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Patrones de juego en el ataque rápido de F. C. Barcelona, Manchester United y F.C. Internazionale Milano -Un enfoque de *Mixed Methods*

Patterns of Play in the Fast attack of F. C. Barcelona, Manchester United and F. C. Internazionale Milano- A Mixed Method Approach

Padrões de Jogo no ataque rápido das equipas do F. C. Barcelona, Manchester United e F. C. Internazionale de Milano - Uma abordagem centrada nos *Mixed Methods*

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Resumen: Este estudio tuvo como objetivo detectar y analizar los patrones regulares de juego en ataque rápido de los equipos de fútbol, a través de la combinación de la técnica de análisis secuencial y entrevistas semi-estructuradas a entrenadores con experiencia en la primera Liga Portuguesa.
La muestra incluyó 36 partidos (12 juegos de las respetivas Ligas de Fútbol para cada equipo) del FC Barcelona, Inter de Milán y Manchester United, que han sido codificados con el instrumento observacional validado por Sarmento et al. (2010). Posteriormente los datos se analizaron a través del análisis secuencial con el programa SDIS-GSEQ 5.0. Tomando como referencia los patrones de juego detectados, se llevaron a cabo entrevistas semi-estructuradas a 8 entrenadores de fútbol de alto rendimiento y los datos se analizaron mediante la técnica de análisis de contenido utilizando el programa Nvivo 10.
Los patrones de juego detectados revelaron características específicas de los equipos de estudio. La combinación de los resultados del análisis secuencial con las entrevistas cualitativas a los entrenadores profesionales demostró ser muy fructífera en este ámbito de análisis del juego, lo que permite conciliar el conocimiento científico con la interpretación práctica de los entrenadores que desarrollan su actividad en el campo.
Palabras clave: Fútbol, *Coaching, Mixed Methods,* rendimiento.
Abstract: This study aimed to detect and analyse regular patterns of play in fast attack of football teams, through the combination of the sequential analysis technique and semi-structured interviews to experienced first League Portuguese coaches.
The sample included 36 games (12 games of the respective national leagues per team) of the F.C. Barcelona, Inter Milan, and Manchester United teams that were coded with the observational instrument tool developed by Sarmento et al. (2010) and the data analysed through sequential analysis with the software SDIS-GSEQ 5.0. Based on the detected patterns, semi-structured interviews were carried out to 8 expert high-performance football coaches and data were analysed through the content analysis technique using the software NVivo 10.
The detected patterns of play revealed specific characteristics of the teams under study. The combination of the results of sequential analysis with the qualitative interviews to the professional coaches proved to be very fruitful in this game the analysis of scope, allowing reconcile scientific knowledge with practical interpretation of coaches who develop their tasks in the field.
Key words: Soccer, Coaching, Mixed Methods, Performance.
Resumo: O objetivo deste estudo centrou-se em detetar e analisar padrões regulares de jogo no ataque rápido de equipas de futebol, através da combinação da técnica de análise sequencial e entrevistas semi-estruturadas a treinadores com experiência na primeira liga Portuguesa. A amostra incluiu 36 jogos (12 por equipa, das respetivas Ligas Nacionais) das equipas do FC Barcelona, Inter de Milão e Manchester United que foram analisados recorrendo aos instrumento de observação desenvolvido e validado por Sarmento et al. (2010). Posteriormente os dados foram analisados através da técnica de de análise sequencial com recurso ao programa SDIS_GSEQ 5.0. Com base nos padrões detectados, foram realizadas entrevistas semiestruturadas a 8 treinadores de futebol de alto desempenho tendo os dados sido analisados por meio da técnica de análise de conteúdo usando o programa NVivo 10. Os padrões de jogo detectados revelaram características específicas das equipas em estudo. A combinação dos resultados da análise sequencial com as entrevistas qualitativas aos treinadores profissionais provou ser muito proveitosa neste campo de análise de jogo, permitindo conciliar o conhecimento científico com interpretação prática de treinadores que desenvolvem suas práticas no terreno.
Palabras chave: Futebol, *Coaching*, *Mixed Methods*, rendimento.

Introduction

The investigation in soccer boost was substantiated mostly through studies which focused on the description and explanation of physical and/or physiological characteristics, or, in the quantification of performed actions in an attempt to quantify the football players' activity (see Sarmento, Marceli-

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no, Anguera, Campaniço, & Leitão, 2014).

