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Success Analysis of the 2019-2020 Season English Premier League Champion Liverpool Football Club: You'll Never Walk Alone

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Abstract

Parameters analyzed in Liverpool's matches during the season are the total number of shots, the number of accurate shots, the number of passes, the number of accurate forward passes, the number of accurate long passes, counter-attacks, corner kicks, free kicks, team length distance, danger levels of wings, ball possession rates. In addition, the study also examined the effect of Liverpool's on-target passes of more than 130 on accurate shots, the effect of ball possession over 60% on goals, the effect of 40-meter team length distance on ball possession, and the effect of average shot distance of 16.5 meters on goal. There was a statistically significant difference in the effect of successful ball possession on the goal and the effect of team length on the ball possession of the Liverpool team during the season, on the other hand there was no significant difference in the effect of the average shot distance on the goal and the effect of the number of the forward passes on the accurate shots despite the statistically close results obtained. While analyzing the complete game and comparing with other available literature, it is predicted that Liverpool's high pass accuracy rate, average of long passes, number of counter attacks, average of wing dangers, number of goals scored in the first half, number of accurate shots and team length distance are important factors in the achievement of Liverpool.

Introduction:

Thirty years ago, Liverpool Football Club became the champion of England. The Reds were the best team in the country and people who were called "football fans" by the ruling class seemed as mistrusted. After 30 years, Liverpool finally became a champion again and lifted their first league trophy since 1990. After such a long time the world has changed, technology has developed, and players have changed in a physical and physiological way but only one thing never changed: the passion of Liverpool fans.

Without a doubt, football is as much of a feature of the cultural heritage and artistic landscape of the city of Liverpool as any theatre production, media installation, or art exhibition like some other European cities which are living with football (Williams, 2011).

Football has become the most popular sport in the world with billions of people around the globe watching the games. (FIFA, 2015) Football requires high-level technique,

tactics and physical skills. In football, one to three matches can be played in a 7-day period. Thus, elite football programs are designed by coaches and staff to prepare the players to repeat these high neuromuscular demand efforts several times a week during a whole season (Açak *et al.*, 2017). To further improve the performance of the football teams and players, various data are being produced in professional football leagues that provide multiple opportunities to analyze games and identify critical factors for success (Lepschy *et al.*, 2020). In team sports such as football, evaluation of performance is more difficult compared to individual sports (Carling *et al.*, 2005). For example, football teams adopt an overall combination of attacking and defensive styles of play that would increase their probability of success. A style of play could be considered as the general behavior of the whole team to achieve the offensive and defensive objectives in the game (Navarro *et al.*, 2016). Nowadays, a motion analysis system can be applied for planning tactics and strategies,

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measuring team organizations, providing kinematic feedback and objective measures of intervention effectiveness in team sports (Andrzejewski *et al.*, 2014). This system permits a precise assessment of physical and technical activities of all players on the field and comparison of their abilities while in an offensive and defensive play (Di Salvo *et al.*, 2006). Clubs need to identify what makes them successful and invest accordingly in playing better in terms of defensive play and/or offensive in selecting players carefully, in using smart management approaches, and so forth (Georgievski *et al.*, 2019). In this highly technology-based world, video analysis systems that are applied to football performance have become an indispensable tool for coaches and technical assistants to collect information about individual's and team's activities during training and competitions (Souza *et al.*, 2019). Video analysis offers more accurate information about the performance of the team, enabling full and objective assessments. The development of technology helps coaches to access detailed information on performance of players (Yiannis, 2013). The main aim of the match analysis is to identify strengths of one's own team, which can then be further developed, and its weaknesses, which suggest areas for improvement. Similarly, a coach analyzing the performance of an opposition side will use the data to identify ways to counter that team's strengths and exploit its weaknesses (Mitrotasios & Armatas 2014). Analyzing the team performance is to identify strengths that can be further developed, and weaknesses that might be improved by understanding the differences between the patterns of play developed by successful and unsuccessful teams (Hughes & Bartlett, 2002). Specifically, video analysis in football has helped investigate several aspects of football performance such as technical, tactical and physiological factors during competitions (Sarmiento *et al.*, 2014).

