Analyzing Factor of Time of Scoring Goal in Success of Football (Case Study: South Africa World Cup 2010)

D.O.I: http://dx.doi.org/10.4127/ch.2014.0089

Shafiee Shahram¹, Divband Milad², Alimardani Mohammad²

¹ Assistant Prof., University of Guilan, Rasht, Iran
² Master of science, Ray Payame Noor University, Tehran, Iran

Abstract

Goal of this research is to study Factor of Time of Scoring Goal in South Africa World Cup 2010 and its relationship with successful results for teams participating in this tournament. Research method is descriptive-analytical and its information was collected observationally and with a VCD, a 32-inch television set and datasheet. Statistical population and sample were considered equal to each other (N=n) and included study of 64 competitions held during tournament. Information was analyzed with SPSS.18 software and indices of descriptive statistics and inferential statistics tests such as binomial and chi square were analyzed.

Results showed that there was significant difference between two halves of competitions in terms of the number of scored goals. Increase of attack in the second 45 min led to more goals for teams. No significant difference was found between the scored goals and every 15 min and teams competed with opponents until the final minutes of competition. There was significant difference between positive results for the teams which scored the first goal and the teams which scored the first goal had more chance of victory. On the other hand, all teams which were ahead of the opponent in one goal in the final 30 min won at the end (P≤0/05).

Key Words: Time of Scoring Goal, Success, World Cup and Football.
Introduction

One of the sport fields which have been converted into profitable industry is football. Holding competitions such as football world cup and other known international cups are a suitable opportunity for comparing the teams and the best players. Since success of football team is declared after great competitions in words “exercise methods and styles” applied during competition, making effort to be successful in football led the coaches to find the best way for improvement of performance. In recent decades, computer and video technology is making progress with very high speed and coaches also can use its benefits (Carling et al. 2005, Ballesteros et al. 2010).

Different studies on analysis of football competitions and modifications of exercise methods of teams indicate that making tactical changes with video analysis of competitions causes significant progress of teams in the fields such as team tactics, creation of goal positions in each play, increase in the number of kicks toward gate and the scored goals in each competition (Lee et al., 2010). In football, the presence of suitable tactics and styles is not only effective on performance of team but also on results of matches. It is clear that the absence of suitable tactic is one of the reasons for weak performance of team in different competitions (Penas and Dalal, 2010). With access of coaches to details of the players’ performance, positive feedbacks can be observed for progress of the people’s performance (Aramatas and Yakakas, 2010).

Evaluation of scored goals in football can indicate main factors in achievement for teams (Aramatas and Yakakas, 2009). Record and analysis of football competitions can manifest specifications of scored goals for teams. It is very important to analyze goal scoring time in football because it can clarify some reasons for victory of successful teams (Yanakas and Aramatas, 2006). Researchers have conducted different studies on time of goal scoring and attention to factor of time in achieving successful results which led to different results. Aramatatas et al. (2007) in a research on goal scoring time in three rounds of World Club 1998, 2002 and 2006 showed 60.8% of the goals in World Cup 1998, 59% of goals in World Cup 2002 and 52.5% of goals in World Cup 2006 in the second 45 min of competitions. Aramatatas showed that most of goals were scored every 15 min of competition in World Cup 2006 and 1998 in the final 15 min of competitions. His research findings didn’t show significant difference in the scored goals in the final 15 min of World Club 2002.

Yakakas and Aramatatas(2006) in a research on the scored goals in Euro competition 2004 showed that 57.4% of goals have been scored during tournament in the second 45 min of competitions. Research results showed that increase of attack and execution of attack tactics in the second half of competitions compared with the first half can lead to successful results in scoring of goal for teams.
Aramatas et al. (2009) in another research on evaluation of the scored goals in Greek Professional Football Leagues found that 58.96% of the goals have been scored in the second 45 min of competitions. In the second section of this research, it was specified that most of the scored goals every 15 min of competitions relate to the final 15 min (min 76-90) of competitions. Research results showed that teams could score more goals in these minutes considering effect of fatigue in the last 15 min of competition.

