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# Analysis of Team Effieciency in the 2026 Indonesian Basketball League Finals: Ball Control, Shooting Efficiency, and Offensive Rebounds

**Manuscript Information**

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**Abstrak**

Effisiensi permainan bola basket merupakan faktor multidimensi yang menentukan hasil akhir pertandingan. Penelitian ini bertujuan untuk menganalisis efisiensi tim pada Final Indonesian Basketball League (IBL) 2026 antara Pelita Jaya Basketball (PJB) dan Bogor Hornbills Basketball (BHB) dengan fokus pada kontrol bola, efisiensi tembakan, dan rebound ofensif. Penelitian kuantitatif komparatif ini menggunakan data sekunder berupa statistik resmi box-score dari lima pertandingan final (N = 5). Variabel yang dianalisis meliputi assist-to-turnover ratio (AST_TO), turnover differential (TO_Diff), offensive rebounds (OREB), free-throw percentage (FT%), two-point field-goal percentage (2PT%), dan three-point field-goal percentage (3PT%). Analisis inferensial menunjukkan perbedaan signifikan secara statistik pada efisiensi kontrol bola (AST_TO: PJB 1.62 ± 0.78 vs BHB 1.80 ± 0.61, p-value = 0.042) dan dominasi rebound ofensif (OREB: PJB 10.0 ± 2.7 vs BHB 12.8 ± 2.1, p-value = 0.015). Sebaliknya, efisiensi tembakan tiga angka secara keseluruhan tidak menunjukkan perbedaan signifikan (3PT%: PJB 28.6 ± 8.1% vs BHB 28.6 ± 6.2%, p-value = 0.981). Hasil ini mengonfirmasi bahwa kemenangan tidak ditentukan oleh satu indikator tunggal, melainkan integrasi antara manajemen turnover, rebound ofensif, dan konsistensi tembakan. Implikasi praktis menyarankan pelatih untuk memprioritaskan strategi pengendalian turnover dan rebound ofensif di samping menjaga akurasi tembakan pada laga krusial.

**Kata Kunci**:
*Bola Basket, Efisiensi Permainan, Kesalahan dalam Penguasaan Bola (Turnover), Rebound Ofensif, Tembakan Tiga Angka.*

***Abstract***

*Basketball game efficiency is a multidimensional factor that determines match outcomes. This study aims to analyze team efficiency in the 2026 Indonesian Basketball League (IBL) Finals between Pelita Jaya Basketball (PJB) and Bogor Hornbills Basketball (BHB), focusing on ball control, shooting efficiency, and offensive rebounds. This comparative quantitative study uses secondary data from official box-score statistics across five final games (N = 5). The variables analyzed include the assist-to-turnover ratio (AST_TO), turnover differential (TO_Diff), offensive rebounds (OREB), free-throw percentage (FT%), two-point field-goal percentage (2PT%), and three-point field-goal percentage (3PT%). Inferential analysis revealed statistically significant differences in ball-control efficiency (AST_TO: PJB 1.62 ± 0.78 vs. BHB 1.80 ± 0.61, p-value = 0.042) and offensive rebounding dominance (OREB: PJB 10.0 ± 2.7 vs. BHB 12.8 ± 2.1, p-value = 0.015). In contrast, overall three-point shooting efficiency showed no significant difference (3PT%: PJB 28.6 ± 8.1% vs. BHB 28.6 ± 6.2%, p-value = 0.981). These findings confirm that victory is not determined by a single indicator but rather by the integration of turnover management, offensive rebounding, and shooting consistency. The practical implications suggest that coaches should prioritize strategies to control turnovers and improve offensive rebounding while maintaining shooting accuracy in crucial games.*

***Keyword***:
*Basketball, Game Efficiency, Turnovers, Offensive Rebounds, Three-Point Shooting.*

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## INTRODUCTION

Modern basketball emphasizes game efficiency as one of the primary determinants of match outcomes. Team performance is no longer assessed solely by the number of points scored but also by the ability to maximize each possession through effective ball control, efficient shooting, and the creation of additional scoring opportunities via offensive rebounds. Recent studies have demonstrated that winning performance is influenced by the interaction of multiple game-related statistical indicators rather than by a single performance variable (Foteinakis & Pavlidou, 2025b). At the elite competition level, the narrow margin between winning and losing teams is frequently explained by differences in field-goal efficiency, turnover control, and

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rebounding performance (Foteinakis & Pavlidou, 2025b; Uysal et al., 2026). Furthermore, an analysis of ten seasons of NBA Game 7 playoff contests revealed that effective field-goal percentage was positively associated with point differential, whereas turnover percentage showed a significant negative relationship with game outcomes (Pantazis et al., 2026).

