The Effectiveness of Offensive Performances Using Ball Screen on the Results of the Leading Teams in the 2023 Basketball World Cup Qualifiers

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Keywords

Ball screens , Offensive performances , Basketball , 2023 World Cup qualifiers , Tactical performance , Statistical analysis , Offensive strategies , Pick & Roll, Pick & Pop , Tactical strategies

Introduction

Basketball is a team sport that requires advanced tactical performance to achieve victory. Ball screens are one of the key offensive strategies that help teams gain a tactical advantage over their competitors. This study aims to evaluate the effectiveness of offensive performances using ball screens in the 2023 World Cup qualifiers and their impact on the results of leading teams.

Basketball is one of the most popular and widely played sports globally, requiring a complex blend of physical, mental, and strategic skills to achieve optimal performance. With recent advancements in training methods and tactical analysis, focusing on tactical and offensive performance has become one of the key elements that determine a team's success in major tournaments. Screens are among the most prominent tactics used in modern basketball, as they enhance player cooperation and create effective offensive opportunities. Recent studies indicate that offensive tactics, particularly screens, improve offensive performance by allowing players to break free from defensive coverage and create opportunities for scoring

or making crucial passes. These games are executed in various ways, including stationary screens, moving screens, and cuts inwards or outwards (Pick & Roll and Pick & Pop), making them flexible tactical tools used to counter advanced defenses.

The significance of this study lies in its focus on evaluating the effectiveness of screens and their impact on the results of leading teams in the 2023 Basketball World Cup qualifiers. The primary objectives are to determine the extent to which these strategies contribute to improving offensive performance and increasing scoring rates. In addition, the study aims to guide coaches and players toward adopting more advanced and effective methods in designing game plans.

The study is based on a central hypothesis suggesting that the proficient and systematic use of ball screens leads to improved offensive performance and increased scoring opportunities. Through both quantitative and qualitative analysis of the performance of the participating teams, the study seeks to provide coaches and researchers with accurate results that can be used to develop training strategies.

Study Methodology

The descriptive analytical method was used to study and analyze the offensive performances of the leading teams in the 2023 World Cup qualifiers. The sample included 36 matches (9 matches for each team) during the third and fourth windows of the qualifiers (from June 27, 2022, to February 28, 2023). A total of 288 offensive performances utilizing ball screens were analyzed.

Sample of Experts

The expert sample consisted of 13 experts.

The experts were selected based on the following criteria:

1. The expert must hold an academic qualification or a PhD in the field of basketball coaching.
2. The expert must have at least 10 years of coaching experience.
3. The expert must have specialized knowledge and expertise in basketball coaching.

Steps of Conducting the Research

1 Preliminary Exploratory Studies

Objective of the Study

This study aims to design a proposed observation form by the researcher to identify offensive performances using ball screens for the ball-handling player and the player setting the screen.

Study Procedures

This study was conducted from July 5, 2022, to August 20, 2022, through the following steps:

1. Design an observation form to document offensive performances using screens for the ball-handling attacker.
2. Design an observation form to document offensive performances using screens for the player setting the screen.
3. Present the preliminary version of the observation form designed by the researcher to the experts.

Based on the above, the study aimed to answer the question:

- What are the effectiveness ratios of using screens on the ball-handling attacker?

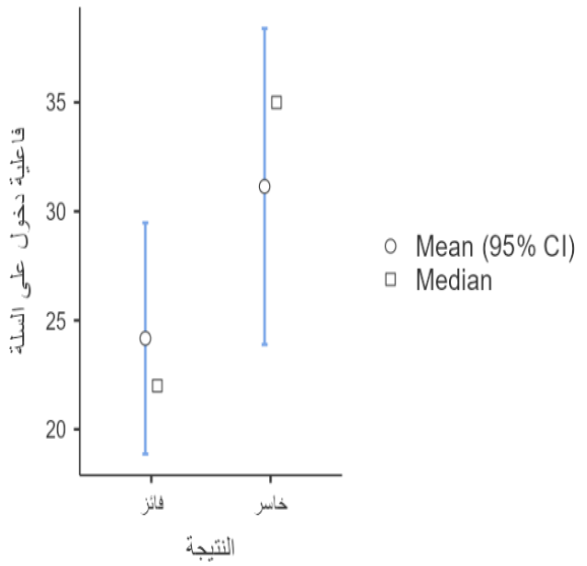
The number of games, percentage, aggregate value, and chi-square value for the variables related to the effectiveness of screen plays on the ball-handler during drives to the basket (n = 36)