Aramatas et al. (2009) found in a study on Greek Professional Football Leagues that 71.43% of the teams which scored the first goal during competitions won the competition at the end. Aramatas and Yanakas (2010) evaluating World Cup competitions 2006 achieved similar results. Results showed that 73.21% of the teams which scored the first goal during competition won the competition at the end of play. Considering importance and time limitation in a football competition, researchers intended to study only limited time variables by analyzing some important time factors affecting scoring of the goal for teams present in World Cup competitions 2010 and since the previously conducted researchers studied only limited time variables, they decided to present applied and useful suggestions for coaches.

Methods

Method of this research was observational and the required raw information was obtained after preparing 64 game films of South Africa World Cup 2010 and recorded in special sheets which were prepared before. Statistical sample of research also included study of the same 64 competitions of teams participating in final round of competitions. Games observation process was performed with a VCD set, a 32-inch television set and datasheet. For insertion of information, when a goal was scored, its minute was recorded. To record information for teams which got ahead in one goal in the last 30 min of competitions, the team was regarded as winning team in findings table in case it received equal goal in the same 30 min and scored winning goal and won the competition. Information was analyzed using SPSS.18 software in level of P≤0.05. In this research, findings were analyzed in two descriptive and inferential sections. Binomial and Chi square non-parametric tests were used in inferential statistics section and percent and frequency were used in descriptive section.
Results

Considering observation of games of teams participating in South Africa World Cup competitions 2010, 59.31% of the scored goals during tournament have been obtained in the second 45 min of games. Study of the number of scored goals every 15 min of competition showed that there was no significant difference between the scored goals every 15 min of games and goals had equal distribution every 15 min. Frequency of the results obtained for teams which got ahead of the opponents in 1 goal during 30 min of competition is very considerable. All teams which got ahead of the opponents in 1 goal within the last 30 min won the competition. On the other hand, the teams which successfully scored the first goal achieved 44 victories, 9 equalities and only 4 failures (Table 1).

Table 1. Factors studied in South Africa World Club Competitions 2010

<table>
<thead>
<tr>
<th>Percent</th>
<th>The first 45 min</th>
<th>The third 45 min</th>
<th>Frequency of the scored goals in two halves of competitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>40.69</td>
<td>59</td>
<td>59.31</td>
<td>86</td>
</tr>
<tr>
<td></td>
<td>First</td>
<td>Second</td>
<td>Third</td>
</tr>
<tr>
<td></td>
<td>13</td>
<td>24</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>Defeat</td>
<td>Win</td>
<td>Equality</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>21</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Defeat</td>
<td>Win</td>
<td>Equality</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>44</td>
<td>9</td>
</tr>
</tbody>
</table>

There is significant difference between both halves of competitions in terms of the number of scored goals. Therefore, teams scored more goals by taking attack measures in the second 45 min of games. Results indicate importance of the second half of competitions in scoring of more goals for teams (Table 2).
Table 2. Results of Binomial Test between Two Halves of Competitions
In Terms of the Number of Scored Goals

<table>
<thead>
<tr>
<th>Significance level</th>
<th>Hypothetical ratio</th>
<th>Observed ratio</th>
<th>Frequency</th>
<th>The number of scored goals in two halves of competitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.030</td>
<td>0.50</td>
<td>0.41</td>
<td>59</td>
<td>The number of scored goals in the first 40 min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.59</td>
<td>86</td>
<td>The number of scored goals in the second 45 min</td>
</tr>
</tbody>
</table>

There is no significant difference in the number of scored goals every 15 min of competitions. Therefore, no special pattern has been observed for increase of the number of goals in this field. On the other hand, there is significant difference between 3 results of equality, victory and defeat for the teams which scored the first goal during competitions. Therefore, chance of the teams which score the first goal is higher than that of the teams which receive the first goal.

Table 3. Results of chi square test for the scored goals in different 15 minutes and the team which scores the first goal.