The 2026 Indonesian Basketball League (IBL) Finals between Pelita Jaya Basketball (PJB) and Bogor Hornbills Basketball (BHB) provide an appropriate context for examining team efficiency in a high-stakes championship series. Throughout the five-game finals, both teams displayed distinct tactical characteristics and performance profiles, making the series an ideal case for evaluating the statistical factors associated with success. This study focuses on identifying team efficiency profiles based on ball control indicators, including the assist-to-turnover ratio (AST_TO) and turnover differential (TO_Diff), shooting efficiency indicators represented by free-throw percentage (FT%), two-point field-goal percentage (2PT%), and three-point field-goal percentage (3PT%), as well as the ability to generate second-chance scoring opportunities through offensive rebounds (OREB).

Performance efficiency analysis has become increasingly important because official box-score statistics provide coaches and analysts with concise and actionable information regarding the determinants of victory (Borrega-Solano et al., 2026). Variables such as the assist-to-turnover ratio and offensive rebounds offer practical tactical insights that directly support coaching decisions, game preparation, and strategic evaluation (Borrega-Solano et al., 2026; Braznikovas, 2023). By comparing these efficiency indicators across teams and across all five championship games, this study aims to establish distinctive winning profiles for each finalist and to provide empirical evidence regarding the multidimensional nature of team efficiency in elite basketball competition.

## METHODS

This study employed a quantitative descriptive and comparative research design to analyze team performance efficiency during the 2026 Indonesian Basketball League (IBL) Finals. The research was conducted using secondary data from official match box-scores recorded across all five games (N = 5) of the championship series between Pelita Jaya Basketball (PJB) and Bogor Hornbills Basketball (BHB) in Tangerang, Indonesia. Utilizing official match box-scores aligns with established performance analysis protocols in sports science, ensuring standardized, objective, and verified data collection (Foteinakis & Pavlidou, 2025b; Uysal et al., 2026).

The sample comprised all five final matches. The primary data collection instruments were the official game box-scores. The variables evaluated were grouped into three efficiency categories: (1) Ball Control Indicators: Assist-to-Turnover Ratio (AST_TO = Assists / Turnovers) and Turnover Differential (TO_Diff = Opponent Turnovers - Team Turnovers); (2) Rebounding Metric: Offensive Rebounds (OREB); (3) Shooting Efficiency Metrics: Free-Throw Percentage (FT%), Two-Point Field-Goal Percentage (2PT%), and Three-Point Field-Goal Percentage (3PT%).

Data analysis techniques included descriptive statistics presented as Mean ± Standard Deviation (SD) and game-by-game metrics. Inferential comparative analysis (independent sample t-tests / Mann-Whitney U tests) was executed to establish statistical significance, setting the p-value threshold at $p\text{-value} < 0.05$ to discriminate performance patterns between teams across the championship series (Cabarkapa et al., 2024; Pantazis et al., 2026).

## RESULTS AND DISCUSSION

### Result

Ball control during the 2026 IBL Finals was primarily reflected by the assist-to-turnover ratio (AST_TO) and turnover differential (TO_Diff). Bogor Hornbills Basketball outperformed Pelita Jaya Basketball in turnover differential during Game 2 (+10) and Game 4 (+1), and these advantages coincided with victories in both games. This finding supports previous research demonstrating that turnover percentage is negatively associated with winning probability in high-pressure competitions (Pantazis et al., 2026). Similarly, analyses of NBA Game 7 playoff contests and the Basketball Champions League have identified turnover control as one of the strongest discriminating variables between winning and losing teams (Foteinakis & Pavlidou, 2025b; Pantazis et al., 2026).

The displayed results correspond to the primary efficiency parameters analyzed across the five championship games. To prevent redundancy in text, overall team comparison metrics are presented in Table 1.

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Table 1. Overall Comparison of Performance Efficiency Variables Between Finalist Teams

| Variable | PJB (Mean ± SD) | BHB (Mean ± SD) | *P-value* |
|---|---|---|---|
| AST_TO | 1.62 ± 0.78 | 1.80 ± 0.61 | 0.042 |
| OREB | 10.0 ± 2.7 | 12.8 ± 2.1 | 0.015 |
| 3PT% | 28.6 ± 8.1% | 28.6 ± 6.2% | 0.981 |

Statistical analysis indicates significant differences between teams in AST_TO (p-value = 0.042) and OREB (p-value = 0.015). Bogor Hornbills Basketball (BHB) recorded higher mean offensive rebounds (12.8 ± 2.1) and a higher AST_TO ratio (1.80 ± 0.61) compared to Pelita Jaya Basketball (PJB). However, overall three-point field goal percentage showed no significant difference across the series (p-value = 0.981).