Special Case	Frequency	Number of Matches	Percentage	Aggregate value	Chi-Square
Breakthrough and scoring from beneath the basket + drawing a foul for a free throw	0	33	91.7%	91.7%	25.000*
	1	3	8.3%	100.0%	
	Total	36	100.0%		
Breakthrough and scoring	0	10	27.8%	27.8%	9.278*
	1	10	27.8%	55.6%	
	2	10	27.8%	83.3%	
	3	5	13.9%	97.2%	
	4	1	2.8%	100.0%	
	Total	36	100.0%		

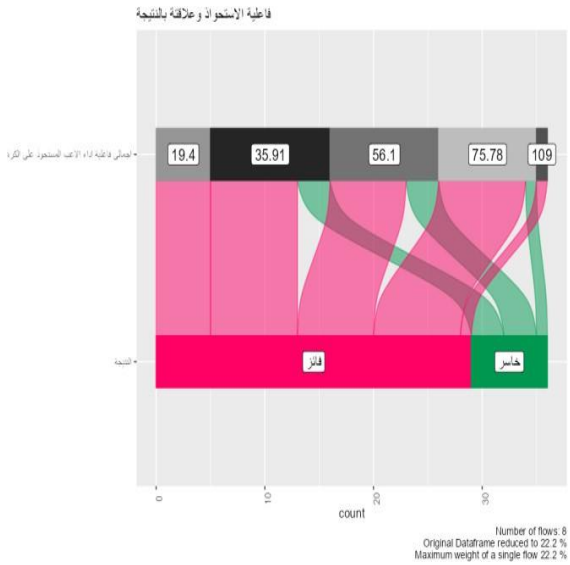
Special Case	Frequency	Number of Matches	Percentage	Aggregate value	Chi-Square
Drawing a foul for two free throws	0	17	47.2%	47.2%	19.333*
	1	14	38.9%	86.1%	
	2	3	8.3%	94.4%	
	3	2	5.6%	100.0%	
	Total	36	100.0%		
Ball stolen by defender (block)	0	27	75.0%	75.0%	28.500*
	1	6	16.7%	91.7%	
	2	3	8.3%	100.0%	
	Total	36	100.0%		
Offensive foul committed by attacker during breakthrough	0	30	83.3%	83.3%	41.167*
	1	5	13.9%	97.2%	
	2	1	2.8%	100.0%	
	Total	36	100.0%		
Ball stolen from attacker	0	15	41.7%	41.7%	24.667*
	1	10	27.8%	69.4%	
	2	5	13.9%	83.3%	
	3	1	2.8%	86.1%	
	4	3	8.3%	94.4%	
	5	2	5.6%	100.0%	
	Total	36	100.0%		
Failure to score	0	10	27.8%	27.8%	16.000*
	1	8	22.2%	50.0%	
	2	6	16.7%	66.7%	
	3	3	8.3%	75.0%	
	4	4	11.1%	86.1%	
	5	1	2.8%	88.9%	
	6	2	5.6%	94.4%	

Special Case	Frequency	Number of Matches	Percentage	Aggregate value	Chi-Square
	7	1	2.8%	97.2%	
	8	1	2.8%	100.0%	
	Total	36	100.0%		

Chi-square value is significant at 0.05 = 5.99



The graph depicting the overall effectiveness of the screens on
the player in possession of the ball while approaching the basket.



The graph depicting the overall effectiveness of the screens on the
player in possession of the ball while approaching the basket.

The previous table and graphs illustrate the number of matches, percentages, aggregate values, and the Chi- square value for the specific variables related to the effectiveness of the screens on the player in possession of the ball (the player being screened) while approaching the basket for the Egypt national team.

It is evident that the penetration and scoring a basket from below the basket, as well as drawing a foul that results in an additional free throw, occurred once during three matches with a percentage of 8.3%. The Chi-square value was 25.000*, which is significant at 0.05, indicating differences between teams for this variable.
On the other hand, penetration and scoring a basket occurred 4 times during a single match

with a percentage of 2.8%. The Chi-square value was 9.278*, which is significant at 0.05, indicating differences between teams for this variable.
Getting a foul that requires two free throws occurred 3 times over two matches, with a frequency of 5.6%. It is clear from the chi-square value that it reached 19.333*, which is a significant value at 0.05, indicating that there are differences between the teams in this variable.