<table>
<thead>
<tr>
<th>Factors</th>
<th>Chi square</th>
<th>Degree of freedom</th>
<th>Significance level</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>the scored goals every 15 min of competitions</td>
<td>10.710</td>
<td>5</td>
<td>0.057</td>
<td>No significance</td>
</tr>
<tr>
<td>Teams which scored the first goal</td>
<td>50.000</td>
<td>2</td>
<td>0.000</td>
<td>significance</td>
</tr>
</tbody>
</table>

Fig. 1 shows that a team successfully won in all 21 competitions which it got a head of its opponent in 1 goal in the last 30 minutes. Results indicate importance of goal in the last 30 min of competitions. Therefore, the teams which are behind the opponent in the last 30 min hardly will compensate for it.
Fig 1. Frequency of Results for Teams which have got ahead of the opponents in 1 goal in the last 30 min

Discussion and Conclusion

Study of competitions showed that most of the scored goals occurred in the second 45 min considering two 45 minutes of competitions. Results showed that 86 out of 145 goals (59.31%) were scored in the second half of games. Regarding frequency of the number of goals scored every 15 min of competitions, it was specified that the scored goals have had equal distribution in each of six 15 min of competitions. Research results of increase in the number of scored goals in the second half of competitions were in line with findings of people like Aramatas et al. (2007) as well as Yanakas and Aramatas (2006). These people in their research showed that more than 50% of the scored goals in the studied competitions have been obtained in the second 45 minutes of competitions. Results of research on frequency of the goals scored in each of the first to sixth minutes of competitions are comparable to findings of Aramatas et al. (2007), Aramatas et al. (2009) and Dadegan and Daneshjoo(2008) . Aramatas showed that most of the scored goals in each 15 min related to the sixth min of competitions in World Cup 1998 and 2006. In another research, he studied Greek Professional Football Leagues and showed that most of the scored goals also related to the last 15 min of competitions. But in a part of research by Aramatas (2007), it was specified that the scored goals in World Cup 2002 had equal distribution every 15 min of competitions and there was no significant difference between different 15 minutes. Results of the present research in this field are in line with finding of Aramatas (2007).
Research results showed that probability of victory for the team which can score the first goal is higher than that of the teams which receive the first goal of competition. Among the teams which score the first goal, there were 44 cases of victory, 9 equality cases and only 4 defeat cases to obtain results. These results are in line with study by Aramatas et al. (2009) on the teams present in Greek Professional Football Leagues and also study by Aramatas and Yanakas (2010) on teams present in World Cup 2006. Research results have shown that the teams scoring the first goal in competitions will have higher chance of winning. Research findings on acquisition of different results are very interesting for the teams which got ahead of opponents in 1 goal for the teams in the last 30 min. in all 21 competitions which one team got head of the opponent in the last 30 min ended results of competition winningly.

Results of the present research showed that focus of coaches on execution of attack tactics in the second 45 min of competitions can lead to the positive results for the team. Execution of different attack tactics can lead to more goals for a team using new replaced players in the second half when the opponent team has no good physical condition. Since most of the scored goals relate to the second half of competitions, role of coaches between two halves of competition is of special importance. Making the players understand that most of the goals are scored in football game in the second 45 min of competitions can show importance of the second half of competition for players of a team even when they lag behind the opponent in the first half. Since most of the scored goals relate to the second 45 min in most competitions and most teams have low ability to return to competition and change result after receiving the first goal, special attention of coaches to organization of defensive tactics between two halves can prevent weak results for a team. On the other hand, research results showed that the team which scores the first goal had higher chance of winning. This subject refers to two separate cases. First, scoring goal in a game increases chance of team for wining, so, concentration for not receiving goal and scoring goal can have positive effects for a team. In the second section, the teams which are behind their opponent in 1 goal will have lower ability to return to competition. Coaches should predict necessary arrangements whether mentally or tactically for their team under such conditions. Attention of coaches to the last 30 min of competitions is very important. In the present research, all teams which got ahead of opponents in 1 goal in the last 30 minutes won the competition. Different strategies such as the use of efficient and fresh immigrants in the last 30 minutes during competition and also special attention to increase of physical resistance of layers in exercise processes before competition can leave positive effects for a team on acquisition of suitable results in the last 30 minutes of competitions.
References


http://www.jssf.net/home.html ,University of Wales Institute, Cardiff.


Address for correspondence:

Shahram Shafiee
Department of Sport Management,
Faculty of Sport Science and Physical Education,
University of Guilan, Rasht, Iran
Phone: +981316690685
Cell: 0098-9119176240
Fax: 0098-131-6690815
P.O. Box: 1438
E mail: Shafieeshahram@gmail.com