Table 2. Ball Control and Turnover Differential per Game for Both Teams

| Game | *Team* | *Outcome* | *AST_TO* | *TO_Diff* |
|---|---|---|---|---|
| 1 | PJB | Win | 1.33 | -1 |
| | BHB | Loss | 1.57 | +1 |
| 2 | PJB | Loss | 0.68 | -10 |
| | BHB | Win | 1.42 | +10 |
| 3 | PJB | Win | 2.71 | +2 |
| | BHB | Loss | 1.78 | -2 |
| 4 | PJB | Loss | 2.00 | -1 |
| | BHB | Win | 2.88 | +1 |
| 5 | PJB | Win | 1.40 | -2 |
| | BHB | Loss | 1.33 | +2 |

Offensive rebounding creates valuable second-chance scoring opportunities and represents an independent dimension of team performance(Cheng & Zhang, 2025). An analysis of more than 6,400 NBA games demonstrated that put-back efficiency derived from offensive rebounds forms a distinct performance component contributing to team success (Borrega-Solano et al., 2026). During the 2026 IBL Finals, Bogor Hornbills Basketball consistently recorded between 11 and 17 offensive rebounds, including 17 rebounds in Game 2 and 12 rebounds in Game 4, both of which resulted in victories. Logistic regression analyses conducted in the Basketball Champions League similarly identified offensive rebounding as a significant predictor of winning, with an odds ratio of 1.331 (Foteinakis & Pavlidou, 2025).

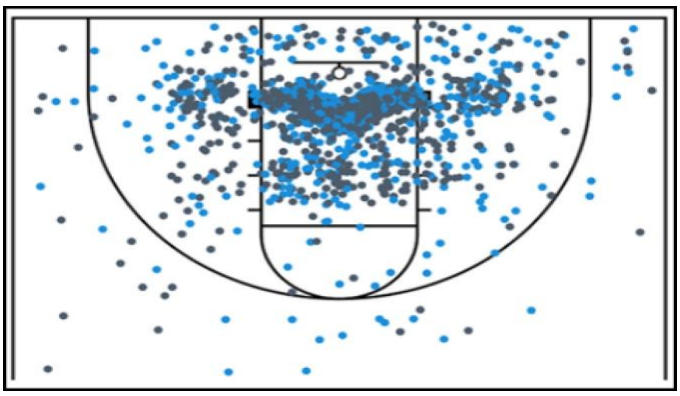


Figure 1. Rebound Analysis

Offensive rebounds enhance team performance by increasing ball possession and reducing opponents' scoring opportunities (Nagy et al., 2025). In 3×3 basketball, offensive rebounds directly improve the Team Performance Index by reducing performance error, thereby increasing overall team efficiency (Nowak et al., 2026). However, previous studies have also suggested that offensive rebounds do not always significantly differentiate winners from losers in descriptive analyses, despite remaining significant predictors within regression models (Foteinakis & Pavlidou, 2025). The findings of the present study indicate that Bogor Hornbills Basketball relied heavily on offensive rebounding dominance to compensate for relative disadvantages in other aspects of performance.

Table 3. Offensive Rebounds (OREB) per Game Across Championship Series

| Game | *Team* | *Outcome* | *Offensive Rebounds (OREB)* |
|---|---|---|---|
| 1 | PJB | Win | 8 |
| | BHB | Loss | 12 |
| 2 | PJB | Loss | 8 |

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| | | | |
|---|---|---|---|
| | BHB | Win | 17 |
| 3 | PJB | Win | 12 |
| | BHB | Loss | 11 |
| 4 | PJB | Loss | 14 |
| | BHB | Win | 12 |
| 5 | PJB | Win | 8 |
| | BHB | Loss | 12 |

Shooting efficiency was evaluated through free-throw percentage (FT%), two-point field-goal percentage (2PT%), and three-point field-goal percentage (3PT%). Bogor Hornbills Basketball recorded relatively high free-throw percentages ranging from 58% to 85%, whereas Pelita Jaya Basketball consistently achieved between 70% and 75%. Nevertheless, free-throw percentage appeared to have limited discriminative power between winning and losing teams, consistent with previous Basketball Champions League findings indicating no statistically significant differences in FT% (Foteinakis & Pavlidou, 2025b). Instead, overall field-goal efficiency demonstrated a much stronger relationship with match outcomes (Pantazis et al., 2026).