This type of studies based on the analysis of frequency of certain performance parameters provides important information for coaches and athletes, enabling advances in training processes. However, the game of football is characterized by great complexity that makes it difficult to objectify its observation and analysis (Sarmento, Barbosa, Campaniço, Anguera, y Leitão, 2013).

More recently, with the purpose of overcoming usual limitations found in strictly quantitative investigations (Anguera & Hernández-Mendo, 2015), an increase in the number of research on game action in football has been observed, based on observational methodology and through various methodological procedures, such as sequential analysis (Ardá, Casal, y Anguera, 2004; Silva, Sánchez-Bañuelos, Garganta, y Anguera, 2005; Lapresa, Álvarez, Arana, Garzón, y Caballero, 2013; Lapresa, Arana, Anguera, y Garzón, 2013; Sarmento, Pereira, Resende, & Anguera, 2013) and *T-patterns* analysis (Bloomfield, Jonsson, Polman, y O`Donoghue, 2005; Camerino, Chaverri, Anguera, y Jonsson, 2012; Lapresa, Anguera, Alsasua, Arana, y Garzón, 2013; Sarmento, Barbosa, Anguera, Campaniço, y Leitão, 2013; Cavalera, Diana, Elia, Jonsson, Zurloni, & Anguera, 2015).

Trying to predict future performance on the basis of previous performances is an important goal for notation analysts. Typically the basis for any prediction model is that performance is repeatable, to some degree. In other words events that have previously occurred will occur again in some predictable manner (Sarmento et al., 2014). This type of prediction is based on the principle that any performance is a consequence of factors like prior learning, inherent skills and situational variables (James, 2012).

In order to detect regular structures of behaviour, sequential analysis has been already used to establish playing patterns in football (Castellano y Hernández-Mendo, 2000; Sarmento, 2012; Lapresa, Àlvarez, Arana, Garzón & Caballero, 2013). The basic premise here is that the interactive flow or chain of behaviour is governed by structures of variable stability that can be visualized by detecting these patterns.

Taking into account the above mentioned, it becomes understandable the importance of analysing and spotting game patterns in the scope of football analysis, making this a productive path to follow. Nevertheless, the investigation will improve when performed in collaboration with the professionals of the field. Since coaches play a crucial role in the game, it seems pertinent to focus on studies where coaches can actively participate, contributing with their knowledge and experience for a deeper understanding of the performance of players and teams (Sarmento, Pereira, Campaniço, Anguera, & Leitão, 2013; Sarmento, Pereira, Matos, et al., 2013).

Despite the importance attributed, studies focused on the analysis of a football game, which use qualitative methodologies to wonder on the coaches opinions, are still rare (Sarmento, Pereira, Campaniço, Anguera, & Leitão, 2013; Sarmento, Pereira, Matos, et al., 2013). As stated by O´Donoghue (2010), performance analysis methods can identify some particularities in a specific context but, in others, they cannot explain them.

Consequently, the use of interviews with coaches and/or athletes can be valuable to explain certain aspects of performance. Specifically the author refers that once a quantitative performance analysis investigation has produced results, an interview with an expert coach in a specific sport can be used to find explanations for the observed behaviour pattern.

Therefore, the aim of this study was to detect and analyse regular sequences of behaviour (patterns of play) on the fast attack (offensive sequence that is characterized by a maximum of: 18 seconds of duration, 7 passes performed, intervention of 6 players) of the Internazionale Milano (MI), Manchester United (MU) and Barcelona (BA) football teams to subsequently carry out an analysis of these patterns by conducting semi-structured interviews with professional soccer coaches.

Method

Participants

A mixed method triangulation design (QUAN/QUAL) was used in this study (Onwuegbuzie & Teddlie, 2003; Creswell & Plano Clark, 2011; Camerino, Castañer & Anguera, 2012), in the context of mixed methods studies (Anguera, Camerino, Castañer, y Sánchez-Algarra, 2014). In a first stage, 36 games (12 per team) of the F.C. Barcelona, Internazionale Milano and Manchester United teams were analysed. Those teams have been chosen for this study because they won their respective leagues in the season prior to the data collection. The English, Italian and Spanish Leagues are considered by the International Federation of Football History and Statistics (IFFHS), the three strongest European Leagues of the 1st Decade of the 21st Century. Posteriorly, 8 expert high-performance Portuguese first league football coaches (Coach 1 to Coach 8) with a professional experience (as first coach) ranging from 2 to 30 years (14.9 ± 8.6 years) were choose in order to realize the semi-structured interviews. All coaches, who were initially selected to participate in the study and who accepted the invitation, were coaching professionally at the time the interviews were taken, and had worked at some point in their careers as Head coaches in the Portuguese League.

