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Comparison of Shooting in FIFA World Cup Qatar 2022 Between Winning and Losing Teams

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I. INTRODUCTION

Shooting performance is a key indicator influencing match outcomes in elite football [1][2]. In high-intensity tournaments such as the FIFA World Cup Qatar 2022, small differences in offensive efficiency may determine progression or elimination, particularly during knockout stages where competitive pressure is elevated [3][4]. Therefore, identifying shooting indicators that distinguish winning and losing teams is essential for understanding match success at the highest competitive level [1].

II. METHODS

This study employed a quantitative causal-comparative design. The population comprised teams competing in the knockout stage (Round of 16 to Final) of the FIFA World Cup Qatar 2022. Secondary data were obtained from official FIFA match reports. These methods are supported by previous studies [1][2]. The measured variables were timing of goals, total shots, shots on target, shot accuracy, shot origin (inside and outside the penalty box), and conversion rate. Data were analysed using descriptive statistics and independent samples t-tests in SPSS, with significance set at $p < .05$.

III. RESULTS AND DISCUSSION

Only goals scored and conversion rate showed significant differences between groups. This indicates that match success in the knockout stage was strongly influenced by finishing efficiency rather than shooting frequency [5][7]. Although both groups produced comparable numbers of total shots and shots on target, winning teams demonstrated superior ability to convert scoring opportunities [6][7]. These findings are consistent with recent evidence indicating that technical-tactical efficiency in goal-scoring actions is a stronger determinant of match outcome than overall shooting volume in elite competitions [5].

No significant differences were observed in shot accuracy or shot origin between winning and losing teams, indicating that the quantity and spatial distribution of attempts alone were insufficient to explain match outcomes [6][7]. While previous research has highlighted the importance of spatial and technical indicators in creating scoring

opportunities, these variables alone do not consistently discriminate successful from unsuccessful teams in high-level competitions [6]. Instead, the present findings suggest that match success during knockout stages may be more strongly influenced by finishing efficiency and the capacity to capitalise on decisive moments under pressure [5][7].

TABLE I
SHOOTING PERFORMANCE DIFFERENCES BETWEEN WINNING AND LOSING TEAM

Variables	Mean $\pm$ SD		p-value
	Winning Teams	Losing Teams	
Goals Scored	2.67 $\pm$ 0.72	0.87 $\pm$ 0.52	<.001*
Total Shots	15.47 $\pm$ 5.28	14.20 $\pm$ 4.91	.504
Shots on Target	6.73 $\pm$ 2.60	5.27 $\pm$ 2.05	.104
Shot Accuracy (%)	43.54 $\pm$ 11.84	37.68 $\pm$ 12.11	.211
Shot Inside Penalty Box	9.87 $\pm$ 3.89	8.93 $\pm$ 3.45	.488
Shot Outside Penalty Box	5.60 $\pm$ 2.41	5.27 $\pm$ 2.17	.699
Conversion Rate (%)	18.36 $\pm$ 6.44	6.12 $\pm$ 4.18	<.001*

*Significant level at $p < .05$

This interpretation aligns with contemporary performance analysis research demonstrating that elite match outcomes are frequently determined by marginal gains in offensive efficiency rather than overall shooting frequency [5]. In tightly contested tournaments, particularly during elimination rounds, teams often generate comparable numbers of attempts; however, the ability to convert high-quality chances in critical phases of the match becomes the distinguishing factor [7]. Therefore, the findings reinforce the notion that efficiency-based indicators, such as goal conversion rate, may provide greater explanatory value than volume-based metrics when evaluating success at the highest competitive level [5][6].

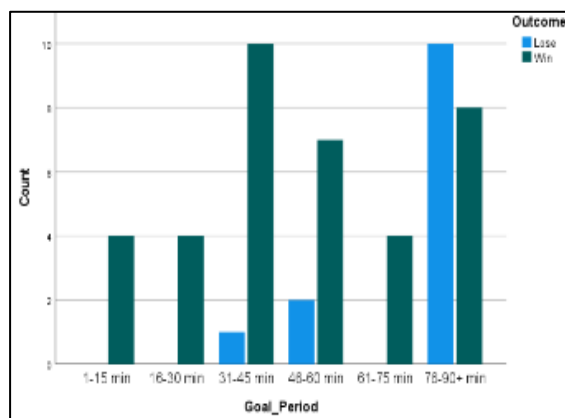


Fig. 1 Distribution of goals across six match periods for winning and losing teams

In terms of goal timing (see Figure 1), winning teams recorded a higher frequency of goals during the later stages of the match, particularly in the second half. This pattern is consistent with research indicating that decisive goals in elite tournaments are frequently scored in the final phases of play, where physical fatigue, tactical adjustments, and psychological pressure become more pronounced [7]. The ability to score during these critical periods may reflect superior game management, endurance capacity, and situational awareness [5].

Moreover, knockout-stage matches often demand sustained concentration and strategic adaptation, with successful teams demonstrating greater composure and efficiency under high-pressure conditions [5][6]. Late goals may therefore represent not only physical superiority but also enhanced tactical flexibility and mental resilience, characteristics commonly associated with high-performing teams in elite competitions [7].

IV. CONCLUSIONS

Goal conversion efficiency was a more decisive factor than shooting quantity in determining match

outcomes. Although shooting frequency and location were similar between groups, winning teams showed superior finishing effectiveness. These findings highlight the importance of clinical execution and composure under pressure in elite elimination matches.

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