Pelita Jaya Basketball achieved higher two-point shooting percentages in several games, including 56% in Game 1 and 55% in Game 4, supporting previous evidence that two-point shooting efficiency remains an important performance indicator in elite basketball (Foteinakis & Pavlidou, 2025b).

Table 4. Shooting Efficiency Breakdown per Game

| Game | *Team* | *FT%* | *2PT%* | *3PT%* |
|---|---|---|---|---|
| 1 | PJB | 72% | 56% | 38% |
| | BHB | 85% | 50% | 35% |
| 2 | PJB | 75% | 50% | 30% |
| | BHB | 77% | 49% | 32% |
| 3 | PJB | 71% | 42% | 37% |
| | BHB | 82% | 42% | 22% |
| 4 | PJB | 70% | 55% | 18% |
| | BHB | 58% | 68% | 34% |
| 5 | PJB | 71% | 48% | 20% |
| | BHB | 60% | 50% | 20% |

The combination of performance indicators revealed two distinct winning profiles. Pelita Jaya Basketball's victories were primarily associated with efficient ball movement and accurate perimeter shooting, as reflected by an AST_TO ratio of 2.71 and a three-point shooting percentage of 37% in Game 3 (Braznikovas, 2023; Foteinakis & Pavlidou, 2025). This profile resembles offensive-oriented basketball systems such as those commonly observed in the NBA, where efficient shot creation and perimeter scoring strongly influence competitive success (Borrega-Solano et al., 2026; Uysal et al., 2026).

Conversely, Bogor Hornbills Basketball's victories were largely characterized by superior offensive rebounding and effective turnover management. The team secured 17 offensive rebounds and achieved a turnover differential of +10 in Game 2, illustrating its emphasis on possession advantage and disciplined ball control (Borrega-Solano et al., 2026; Foteinakis & Pavlidou, 2025).

Overall, these findings demonstrate that basketball performance efficiency is multidimensional. No single statistical indicator guarantees victory. Instead, successful performance results from the combined contribution of turnover management, offensive rebounding, and consistent shooting efficiency (Foteinakis & Pavlidou, 2025; Uysal et al., 2026). Similar conclusions have been reported in 3×3 basketball, where shooting accuracy and discipline account for approximately 74% of the Team Performance Index (Nowak et al., 2026). Accordingly, the present findings indicate that Pelita Jaya Basketball and Bogor Hornbills Basketball achieved success through different, yet equally effective, efficiency profiles.

**Discussion**

The findings of this study highlight the multidimensional nature of team performance in modern basketball. Ball control indicators demonstrated that turnover management heavily influenced match outcomes. BHB outperformed PJB in turnover differential in Game 2 (+10) and Game 4 (+1), both resulting in victories. This aligns with prior studies indicating that turnover percentage negatively affects victory probability during high-pressure games (Pantazis et al., 2026; Foteinakis & Pavlidou, 2025b). PJB achieved peak ball distribution efficiency in Game 3 with an AST_TO ratio of 2.71, securing a win, which confirms AST_TO as a critical discriminator in elite basketball (Braznikovas, 2023).

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Offensive rebounding emerged as a key tactical feature for BHB, averaging 12.8 ± 2.1 OREBs per game compared to PJB's 10.0 ± 2.7 (p-value = 0.015). Generating second-chance scoring opportunities directly expands possession time while limiting opponent transition attacks (Cheng & Zhang, 2025; Nagy et al., 2025). Logistic regression analyses in continental competitions confirm offensive rebounding as a vital predictor of success with an odds ratio of 1.331 (Foteinakis & Pavlidou, 2025b).

Regarding shooting efficiency, although FT% reached up to 85% for BHB, free-throw conversion showed limited capacity to discriminate winning from losing efforts, supporting previous findings in European competitions (Foteinakis & Pavlidou, 2025b). Conversely, three-point shooting consistency proved decisive during individual games; PJB maintained strong 3PT% in Game 1 (38%) and Game 3 (37%), both ending in victories. Effective perimeter shooting remains an essential element of modern basketball offense (Cabarkapa et al., 2024; Foteinakis & Pavlidou, 2025a). The results reveal two distinct tactical winning profiles: PJB succeeded through high ball distribution and perimeter accuracy, whereas BHB relied on possession dominance via offensive rebounds and turnover control.

## CONCLUSION

The conclusion consists of one paragraph but describes the answer to the hypothesis and/or research objectives or scientific findings obtained. The conclusion does not contain a repetition of the results and discussion, but contains a summary of the research results as expected in the research objectives. If necessary, at the end of the conclusion can also be written things related to the next idea of the research.