Because of the in-depth character of each interview, the interpretational nature of the analysis, and the number of the teams in the first league (n=16), 8 coaches were considered representative and met the objectives of the study, as well as

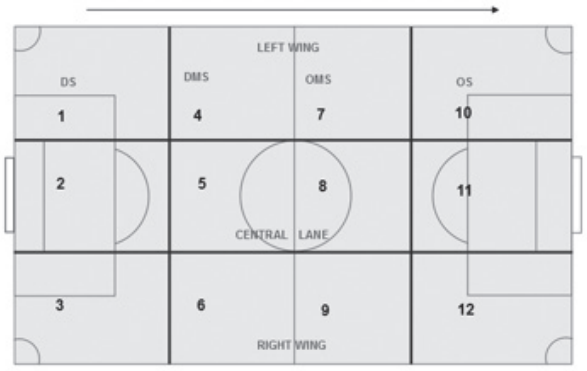
the criteria of expert selection (previous experience as Head coach in the first Portuguese League; UEFA Pro licensed coach).

Instruments

Observational Instrument

The matches were analysed through systematic observation by using a specific instrument to observe the offensive process (Sarmento et al. 2010). The following criteria were used in this study: 1- *Type of attack* - fast-attack (FA); 2- *Start of the Offensive Process* (OP) - recovery of the ball possession by: interception (IPi); disarm (IPd); goalkeeper action (Ipgr), opponents goal (Ipga); due to the rules of the game (Ipera); 3- *End of the OP* - Shot with score goal (Fgl), shot (Fre), free kick (Fld), corner kick (Fpc), penalty (Fgp), pass inside the penalty area (Fpga), recovery of the ball by the opponent without reaching the penalty area (Fbad), pass to the outside of the field (Ff), violation of the rules of the game by the observed team (Fld); 4- *Area where the action was performed* - 12 zones and four sectors were differentiated on the field (figure 1); 5- *Interactions contexts in the centre of the game* (CG).

Figure 1. Field of the Game (adapted from Castelo (2009))



To analyse the interaction context, we used the concept of the centre of the game (Castelo, 2009), that is defined as the zone of the field where the ball moves in a certain instant, through a context of cooperation and opposition of the influential players in the game, in the specific zone where the player has possession of the ball. We consider 5 categories for this criteria: 1- Relative numeric inferiority (Pir): the observed team has less 1 or 2 players in the CG (e.g., 1vs2, 3vs5); 2- Absolute numeric inferiority (Pia): the observed team has less 3 or more players in the CG (e.g., 1vs4, 2vs5); 3-Absolute numeric superiority (SPsa): the observed team has 3 or more players in the CG (e.g., 4vs1, 5vs2); 4- Relative numeric superiority (SPsr): the observed team has more 1 or 2 players in the centre of the game (e.g., 2vs1, 2vs0); 5- Equality numeric under pressure (Pip): i) the observed team has the same number of the players in the defensive midfielder; ii) in the offensive midfielder sector, the player in possession of the ball is standing with his back to the goal with an opponent in contention and doesn´t have pass lines to areas of greater offensiveness; 6- Equality numeric unpressured (SPinp): the observed team has the same number of players in the offensive sector, or, when in the offensive midfielder sector, the player in possession of the ball is standing with his back to the goal with free pass lines to areas of greater offensiveness, or the player in possession of the ball is facing the goal (see Table 2).

Table 2. Observational system.