The aim of this study is to analyze the 2019-2020 season English Premier League Champions Liverpool Football Club.

Methodology:

Match statistics data was obtained from WyScout's analysis website. Parameters on the game such as the effect of successful forward passes on the shot, shot, accurate shots, total shots, forward passes, back passes, accurate passes long passes, the effect of average shot distance on goal, average shot distance, most pass combinations between players, the effect of ball possession percentage on goal, ball possession percentage, number of counter-attacks, the effect of team length distance to ball possession percentage, team length distance, corner kicks, free-kicks, danger attack percentage from wings, and winning percentage of tackles were analyzed. The data was collected from all the matches in the 2019-2020 season. This equals match days with a total of 38 matches.

The data obtained in this study was recorded in SPSS 20.0 program and interpreted by independent T-test, calculating the frequency and percentage values.

Results:

Table-1: Numbers and Averages of Match Actions

Parameters	N	Min.	Max.	Ave.	%
Total Shots	552	6	25	14.5	40.39
Accurate Shots	223	1	13	5.8	
Total Passes	22.888	378	962	602	
Pass Accuracy	-	78%	91%	84%	
Total Forward Passes	6661	130	234	175	75.37
Accurate Forward Passes	5021	88	183	132.13	
Total Long Passes	3443	56	127	90.61	80.39
Accurate Long Passes	2768	36	114	72.84	
Counter Attacks	138	0	8	3.66	-
Corner Kicks	257	1	16	6.63	-
Free Kicks	74	0	5	1.95	-

Table-1 is self explanatory.

Table-2: The effect of the accurate forward passes of below and above 130 on the number of shots

Variable	mean	p
Accurate front pass <130	13.00±4.28	0.060
Accurate front pass >130	16.05±5.34	P>0.05

In Table 2, the value that the accurate pass affects the number of shots was found to be close, although there is no statistically significant difference.

Table 3. Average of Ball Possession Percentage and Ball Possession Percentage in Opponent Half

Parameters (%)	Min.	Max.	Ave.
Ball Possession Percentage	44%	76%	62.3%
Ball Possession Percentage in opponent half	8%	30%	17.95%

Liverpool football team has an average of 62.3% ball possession during the season. The ball possession in the opponent's penalty area is 17.95%.

Table-4: The effect of ball possession below & above 60% on goal

	mean	p
Ball possession percentage >60%	1.83±1.02	0.01*
Ball possession percentage <60%	2.87±1.35	p<0.05

The percentage of ball possession was having an effect on the number of goals (p<0.05).

Table-5: Number and Average of Average Shot Distance, Right Wing Attack Percentage, Left Wing Attack Percentage

Parameters	Min.	Max.	Ave.
Average Shot Distance	14 (m)	24 (m)	16.9 (m)
Right Wing Attack Percentage	0%	82%	32.97%
Left Wing Attack Percentage	1%	83%	26.47%

The average distance of goals scored was 16.9 meters. In addition, Liverpool football team created 32.97% danger in attacks on the right wing, while it created a danger level of 26.47% in attacks on the left wing.

Table-6: The effect of average shot distance on the number of goals

	mean	p
Average shot distance <16.5m	2.55±1.26	0.074
Average shot distance >16.5m	1.81±1.16	P>0.05

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Liverpool football team's average shot distance during the season was 14 meters. In matches where the shot distance was less than 16.5 meters the goal ratio was 2.55 ± 1.26 , and in matches where the shot distance was more than 16.5 meters, the goal ratio was 1.81 ± 1.16 and although the effect of average shot distance on goal is not statistically significant ($p > 0.05$), the data obtained show that Liverpool football team scored more goals inside the penalty area during the season.

