Team 7	VISITOR	Coach 7	Direct	Inswinging aerial ball	5	2	No	No
2019 – 2020	LEAGUE	7	21/9/19	Team 7	VISITOR	Coach 7	Direct	Outswinging aerial ball	5	2	Yes	No
2019 – 2020	LEAGUE	7	21/9/19	Team 7	VISITOR	Coach 7	Direct	Inswinging aerial ball	5	2	Yes	No
2019 – 2020	UCL	8	25/9/19	Team 8	HOME	Coach 8	Direct	Outswinging aerial ball	5	2	No	No
2019 – 2020	UCL	8	25/9/19	Team 8	HOME	Coach 8	Direct	Outswinging aerial ball	5	3	Yes	No
2019 – 2020	UCL	8	25/9/19	Team 8	HOME	Coach 8	Short		5	3	No	No
2019 – 2020	UCL	8	25/9/19	Team 8	HOME	Coach 8	Direct	Inswinging aerial ball	6	1	No	No
2019 – 2020	UCL	8	25/9/19	Team 8	HOME	Coach 8	Direct	Outswinging aerial ball	6	2	No	No

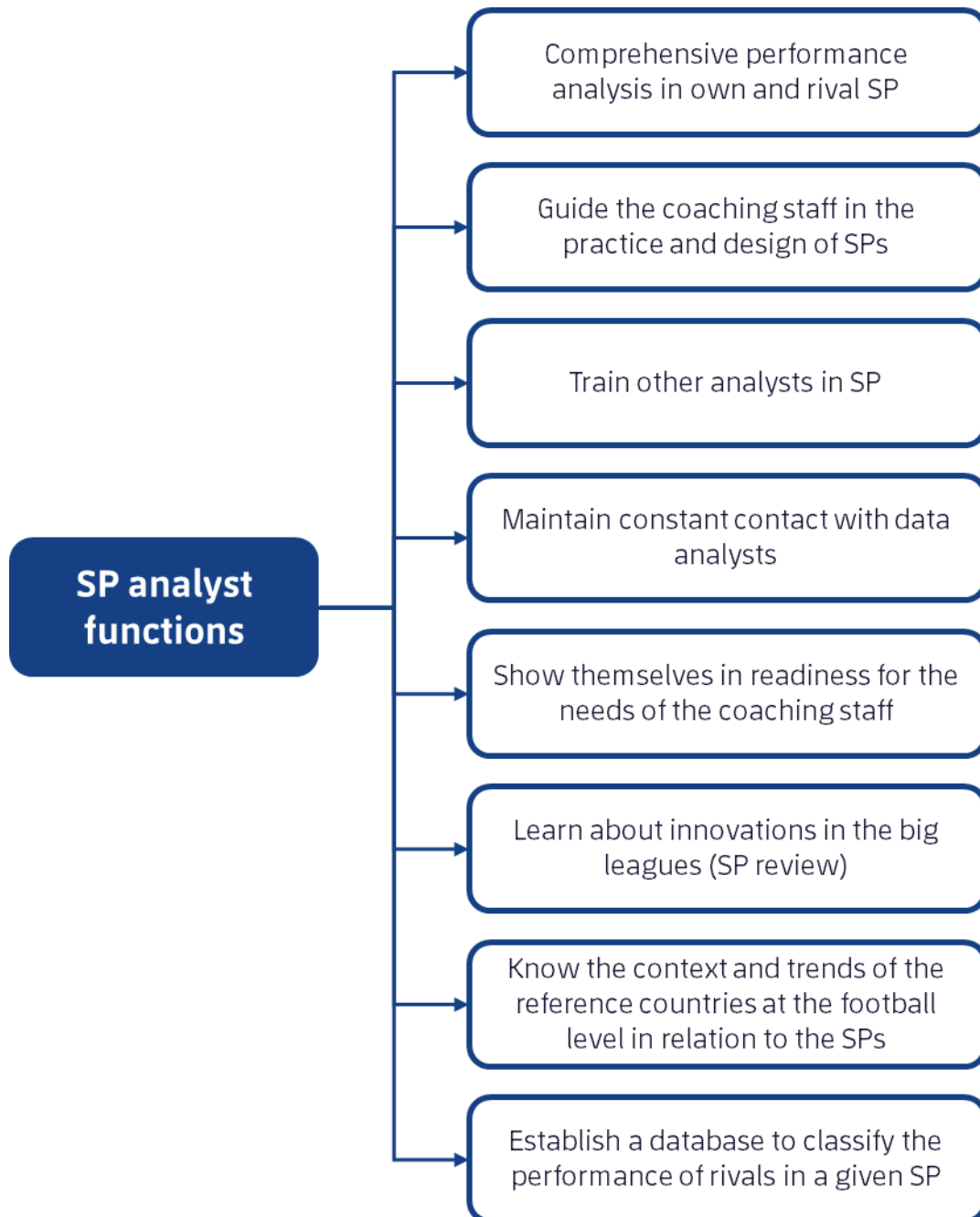
Source: own elaboration of the FC Barcelona Analysis Department.

As indicated, all these functions will be more or less feasible depending on the resources and infrastructure of the club; consequently, if we belong to a club where we have a wide



range of resources, we must try to make the most of them in order to achieve these objectives. On the other hand, it can be common, although there are more and more teams that have it, that we do not have an analysis department with qualified people to whom some of the aforementioned functions can be assigned, and we have to stick to the most essential and urgent functions, having to take advantage of spaces such as national team breaks or holidays to be able to tackle some of the tasks that we have mentioned.

Figure 12: Proposal of functions to be developed by the SP analyst



Source: own elaboration of the FC Barcelona Analysis Department.



Even so, it should be remembered that these functions have as their final objective the deep and exhaustive study of the SP, promoting, in this sense, growth as an analyst and as a department, and collaborating, without a doubt, to a greater optimisation of these actions in order to achieve a competitive advantage. In short, a growth of the team and the club.



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