Criteria 1	Criteria 2	Criteria 3	Criteria 4	Criteria 5	Criteria 6	Criteria 7	Criteria 8	Criteria 9	Criteria 10
Characterization of the game	Method of Offensive Play	Start of the Offensive Process	Development of the Offensive Process	Ending of the Offensive Process	Way and Direction of the pass	Height of the pass	Rhythm of the game	Spatial Characterization	Game Centre
Portuguese L.	Counter-attack	Recovery of possession of ball by interception	Dev. by short / medium passing	**With Effectiveness**	Pass to the Front	Shallow Pass	Fast rhythm	***1***	**PRESSURED**
English L.				Shot with goal scored				***2***	Relative inferiority
Italian L.			Dev. by conduction of the ball		Pass to the back	Half time Pass	Slow / medium rhythm		
Part 1		Recovery of possession of ball by disarm		Shot to the goal				***3***	Absolute inferiority
Part 2	Quic-kattack		Dev. by reception / control	Shot defended by GK	Pass to the side	High Pass		***4***	Equality pressured
Home		Recovery of possession of ball by action of the goalkeeper	Dev. by dribble (1x1)	Shot out	Diagonal Pass			***5***	**NOT PRESSURES**
Away			Dev. by duel	Shot against opponent				***6***	
wins + 1 gol	Positional attack		Dev. by action of the goalkeeper of the team in offensive phase	Direct free kick				***7***	Equality unpressured
wins 1 gol		Recovery of possession of ball by interruption due the rules of the game	Dev. by shot	Corner				***8***	Relative Superiority
Draw			Dev. by crossing	Penalty				***9***	Absolute superiority
Loses 1 gol		Recovery of possession of ball by the goal opponent	Development with assistance from the unsuccessful opponent	Pass into the opponent penalty area				***10***	
Loses + 1 gol			Development by action of the opponent Goalkeeper	**Without Effectiveness**				***11***	
				Recovery of possession of ball by the opponent				***12***	
				Ball out					
				Infringement of the laws of the game					

Interview Guide

To access to the coaches opinion, semi-structured interviews were used to collect the data (Bardin, 2008; Flick, 2005). The interview guide was designed to identify the most relevant issues for the coach so that a further in-depth exploration could be done. The certification of the content validity of the interview was done according to common qualitative research methods (Strauss y Corbin, 1990). More specifically, it was attained after preparation and discussion of previous drafts of the transcript, based on the following steps: i) preparation of first draft of the transcript based on the specific aims of the study and available literature; ii) evaluation of the interview transcripts by three senior researchers in sports pedagogy, who have substantial experience with qualitative methods; iii) discussion of findings based on the presented suggestions by each; iv) a pilot study done with a Portuguese first league coach; v) minor adaptations to the transcripts resulting from the reflections of the pilot study: vi) resubmission of the updated version of the transcripts to the experts; this, ultimately resulted in the final version of the interview guide.

Procedure

Data collection

Quantitative data

To codifying the offensive sequences the specific recording instrument developed by Sarmento et al. (2010) was used. This is a user-friendly tool developed to help researchers observe, codify, register, and analyse the offensive process in football. After recording each game we obtained an Excel file (version 2011 for Mac) comprising the successive configurations formed by the lines of codes that have changed, along with their temporality and duration expressed in frames (25 frames is equivalent to 1 sec).

Data Reliability

The reliability of data was calculated by the intra and inter observer agreement (Cohen´s Kappa), and values above 0.90 for all criteria were achieved: i) Type of attack (0.99, 0.97, intra-observer agreement and inter observer agreement, respectively); ii) Start of the offensive process (0.94, 0.91); iii) Development of the OP (0.99, 0.98); iv) End of the OP (0.96, 0.95); v) Area where the action was performed (0.96, 0.93); vi) Interactions contexts in the centre of the game (0.93, 0.91).

Qualitative data

All the interviews were done by the first author, between December 2011 and February 2012, in a relaxed setting (normally in the office) at the football academies where the different coaches work. The interview began by stating the general information about the purpose of the project. Next, the interviewer focused on background and demographic information. And finally, a more in-depth exploration of the topic followed. None of the interviews were rushed, and the coaches had time to clarify and reformulate their thinking. Each interview took between 1 and 2½ hours and was transcribed *verbatim* (93 pages).

Data analysis

Lag sequential analysis

The data were analysed through the lag sequential analysis (Bakeman y Gottman, 1989) that consists in a set of techniques that aim to emphasize relationships, associations and dependencies between sequential units of conduct. This type of analysis assesses the probability of occurrence of certain behaviours, depending on the prior occurrence of others, based on the analysis of the adjusted residuals calculated by means of lag sequential analysis (only the Zscore values above 1.96 were considered significant). It intends to show a sequential order, i.e., a certain stability in the succession of sequences, which is above the odds that are explainable by chance.