Discussion:

Liverpool FC crowned as champions in the highest division of English football 18 times. Moreover, Liverpool is a long-established club with its history that lasts longer than 135 years. (2019). The board also made significant transfers to their starting line-up within the last three seasons, including the top scorer of 2017/18 season Mo Salah and "world's most expensive defensive player" Virgil van Dijk (Gitmez *et al.*, 2020). In addition to the correct analysis and interpretation of the studies in football, the technical and physical capacities of the football players must be at a high level. Since science and football are now intertwined, tactics need to be understood through analysis. In the field of football performance analysis, it is common to use recorded videos of matches to monitor and evaluate team performances (Liu *et al.*, 2016). Researchers and coaching staff of football teams are always exposed to a "big data" of performance-related match statistics. Therefore, it would be important to identify which ones of the piled match statistics are the "keys to win" (Mao *et al.*, 2017). Considering these issues and the previous analysis studies in the literature, the aim of this study was planned as the success analysis of the English Premier League Champion Liverpool Football Club for the 2019-2020 season.

During the 2019-2020 season, Liverpool football team took a total of 552 shots against rival goals, and 223 of these shots were accurate. In this study, the average shots per game of Liverpool football team was found to be 14.6. The accuracy rate of these shots per game is 5.8. The season shot average of Champion Liverpool has shown consistency with the shot averages of other successful teams in the literature. Gurkan & Müniroglu, (2018) analyzed the 2016 European Football Championship and found that the winning teams took more shots and accurate shots than the losing teams. In Gurkan's study, the accurate shot average is 6.23 for the winning teams. Liu *et al.* (2015), in the study examined the group stage of 2014 World Cup, found that shot accuracy increases the chance of winning games with 48%. In a study examining the success analysis of the top 10 and bottom 10 teams in the English Premier League in 2013, Araya *et al.* (2014) determined the number of shots per match of the teams within the top 10 as 15.7. In a master's thesis, the matches of Turkish football teams participating in European cups were analyzed in terms of technique and tactics. According to the results of the thesis, the average number of shots of the Turkish teams in the European cups

was found to be 13.42 (Ertetik, 2016). In 2018, in the study where Mitrotasios analyzed the successful and unsuccessful teams in Euro 2012, the average shots per match of the successful teams was found to be 13.2 and 7.2 of these shots were accurate. Kartal & Ergin (2019) found the last world cup champion France's shot average as 11 in their study in 2019.

The change in the dynamics and playing systems of football, which has been played in different football cultures from past to present and never seen as a mere game, has been absolute over the years. Accurate, forward and long passes are also particularly important in football where the distance covered is longer with the analysis methods and footballers are faster compared to past. Hughes & Franks (2005) reported that 80% of the goals scored in football came as a result of 3 or fewer passes. Especially in English football culture, long and fast passes are quite important.

In this study, it is seen that Liverpool team played with 84% passing accuracy throughout the season. Liverpool made an average of 602 passes per game, while the number of accurate forward fast passes per game was 175 and the number of long passes, being important part of the English football culture, was 127 per game and accuracy rate of long passes was 90%. Studies that are close to the results of our study have been found in the literature.

Göral (2015) found the pass accuracy as 78% in his study, in which he examined the pass accuracy of the teams that were successful in the 2014 World Cup. The English Premier League is one of the leagues where passing frequency and accuracy are high. In his study, where he examined the passes of the English Premier League teams before and after the goal, Redwood-Brown (2008) found that the average number of passes was 22 and the passing accuracy was 72.4% in the 5 minutes before the goal, and he also found an average of 21 passes and 67% of passing accuracy in the 5 minutes after the goal. Passing is quite important in football in the aspect of tactics and country's playing culture. Short pass, long pass, fast forward pass or other pass combinations can determine the score of the game. In the study where the top 3, bottom 3 and mid-table teams were analyzed in 3 seasons in the Norwegian Eliteserien League, Tenga & Sigmundstad (2011) found that the top 3 teams scored the most goals after 4 passes or fewer (17.9 ± 6.3). The number of goals scored after 5 passes was found to be 10.3 ± 4.5 . Tenga *et al.* (2010), in another study, analyzed the goals scored in respect of the passes and the passes of the matches played in the Norwegian League. According to the findings of this study, the winning teams completed the matches with a total of 884 passes (47%) and 388 (21%) long passes. Imamoglu *et al.* (2007), in his study of the distribution of the goals of the 2006 World Cup in aspect of technical and tactical criteria, found that the short pass frequency of the teams before the goal was 74 and the long