Team efficiency during the 2026 Indonesian Basketball League (IBL) Finals was determined by the combined influence of turnover control, offensive rebounding, and shooting consistency rather than by any single performance indicator. Pelita Jaya Basketball (PJB) demonstrated superior performance in ball distribution and three-point shooting efficiency, whereas Bogor Hornbills Basketball (BHB) achieved greater success through offensive rebounding dominance and effective turnover management. These contrasting performance profiles indicate that success in championship games depends on the integration of multiple game-related performance indicators rather than excellence in one statistical category alone.

The findings of this study provide practical implications for coaches and performance analysts by highlighting the importance of emphasizing offensive rebounding strategies and turnover management when preparing for high-stakes competitions. In addition, improving field-goal efficiency, particularly two-point and three-point shooting percentages, should remain a strategic priority because of their strong association with winning outcomes. Future research is recommended to extend the present analysis by incorporating defensive performance indicators, including defensive rebounds, steals, and blocked shots, as well as game pace, which have been identified as significant discriminators of winning performance across different basketball competition contexts.

## REFERENCES

Ángel Gómez, M., Lorenzo, A., Sampaio, J., Ibáñez, S. J., & Ortega, E. (2008). Game-related statistics that discriminated winning and losing teams from the Spanish men's professional basketball teams. Collegium Antropologicum, 32.

Borrega-Solano, A., Lopez-Sierra, P., Campos-Redondo, A., & Garcia-Rubio, J. (2026). How teams score may matter more than how often: Play-type efficiency, usage, and success in the NBA. Applied Sciences, 16(11), Article 5342. https://doi.org/10.3390/app16115342

Braznikovas, A. (2023). The importance of basketball performance indicators in determining winning and losing teams in U16 MKL championship. Lithuanian Sports University.

Cabarkapa, D., Cabarkapa, D. V., & Fry, A. C. (2024). Game-related statistics that discriminate winning from losing in NCAA Division-I men's basketball. Frontiers in Sports and Active Living, 6, Article 1387918. https://doi.org/10.3389/fspor.2024.1387918

Cheng, S., & Zhang, M. (2025). Analysis of influencing factors of basketball match based on multiple regression model. In Proceedings of the 2024 International Conference on Sports Technology and Performance Analysis (ICSTPA 2024) (pp. 264–270). https://doi.org/10.1145/3723936.3723976

Foteinakis, P. F., & Pavlidou, S. P. (2025a). A decade of evolution: Comparative analysis of shooting trends and offensive efficiency in the NBA and EuroLeague. Montenegrin Journal of Sports Science and Medicine, 14(2), 13–19. https://doi.org/10.26773/mjssm.250902

Foteinakis, P. F., & Pavlidou, S. P. (2025b). Game-related performance metrics differentiating winning and losing teams in the Basketball Champions League. Journal of Physical Education, 36(1). https://doi.org/10.4025/jphyseduc.v36i1.3647

e-ISSN: 2963 – 198X
p-ISSN: 2963 – 2498

Nagy, B. Á., Nagy, B. Á., Nagy, Á., Gáll, J., & Sterbenz, T. (2025). Rethinking the strongest link: VAL, ratings, and team success in Hungarian basketball. Frontiers in Sports and Active Living, 7, Article 1658676. https://doi.org/10.3389/fspor.2025.1658676

Nowak, M., Skalik, M., Wawrzyńczak, M., Ciejpa, R., Fujii, K., & Więckowski, J. (2026). Match outcome prediction in 3x3 basketball: Validating team performance index and benchmarking against shooting efficiency and shooting value (Paris 2024 Olympics). Physical Activity Review, 14(1), 121–140. https://doi.org/10.16926/par.2026.14.11

Pantazis, D., Kokkotis, C., Avloniti, A., Stamboulis, T., Foteinakis, P., Aggelakis, P., Balampanos, D., Protopapa, M., Dendrinos, A., Margonis, K., Zaras, N., Pafis, G., Malliou, P., Michalopoulou, M., & Chatzinikolaou, A. (2026). Performance profiles in youth basketball across different score contexts: An unsupervised machine learning analysis. Preprints. https://doi.org/10.20944/preprints202606.0882.v1

Uysal, A. A., Carroll, K., Huebner, A., Krush, A., & Stone, M. H. (2026). Quantifying the impact of basketball performance metrics on winning in professional and collegiate basketball. Scientific Journal of Sport and Performance, 5(2), 298. https://doi.org/10.55860/DHNF1439