In lag sequential analysis two types of conduct (behaviour) should be considered: given behaviour, which is the category from which, in the sequence data, needs to account for transitions or lags on a prospective (forward, R+1, R+2…) or retrospective (back, R-1, R-2…) way, and target behaviour, which is the category so far, the sequence data, needs to account for transitions/lags. In this paper we will use the prospect of these two analyses, according to the logic of the game (until the lags, R+5 and R-5). To analyse the data, the software SDIS-GSEQ 5.0 was used.

Content data analysis

The objective of the content data analysis was to build a system of categories that emerged from the unstructured data and that represented the organization and utilization of expert high-performance football coaches' view of the topic.

Data analysis was performed using content analysis (Bardin, 2008), and through combining inductive and deductive approaches, the text units were coded and text units with comparable meanings were organized into specific categories (Krippendorf, 2004). Three researchers conducted the analysis independently to ensure that the resulting classification

system was suitable and best fitted the data. The software QSR NVivo 10 was used in coding the transcripts of the interviews.

The initial data analysis revealed 7 categories concerning the coaches' pattern analysis, which were grouped in 3 final categories.

Results and Discussion

Taking into account that the present study has chosen to apply two methodologies (lag sequential analysis and qualitative content analysis) with the purpose of complementing the analysis made to the counterattack patterns of the teams in the study, we opted to present the results in two parts. In the first part, we presented the descriptive statistics values and the results of the categorization system resulting from the qualitative content analysis. In the second part, we presented, in an integrated and complementary way, the data from the sequential analysis together with the most significant sentences stated by the coaches.

Quantitative data

In the 32 matches observed, 188 counterattack sequences were coded, being registered 67 fast-attacks for Manchester United team, 53 for Barcelona and 68 for Internazionale de Milano.

Content analysis

After identifying counterattack patterns, it was asked to coaches to perform an analysis of these play regularities through a semi-structured interview, and the resulting data was then analysed through content analysis technic. From this analysis three central categories have emerged and embodied mainly in tactical-strategic aspects (n=95), tactical-technical aspects (n=44) and in the specific characteristic of the players (n=44).

Combined results of lag sequential analysis and qualitative data

The analysis of the results concerning the start of the offensive process (Table 2), through disarm, verifies that in the Manchester United team, there is a tendency for these fast attacks to be developed by the right wing (zone 6) in an interaction context of numeric equality. In the team of Inter Milan, after this type of ball recovery, the game keep going by the defensive central zone (zone 1), followed by a transition trough a pass to the forward.

The data from previous studies (e.g., Lopes, 2007) report the existence of a short pattern when analysed the disarm as criteria conduct. In the analysis performed with teams that competed in the Champions League, the author concluded that this behaviour excited, prospectively, the pass half height and the zone 7 of the pitch. Our study seems to reflect the specific characteristics of different teams, emphasizing that while the IM team seeks, above all, a quick pass to the side areas of the opposing team pitch, the MU team tends to progress in the field of the game especially by the central zone.

> "…the disarm is performed when a team gains possession and usually in those moments the other team has more players open, farther apart. So there is a certain space that can be availed by the opposing team"
>
> Coach 6

Our results also enabled us to determine that there is a defined pattern, in the Barcelona team, with respect to spatial behavior, after the start of an offensive sequence trough the ball recovery by the goalkeeper. The excited zones demonstrate consistency with the way as they dispose their players in this situation, i.e. "... central defenders in width and close to the lateral lines of the penalty area, side fenders and wings in depth, close to the lateral lines of the pitch… the defensive midfielder player positioned through the central defenders to start the first phase of construction of the game " (Carvalhal, 2010), which enables that these sequences are conducted in a first stage, in defensive zones passing then on to greater offensiveness zones.

In the MU team, the start of the fast attack sequences trough the ball possession recovery by the goalkeeper, induces the conduction of the ball to reach areas of greater offensiveness in which is activated the crossing. The results seem to go against the interpretation of Silva (2004) who believes that after a ball recovery possession, perform the conduction of the ball for a few meters can help overcome the opponent's pressure line, and, when properly performed, this action can have a devastating effect on the opponent defensive organisation. The author considers that this action may cause a "tactical reasoning crisis" in the opponent team, inducing pre-goal or goal situations.

In the IM team also emerges a tendency to be activated primarily a defensive area of the pitch (zone 2) and thereafter activated areas of the right side of the field (zone 6 and 12). This transition is performed trough a forward pass or through the ball conduction in an attempt to move the centre of play for areas of greater offensiveness and more favourable interaction contexts, since these actions are held in contexts of absolute numerical inferiority, which leads us to assume that the opponent's lines are well advanced on the pitch, trying to IM team withdraw advantage of this situation.