pass frequency was 46. In the same study, the short pass percentage before the goal was 61.7%, while the long pass percentage was 38.3%. Göral (2015) found 81.9% pass accuracy in his study about the 2014 World Cup champion German national team. It is seen that number of accurate passes affect the league ranking in football, in this context, Bostanci *et al.* (2017) examined the ranking of the Turkish Süper Lig teams at the end of the league and found the average number of accurate passes of the top three teams to be 191 and found that there was a significant difference compared to the teams that finished at the bottom. In order to be exceptional in terms of tactics in the game, coaches need high level of knowledge and this leads to the need for analysis. Kartal & Dogan (2000) found that the maximum number of passes of the Turkish League's "Big 4" is 377 passes in favor of Fenerbahçe in the match against Trabzonspor. In this study, the minimum pass number of Liverpool football team was found as 378 for a match, moreover, although the effect of the number of forward passes on the number of accurate shots was not statistically significant, a close value was found, and for Liverpool football team, the number of accurate shots was also increased in matches with higher number of forward passes ($p > 0.05$).

The change in the science of football training in 20 years has contributed to the fact that the players in the teams are faster, and this has contributed to the teams to attack faster and to score more goals in the game. As in every field, innovations are inevitable in football. In an interview with Socrates Magazine, Liverpool assistant coach, "It is all about winning the ball quickly and as close to the opponent's goal as possible, our mentality is winning the ball quickly and attacking quickly. We work on this in every training and we always try new things" (Renard 2020). In Liverpool's training, the whole team must cross the halfway line in order for a goal to be counted. The aim is to quickly attack and catch the opponent off balance. Pace is now particularly important in football and is the absolute element in scoring in fast break, winning the ball in under 7 seconds.

In this study, it was analyzed that the Liverpool team made 138 counter attacks in the 2019-2020 season, and the average number of counter attacks was 3.66 per game. In the 2018-2019 season, the number of goals scored from counterattacks was 6, while the number of goals scored from counterattacks in the 2019-2020 season was 11.

Some studies on the importance of counterattack and some values about counterattacks have been found in the literature. In the Norwegian Eliteserien League, the top 3 teams scored an average of 12 ± 3.4 goals from the counter attacks, in a study conducted on 14 Norwegian teams in 2010, where the effect of the attacks on the goals was examined, it was found that teams made a total of 792 counter attacks and scored 52% of the goals from the

counter attack. As a result of the regression analysis, it was revealed that counterattack is more effective than organized attack in scoring goals (Tenga & Sigmundstad, 2011; Tenga *et al.*, 2010). In the study examining the organization of goals scored in EURO 2004, Yiannakos & Armatas (2006) analyzed that 20.3% of the goals were scored from counterattack. In addition, in the same study, it was found that 32.2% of the goals were scored inside the penalty area. Armatas *et al.* (2005), in their study analyzing the successful counter attacks, concluded that 52.8% of the counter attacks start after winning the ball from opponent. They have stated that the rate of the regained balls to be goal resulting from the attacks through the middle is 72%.

Analyzing football through analysis, basing it on scientific foundations and correct training programs of the coaches caused the gap between the teams to be closed. For this reason, it has become important to score goals from set pieces in football. Corner and free kick organizations in training have been one of the most important factors affecting the result of the match.

