



Analysis of the Effectiveness of the Indonesian Men's National Volleyball Team's Attacks at the 2025 SEA Games

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Abstract

Modern volleyball is heavily influenced by the effectiveness of attacking techniques, as attacks are the primary strategy for scoring points and determining the outcome of a match. Therefore, analysing the effectiveness of various types of attacks is crucial for evaluating a team's performance in a match. The objective of this study is to provide information about the most effective attacks used by the Indonesian Men's National Volleyball Team at the 33rd SEA Games in 2025 in Thailand. This study uses a quantitative approach, descriptive research type, where data collection techniques use non-participant observation, as well as secondary data sources obtained through videos from the MNCTV Sports YouTube channel, consisting of 4 videos of the 33rd SEA Games 2025 in Thailand. The research instrument uses a statistical form for open attack, quick attack, back attack, and service attack. The data analysis technique used descriptive percentages. The results of the study show that the most effective attacks are as follows: open attack has an attack effectiveness rate of 54.17%, quick attack has an attack effectiveness rate of 60.61%, back attack has an attack effectiveness rate of 55.79%, and service attack has an attack effectiveness rate of 3.91%. The conclusion of this study states that the most effective attacks used by the Indonesian Men's National Volleyball Team at the 33rd SEA Games in 2025 in Thailand are quick attacks in first place, back attacks in second place, open attacks in third place, and service attacks in fourth place.

How to Cite

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INTRODUCTION

Volleyball is a type of ball game played by two teams against each other, using a ball and a net as a barrier (Mahfudz et al., 2024). The aim of the game is to score points by sending the ball into the opponent's area without it returning to your own side or forcing the opponent to make a mistake (Triviona et al., 2025). The game begins with a serve, which can also be used as an attack shot. Each team is only allowed three touches of the ball, and each player is not allowed to touch the ball twice in a row (Phalevi et al., 2023). This game requires teamwork to score points and achieve victory (Amalia et al., 2025). Each player must have excellent movement, skills, and ability to play volleyball because volleyball is a complex game (Doniyor & Ziyodjonovna, 2023).

Volleyball has basic techniques that must be mastered, including serving, passing, smashing, and blocking (Saputra, 2022). Mastery of basic volleyball techniques is one of the factors that determine victory or defeat in a match (Intan et al., 2023). This is because these techniques form the basis of all strategies and tactics in volleyball (Saputri & Hariyoko, 2025). In volleyball, the application of offensive and defensive strategies is inseparable from the execution of the game (Fauzi, 2020). The most effective action to determine a team's success in achieving victory is attack (Ningsih et al., 2023).

An attack is an action of directing the ball into the opponent's territory as part of an offensive effort in volleyball to score points (Eko & Irsyada, 2021). Attacking is a very important technical element in volleyball because it plays a major role in scoring points, so the effectiveness of attacks is often the focus of team performance analysis in competitive matches (Mocanu et al., 2024). In volleyball matches, statistical analysis is used to evaluate athletes' performance based on numerical data from the match results, so that individual and team performance achievements can be understood more objectively (Jarwo, 2021). Statistical data plays an important role in helping coaches assess team performance and design strategies to be applied in future matches (Majid et al., 2023). In elite volleyball competitions, performance indicators such as attack efficiency, number of points, and team errors are important factors that determine a team's success in winning matches and achieving results (KV et al., 2026).

The SEA Games is a biennial mega sporting event in Southeast Asia that was initiated in 1959 and has been held more than 30 times in various ASEAN (Association of Southeast

Asian Nations) member countries. It serves as a regional competition similar to the Asian Games or the Olympics but specifically for countries in Southeast Asia (Creak & Trotier, 2024). Throughout its participation in the SEA Games, Indonesia has recorded impressive achievements, including 10 overall championships, demonstrating how participation in this multi-event competition serves as a benchmark for the readiness and effectiveness of national athlete training (Putra, 2021).