When taken as conduct criteria the start of the offensive sequence by regulamentar interruption, we concluded that in the BA team the zone 7 is activated (as in the counter-attack,

see Sarmento et al., 2014), which leads us to suggest, by the experience of the observation of the games, that these regulamentar interruptions are mostly throw-ins, whose execution induces the player to perform a reception/control of the ball, that is followed by a duel to maintain their possession, or a pass to the back to the player who is in support, which will hold a dribble in order to create imbalances in the opposing defensive structure.

An similar analysis to that described above comes to the analysis of the MU team results that, in a first stage is activated the receptions/control of the ball that serves to "prepare" the execution of a long pass, the zone 9 of the pitch, which is followed by a dribble.

The analysis of results of the three teams enabled to conclude that the attack sequences, which are initiated through a regular interruption, tend to be develop in the first instance, by areas of the left side of the pitch in the BA team and by the right side aisle of the pitch in the MU and IM team.

Table 2. Adjusted Residuals calculated by Means of Lag Sequential Analysis (R+1 to R+5) using the given behaviours of the start of the offensive process.

	Barcelona				
Ball recovery possession	**R+1**	**R+2**	**R+3**	**R+4**	**R+5**
Interception of the ball (Ipi)	Dpc (2.62)	---	---	---	---
Disarm (Ipd)	---	---	---	---	---
Goal keeper action (Ipgr)	---	Pal (2.70)	---	---	---
	Z1 (2.77) Z2 (2.14) Z3 (2.77)	--- Z4(2.01) Z6(2.12)	---	---	---
	Drc (3.45)	Ddu (1.97) Ppt (2.09)	Ddr (1.97)	---	---
Due the rules of the game (Ipera)	---	Z7 (2.03)	---	Z7 (2.03)	Z7 (2.84)
	Pir (2.27)	---	---	---	---
	Inter de Milão				
	R+1	**R+2**	**R+3**	**R+4**	**R+5**
Interception of the ball (Ipi)	---	---	---	---	---
Disarm (Ipd)	---	Pfr (2.79)	---	---	---
	Z1 (2.50)	---	Z5 (2.00)	---	---
Goal keeper action (Ipgr)	---	Pal (2.70)	---	---	---
	Z1 (2.77) Z2 (2.14) Z3 (2.77)	--- Z4(2.01) Z6(2.12)	---	---	---
	Drc (3.45)	Ddu (1.97) Ppt (2.09)	Ddr (1.97)	---	---
Due the rules of the game (Ipera)	---	Z7 (2.03)	---	Z7 (2.03)	Z7 (2.84)
	Pir (2.27)	---	---	---	---
	Manchester United				
	R+1	**R+2**	**R+3**	**R+4**	**R+5**
Interception of the ball (Ipi)	Dpc (2.22) Rjr (2.58)	---	Dpc (2.34)	---	---
Disarm (Ipd)	---	Z6 (2.16)	---	Z6 (2.13)	---
	---	Pip (2.73)	---		---
Goal keeper action (Ipgr)	Rjl (2.06)	Dcd (2.32)	---	Dcz (5.74)	---
	Z3 (3.97)	---	---	---	---
Due the rules of the game (Ipera)	Drc (3.51)	Dpl (3.16)	Ddr (1.97)	---	---
	Rjl (3.24) Z9 (2.18)	Z9 (2.58)	---	---	---
	---	Spinp (3.24)	Spinp (2.40)	---	---

In the attack sequences of the BA (Table 3) the shot with goal scored is preceded by a cross (similar to what was found for the counterattack, see Sarmento et al. 2014) performed in the left side of the offensive sector (zone 10).

Relative to the IM team, the results showed that the shot with goal scored is preceded by a diagonal pass to the back. Similar to what we found in the results for the counter attack (see Sarmento et al. 2014), where the backward pass also established a relationship with the goal scored, there appears to be a tendency for the IM team reach until areas very close to the final line, where the players performed a pass to the back for achieving this shot effectively.

We conclude also that the offensive sequences of the BA team which end with a shot performed are activated by left and central areas of the offensive midfield; however, there is great variability that characterized the behaviours performed prior to the shot, as in the IM team. In turn, in the MU team the shot is preceded by a ball conduction or a forward pass.

