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## Strategic Influence of Penalty Corner Conversion Efficiency on Competitive Success in Elite Men's Indoor Hockey: Performance Analytics from the 2025 Southeast Asian Games

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### ABSTRACT

**The purpose of the study.** This study examined the strategic influence of penalty corner conversion efficiency on competitive success in elite men's indoor hockey during the 2025 Southeast Asian (SEA) Games. The study was designed to determine whether team-level penalty corner productivity was associated with match victories and final ranking outcomes in a compressed international tournament environment.

**Materials and methods.** A retrospective quantitative performance analytics design was employed. The units of analysis were the five national men's indoor hockey teams participating in the official tournament, with performance indicators extracted from all 13 official fixtures, including preliminary, semifinal, and medal-round matches. The principal explanatory variable was total penalty corner goals, whereas competitive success was operationalized through total victories and final tournament ranking. Descriptive statistics, Shapiro-Wilk normality testing, Pearson and Spearman correlations, and simple linear regression were used to evaluate distributional properties, bivariate associations, and predictive strength.

**Results.** Penalty corner productivity showed a very strong positive association with total team victories ( $r = .943$ ,  $p = .016$ ) and final ranking position ( $\rho = .949$ ,  $p = .014$ ). Regression analysis indicated that penalty corner goals significantly predicted competitive success, accounting for 88.9% of the variance in team performance ( $R^2 = .889$ ,  $\beta = .943$ ,  $p = .016$ ).

**Conclusions.** Penalty corner conversion efficiency appears to be a decisive tactical determinant of elite men's indoor hockey success in the 2025 SEA Games context. The findings support the integration of specialized set-piece preparation, opponent-specific video analysis, and evidence-informed tactical planning within national indoor hockey programs. Given the small number of participating teams, the results should be interpreted as high-value tournament evidence rather than a universally generalizable model.

**Keywords:** indoor hockey; penalty corner; performance analytics; set-piece efficiency; tactical analysis; SEA Games; elite sport.

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## INTRODUCTION

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**MATERIALS AND METHODS**

**RESULTS**

**DISCUSSION**

**CONCLUSION**

**ACKNOWLEDGMENTS**

**CONFLICT OF INTEREST**

**REFERENCES**