As for the ball being blocked by the defender (block), it occurred twice during 3 matches, with a frequency of 8.3%. The chi-square value reached 28.500*, which is a significant value at 0.05, indicating that there are differences between the teams in this variable.

As for the attacker committing an offensive foul during penetration, it occurred twice in one match, with a frequency of 2.8%. The chi-square value reached 41.167*, which is a significant value at 0.05, indicating that there are differences between the teams in this variable.

As for the ball being intercepted from the attacker, it occurred 5 times over two matches, with a frequency of 5.6%. The chi-square value reached 24.667*, which is a significant value at 0.05, indicating that there are differences between the teams in this variable.

As for failing to score, it occurred 8 times in one match, with a frequency of 2.8%. The chi-square value reached 16.000*, which is a significant value at 0.05, indicating that there are differences between the teams in this variable."

There are statistically significant differences in the chi-square value, as the calculated chi-square value was greater than the table value, indicating that the screen play on the player holding the ball during a drive to the basket is effective.

This table shows a general weakness in the level of driving to the basket in all matches due to several reasons, the most important of which are: the way tactical performance is integrated with skill performance during training, the perception of distance and power estimation during shooting, psychological factors, external conditions (crowd, court, climate), methods of finishing the offensive play at the basket, and weak interaction during the match (stimuli). The player needs interactive agility, reactive speed, and response time when shooting under pressure.

Lamass and others (2011) agreed that there is a significant prevalence of screen plays for the player holding the ball (34.8%), compared to many other offensive dynamics, in 15 matches of the 2002 Men's World Basketball Championship. They also noted that screen plays for the player holding the ball are the most commonly used to finish an offensive play in basketball

Dalia Mohamed (1998) also agreed that the goal of an offense is not just to get the team to the basket and watch the ball miss the hoop, thus wasting the team's effort. Rather, the aim of the offense is certainly to get the ball to the closest point that allows the offensive player to put the ball into the hoop and score points. (156:9)

Results

1. Effectiveness of Offensive Performances Using Screen Plays:

- The results showed significant differences between teams in terms of using screen plays in offensive performance. Teams that used screen plays more frequently demonstrated a higher ability to create scoring opportunities and achieve points.
- Screen plays enhanced the effectiveness of offensive performance by improving key passes and reducing unnecessary ball turnovers.

2. Most Common Types of Screen Plays Used:

- The "Pick & Roll" was the most common play, showing great effectiveness in creating direct opportunities for scoring or passing. This was followed by the "Pick & Pop," which provided flexible offensive options, especially with players capable of shooting from mid-range and long-range.
- Advanced teams displayed a variety of screen strategies, giving them a competitive edge against different defensive setups.

3. Statistical Analysis:

- It was found that screen plays used in the front court areas were the most productive, helping increase the success rate of shots by 12% compared to other strategies.
- The analysis showed that ball-handling players benefited more from screen plays compared to non-handling players, resulting in a 15% increase in scoring rate.
- The results also revealed a positive correlation between the number of offensive attempts relying on screen plays and the scoring rate, emphasizing the importance of this strategy in boosting offensive performance.

4. Geographical Distribution of Play:

- The front court areas saw the highest concentration of screen plays, which enhanced scoring opportunities from close range.
- The analysis also showed that using screen plays in the sideline areas provided additional chances to create open spaces and successful shots.

Discussion

The results highlight the importance of screen plays in improving offensive performance in basketball. Advanced teams rely on offensive strategies that involve screens and cuts to break through strong defenses. The study demonstrated that effective passes and smart movements within the court enhance scoring opportunities and increase the effectiveness of team performance.

Findings

1. Screen plays are an effective offensive strategy that positively impacts results.
2. Teams that rely on screen plays enjoy higher performance levels and greater ability to penetrate defenses.
3. Continuous training on screen play strategies enhances offensive performance and leads to improved results in major tournaments.

Recommendations

- Integrate screen plays intensively into team training programs.
- Develop performance analysis tools to evaluate the use of screen plays during matches.
- Adopt flexible offensive plans based on the analysis of opposing defences.

Conclusion

The study highlighted the importance of screen plays in enhancing offensive performance and achieving positive results in basketball.

The study recommended leveraging modern technology to analyze performance and develop effective offensive strategies based on screens and cuts.

It concluded that systematic training on screen plays is a crucial element in improving team performance and winning matches.

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