"This situation is completely perceptible because the fundamental element of those teams are the pass and the spaces. After gaining space in the penalty area, make one pass back or a crossing to perform thee shot. These are teams that can keep a huge lucidity in the penalty area"

Coach4

An analysis of data for the three teams, concerning the end of the offensive sequences for recovery of ball possession by the opposing team (Fbad) allowed to conclude that there are behaviors that are associated most clearly in a recovery of the ball possession by the opponent, i.e., situations like conduction of the ball, dribbling, and that the long passes may induces final of the offensive process without efficacy. Thus, this type of action, besides being able to induce imbalances in the opposing defensive structure that could prove advantageous, also carry greater risk with regard to the maintenance of the ball possession. Thus, the decision-making of the players with respect to time and conditions under which they can perform these actions prove to be important in relation to effectiveness.

Table 3. Adjusted Residuals calculated by Means of Lag Sequential Analysis (R-1 to R-1) using the given behaviours of the start of the offensive process

		Barcelona			
R-5	**R-4**	**R-3**	**R-2**	**R-1**	
---	---	---	---	Dcz (4.18)	
---	Z10 (2.83)	---	Z10 (2.29)	Z10 (2.37)	**Goal (Flg)**
---	---	---	---	Rjl (3.53)	
Z7 (2.58)	---	Z8 (2.11)	Z8 (3.01)	Z11 (2.86)	**Shot on goal (Fre)**
---	Drc (2.03)	Dcz (2.32)	Drc (2.03) Dia (3.53)	Pma (3.16)	**Reach the offensive third in a controlled ball possession way (FSOC)**
Z9 (2.98)	Z9 (3.21)	Z9 (2.26) Z12 (3.53)	Z11 (2.32)	Z12 (2.03)	
---	---	Spsr (2.18)	Spsr (2.68)	---	**Pass inside the penalty area (Fpga)**
---	---	---	---	Z10 (3.84)	**Rec. Ball possesion by opponent**
---	---	---	---	Dpl (2.21) Pfr (2.35) Z6 (2.21)	**Rec. Ball possession due the laws of the game**
		Inter de Milão			
R-5	**R-4**	**R-3**	**R-2**	**R-1**	
---	---	---	---	Pdt (2.64)	**Goal (Flg)**
---	---	---	Z8 (1.98)	---	**Shot on goal (Fre)**
Ddr (3.94)	Pma (2.55)	Dcd (2.07)	Ddr (2.99) Ppl (2.07) Pal (2.32)	Dre (2.69)	**Reach the offensive third in a controlled ball possession way (FSOC)**
---	---	---	Rjl (1.98)	Rjl (1.98)	
	Z6 (2.19)	Z6 (2.26)	Z6 (2.02)	---	**Pass inside the penalty area (Fpga)**
---	---	---	Pip (1.98)	---	

R-5	R-4	R-3	R-2	R-1	
---	---	---	Dcd (2.58)	Dpl (3.17)	**Rec. Ball possesion by opponent**
---	Z1 (2.26)	Z2 (2.26)	---	Z6 (3.15)	
---	---	Dpc (2.00)	Drc (3.30)	Dpc (2.03	**Rec. Ball possession due the laws of the game**
---	Z6 (2.47)	Z6 (2.78)	Z6 (2.79)		
		Manchester United			
R-5	**R-4**	**R-3**	**R-2**	**R-1**	
Pfr (2.86)	---	Ppt (2.08) Dcz (2.32)	Pfr (2.69)	Dcz (4.24)	
---	Z10 (2.53)	Z10 (2.88)	Z10 (2.32) Z12 (2.53)	---	**Goal (Flg)**
---	---	---	---	Spinp (2.05)	
---	---	---	---	Dcd (2.66)	
---	---	---	---	Pfr (2.37)	**Shot on goal (Fre)**
---	---	---	Z8 (2.38)	---	
Dpc (2.67)	---	Dcd (2.01)	Dpl (2.74)	Ppl (2.90) Pal (2.98)	**Reach the offensive third in a controlled ball possession way (FSOC)**
---	---	---	---	Pr (2.22)	**Pass inside the penalty area (Fpga)**
---	---	---	Z11 (2.44)	---	
---	Dpl (3.10)	Dpl (1.97)	---	Dpl (4.09)	
---	Z1 (3.02)	Z2 (2.64)	Z1 (2.64)	Z4 (3.76)	**Rec. Ball possesion by opponent**
---	---	---	---	Pip (2.86)	
---	---	---	---	---	**Rec. Ball possession due the laws of the game**