In our study, we have found out that Liverpool won 257 corners and 74 free kicks throughout the season. Zileli & Söyler (2002) analyzed the corner kicks in 2018 World Cup and found that there were 606 corners in 64 matches. The study found that most of the goals from the corner kicks were scored in minutes 31-45, and 2 goals were scored with foot and 5 goals were scored with a header. It was stated that there were 22 goals from corner kicks in 64 matches (3.6%). Arda *et al.* (2014) found that 9.79 corner kicks were taken per game in the 2010 World Cup.

The frequency and strategies of taking corner kicks are quite important in winning the matches during the season. The effective and frequent corner kick taking of teams with close levels may be a crucial factor for making difference. In a study on this subject, the top 6 teams in the 2015/2016 English Premier League took corner kicks more frequently in the matches they won (Strafford *et al.* 2019).

Liverpool football team became the second team with the most corner kicks in the 2019/2020 season. Liverpool football team scored 15 goals from corner kicks in the season, with an average of 6.61 corners per game.

Every team is good, and every coach is knowledgeable in Premier League which is considered to be the best league in the world by some. As such, teams need to work down to the finest details to make a difference. Dribbles, long passes, and fast attacks are important in the Premier League, but another important factor for the teams is "Ball Possession". Ball possession is one of the factors that determine the score. In the research on 24 matches, Jones *et al.* (2004) found that successful teams in the English Premier League had a higher ball possession rate than unsuccessful teams. There are many factors that determine winner on the field. Oberstone (2009) examined the factors determining winner on the field, he found that ball

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possession made a significant difference among 13 factors. In the study conducted by Lago-Penas & Dellal (2010) on the Spanish La Liga, the ball possession rate of the champion Barcelona team was found to be 64.3%. Klopp said in his press conference, "I prefer team harmony over the star football player." In a study supporting this statement, Aquino *et al.* (2019) have revealed that the 4-2-3-1 formation is the most suitable formation for ball possession. In the same study, they have found the ball possession rate of the teams that won matches in the 2018 Russia World Cup as 50.5% and 20.1% in the final third. On the www.statszone.com, ball possession rates of the champions of 5 major leagues were given as Leicester 44.8%, Liverpool 55.0%, PSG 63.4%, Bayern Munich 66.4%, Juventus 54.9% and Barcelona 62.9%. In the 2019-2020 season, the ball possession rate of champion Liverpool football team was found to be 62.3% on average, this value has shown similar values compared to other studies, and Liverpool's ball possession rate on the opponent's half was found to be 17.95%, this value is close to the study of Aquino *et al.* (2019). In our study, the values obtained regarding the percentage of ball possession are at the ideal level for the Premier League title, and compared to the ball possession rate in 2016, Liverpool football team increased the ball possession rate in 2019-2020 by 7.3%. Considering that this increase has been one of the variables with squad harmony affecting the title, it has been observed that the ball possession rate has a statistically significant effect on the goal ($p < 0.05$).

One of the key factors that make football enjoyable is the abundant goal attempts and long-distance shots, especially the goals scored from outside the penalty area make the audience more excited. In football, 1 out of every 10 shots is scored on average (Pollard *et al.* 2004). And the average distance of these shots matters. On this issue, Njororai analyzed the goals scored in the 2010 World Cup and found that 79 goals (54.48%) came from shots taken from inside the penalty area. In the same study, the number of goals from wing plays was found as 29 (26.36%). Imamoglu *et al.* (2007) conducted a similar study and examined the technical and tactical criteria of goals in the 2006 FIFA World Cup. In the study, Imamoglu *et al.* determined that 82.5% of the goals were scored inside the penalty area and 40% of the passes were from the left wing and 25.8% from the right wing in the wing attacks.