An analysis of data for the three teams, concerning the end of the offensive sequences for recovery of ball possession by the opposing team (Fbad) allowed to conclude that there are behaviors that are associated most clearly in a recovery of the ball possession by the opponent, i.e., situations like conduction of the ball, dribbling, and that the long passes may induces final of the offensive process without efficacy. Thus, this type of action, besides being able to induce imbalances in the opposing defensive structure that could prove advantageous, also carry greater risk with regard to the maintenance of the ball possession. Thus, the decision-making of the players with respect to time and conditions under which they can perform these actions prove to be important in relation to effectiveness.

> The behaviors like the conduction of the ball must be used according to the moments of the game. In a situation of a quick transition may be important to use the conduction of the ball, even if there is a greater risk of losing possession (...) The dribble should be privileged when performed by an athlete who has a great success capacity because, usually, most of the athletes do not have a great efficacy when perform the dribble. Usually, in a situation of 1x1, the play in possession lose 70% of the balls and sometimes it does not is advantageous"
>
> Coach 3

Conclusions

The present study allowed the detection of regular patterns of play in the fast attack of the analysed teams:

i) Compared with the other two teams, in the MU team, the start of the offensive process by goalkeeper intervention and by regulamentar interruption in favor induces offensive behaviors, such as crossing and dribbling The interviewed coaches consider that those tendencies are due the individual player characteristics and also motivated by the game model adopted by the coaches in each team;

ii) The conduct of the start of the offensive process by regulamentar interruption induces in all teams, zones of the offensive midfield. A trend that characterized the start of the attack sequences of MU team is that they are developed almost always by the right side, unlike in the other teams where there is greater variability. Coaches recognize the importance of set pieces in modern football. These type of situations are subject of a specific training because the teams can easily achieve the offensive areas of the opponents teams.

iii) In the MU team, the development of fast attack sequences for conduction of the ball induce the final of

the fast attack with success (end of the offensive process by shot);

iv) The long pass is associated with the end of the offensive process ineffective (recovery of the ball by the opponent, violation of the laws of the game) in MU and IM teams (on the break this situation has been reported to the teams of BA and MU), while in the BA team, induces behaviors related to the continuity of the offensive process. It should be noted that only active one end of the offending process effectively (achieving the offensive quarter in a controlled manner) in the MU team;

v) The long pass is associated with the end of the offensive process without efficacy (recovery of the ball possession by the opponent, violation of the laws of the game) in MU and IM teams, while in the BA team, induces behaviors related to the continuity of the offensive process. According the coaches opinion the long pass is difficult to perform, and is also difficult to perform the reception of the ball. Additionally, when the ball is on the air, the opponent team can put back the players to better defend;

vi) The crossing induces a final of offensive process with efficacy (goal) in the MU and BA teams, unlike what happens in the IM team. It seems that the IM team is the least effective features in the execution of these behaviors when compared to the other teams.

vii) The fast attack sequences that end in goal in the teams of BA and MU are preceded by a cross and the excited areas are from the offensive sector (Left side corridor in the BA team and both side zones in the MU team). In the IM team, the goal is activated by a diagonal pass back. Coaches agree that the reason for this difference is the different quality of the players.

viii) With regard to the end of the offensive sequences without efficacy, we have witnessed that they are activated mostly by behaviours the involved greater risk with regard to the maintenance of ball possession (e.g., high pass, duel, opponent's intervention without success, long pass, conduction of the ball).

Practical applications

This present study sought to contribute with a differentiated perspective on the subject of game analysis, using data collection and analysis technics (sequential analysis and qualitative content analysis) which have not been used frequently in this particular context. The potential in the combination of these types of analysis are evident because it allows detecting and analysing regular behaviour structures (game patterns) which assume a practical application to coaches, but also because the content analysis which resulted from the semi-structured interviews performed to experienced coaches, has allowed complementing this approach with the know-how of the experts in the field, which goes a bit further from the traditional researches undertaken exclusively by scholars.

The detected patterns of play and the coaches' perspectives described previously, represent situations that induce success or inefficacy in the studied teams. Coaches' can used these results to improve the efficient patterns of play, or to change the inefficient patterns of play. Opponent teams coaches can use this information to difficult the progression of the opponent team, trough the development of strategies to stop the effective patterns of play, and can also explore the weaknesses of the opponent team.

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