The 5-season average shot distance of 5 major leagues has been analyzed on www.driblab.com. In the 2018-2019 season, shooting averages of Spain La Liga, English Premier League and German Bundesliga were 17.38; 17.31; 17.30 while it was 18.46 and 18.19 meters in French Ligue 1 and Italian Serie A. Kartal *et al.* (2019) found the wing danger levels as 19.14% right wing and 37.14% left wing in their study. The penalty area is 16.5 meters according to the football field dimensions, it has been determined that most of the goals

are scored from this distance and the average shot distances are close to this. In our study, the average shot distance has been found to be 16.9 meters and the wing danger levels have found to be 32.97% from the right wing and 26.47% from the left wing. It can be said that the wing danger levels depend on the tactics, training types and player qualities of the teams. In our study, although there was no statistically significant difference, it has been seen that the Liverpool football team scored more goals inside the penalty area ($p > 0.05$). Total football and squad harmony are absolute necessities to score in matches, direct the game as desired, and keep the score. For this reason, the innovations and tactical drills to be done in the training will bring the teams to the fore. Shortening the team's length distance between the defender and the forward will make the team run less and therefore less tired as it will narrow the space between the positions. Team length distance, which plays an active role in both attacking and defending by means of stopping more attacks, winning the ball and creating goal chances, is a team play feature that can be improved in tactical training. In this study, it was found that the team length distance of Liverpool was 44 meters on average. In addition, this study also looked at the effect of the team length distance on ball possession in matches where the team length distance was below and above 40 meters, and the ball possession rate in matches below 40 meters of team length distance was found statistically significant with an 8% increase compared to other matches ($p < 0.05$). When the literature is examined, no study has been found in which team length distance has an effect on ball possession. It is thought that the findings in this study will lead to future studies, and it is thought that the importance of team length distance for creating more chances based on ball possession will be understood by the researchers and coaches.

Scoring in the early minutes in football is an important factor in the match and affects the team's performance and morale (Pratas, 2018). Especially in competitive leagues, where most teams are technically and physically equal, such as the Premier League, early goals or finding the goal first in low-scoring matches would affect the team's mentality and motivation level. Every goal is important in football, and the minutes of goals are critical to winning the match. In the 2019-2020 season, Liverpool found the nets 85 times in the Premier League and scored 45 of these goals (52.9%) in the first half and 40 (47.1%) in the second half. In studies examining the EURO 2012 and 2010 World Cup, it was seen that most of the goals came in the second half and especially within the last 15 minutes. It was seen that 57.9% of the goals in the EURO 2012 were in the second half (Mitrotasios *et al.*, 2010; Njorari, 2013). Gurkan *et al.* (2017) analyzed the distribution of goals scored in the Champions League matches played in 2006-2016 according to the time period, and analyzed that 1886 (55.05%) out of 3426 goals were

scored in the second half and found the percentage of goals scored in the last 15 minutes to be 18.53% and most goals are scored in the last 15 minutes. A difference has been observed between our study and the studies in the literature. It is thought that there is difference between the goals scored in the halves because the studies examined in the literature are tournament matches. It is thought that it is important to find the goal in the first half and early minutes in competitive leagues like the Premier League. On this subject, Pratas *et al.* (2016) in the study in which they examined the effect of the first goal on team performance in the Premier League, found the winning percentage of the home teams that found the first goal as 74.59%. These data in the literature support the importance of finding goals in the first half and early in our study.

Finding goals in the first half, which is the product of the pressure and fast break attacks, is also reflected in the analysis of this study. It is thought that the trainers can benefit from the data obtained in this study for the training to find early goals in the first half.

As a result, in this study, which examines the effects on the championship that came after 30 years, most statistics in the Liverpool team show parallels with the studies which examine the teams that have been successful before. In addition, the effect of team length distance on ball possession, the effect of ball possession on scoring, the number of counter attacks, winning the ball quickly and the ball possession rate in the opponent's half, which have been examined in this study and which have given statistically significant results, are considered to be the basic statistics of the championship in the mentality of the Liverpool team. The fact that accurate analysis and statistical studies help the training program can bring the teams one step forward in football, but in addition to these, squad harmony, keeping the team together and being psychologically superior on the field by highlighting friendship are important criteria for the championship. Jurgen Klopp and Liverpool team seem to be successful in every aspect in the 2019-2020 season. It is thought that this study can guide other trainers to be successful.

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