Based on a study of professional volleyball teams, the effectiveness of attacks is influenced by hitting technique, receiving quality, attack variety, and the type and direction of attacks appropriate to the context of the match (Mesquita et al., 2024). However, studies specifically analysing the effectiveness of the various types of attacks used by Indonesian Men's National Volleyball Team in the SEA Games remain limited. Consequently, the novelty of this study lies in the analysis of the effectiveness of several types of attack namely the open attack, quick attack, back attack, and service attack executed by the Indonesian Men's National Volleyball Team during the 33rd SEA Games in 2025 in Thailand, based on match statistics. An analysis of the various types of attacks in volleyball is a key aspect of understanding the application of offensive strategies in match situations. Each type of attack has different characteristics, levels of difficulty and chances of success therefore, the choice of attack must be tailored to the conditions of the game and the players' technical ability. This study aims to analyse the effectiveness of the Indonesian Men's National Volleyball Team's attack at the 33rd SEA Games in 2025 in Thailand, by evaluating the success rate of each type of attack and its contribution to point scoring during the match. The results of this study are expected to enrich the scientific literature on volleyball tactics while providing practical recommendations for coaches and athletes to improve their attack performance at international events.

METHOD

This study utilises a quantitative approach. Quantitative research methods are scientific approaches that emphasise the collection of numerical data, followed by statistical analysis and hypothesis testing to produce objective, systematic, and general conclusions (Juliana et al., 2026). This study is a descriptive study, which aims to describe or depict phenomena or variables systematically, factually, and accurately based on available

lable information (Hari Yanti et al., 2025). The data collection technique used in this study is non-participant observation. Non-participant observation is a data collection technique in which the researcher observes the phenomenon without participating in the research subject's activities, so that the researcher remains neutral and can produce more objective data (Arista et al., 2022). Meanwhile, the data source for this study is secondary data. Secondary data is research data obtained indirectly by researchers through intermediary media such as journals, documentation, and files (Manja, 2025). In this study, secondary data was obtained through videos from the MN-CTV Sports YouTube channel, consisting of 4 videos of the Indonesian Men's Volleyball National Team's matches at the 33rd SEA Games in 2025 in Thailand. The research instrument used a statistical form for open attacks, quick attacks, back attacks, and service attacks. The data analysis technique used descriptive percentages, while the level of attack effectiveness was calculated using an effectiveness formula.

$$\text{Effectiveness} = \frac{\sum x_a}{\sum x_t} \times 100$$

$$\text{Description} = \sum x_a = \text{Number of entries}$$

$$\sum x_t = \text{Total number of activities}$$

Figure 1. Effectiveness formula (Sriundy, 2014).

RESULTS AND DISCUSSION

Based on the processing and analysis of match data, the effectiveness of the Indonesian Men's National Volleyball Team's attacks at the 33rd SEA Games in 2025 in Thailand was obtained, as presented in the table below, which includes open attacks, quick attacks, back attacks, and service attacks. At this event, the Indonesian Men's National Volleyball Team was grouped in Group B with Myanmar and the Philippines. Subsequently, Indonesia advanced to the semi-finals and faced Vietnam, before finally appearing in the final against Thailand. Therefore, the data analysed in this study covers all of Indonesia's matches from the group stage to the final.

Table 1. Open Attack

Attack	Point	Rally	Error	Number	Effective (%)
Open Attack	130	76	34	240	54.17

Based on **Table 1**, it shows that the Indonesian Men's National Volleyball Team recorded 240 open attacks during the 33rd SEA Games in Thailand in 2025. Of these attacks, 130 resulted

in points, 76 continued in rallies, and 34 ended in errors. Based on these findings, the Indonesian Men's National Volleyball Team had an open attack effectiveness rate of 54.17%.

Reviewing each phase of the match, the Indonesian Men's National Volleyball Team applied an open attack pattern in all the matches they played. In the group phase against Myanmar, there were 47 open attacks, resulting in 27 points, 14 rallies, and 6 errors. Next, when facing the Philippines in the group stage, the number of open attacks reached 40 times, contributing 20 points, 15 rallies, and 5 errors. In the semi-finals against Vietnam, the frequency of open attacks increased to 77 attacks, resulting in 41 points, 26 rallies, and 10 errors. Meanwhile, in the final against Thailand, the Indonesian Men's National Volleyball Team performed 76 open attacks, resulting in 42 points, 21 rallies, and 13 errors. To clarify the distribution of open attack results, **Figure 2** presents an open attack diagram.

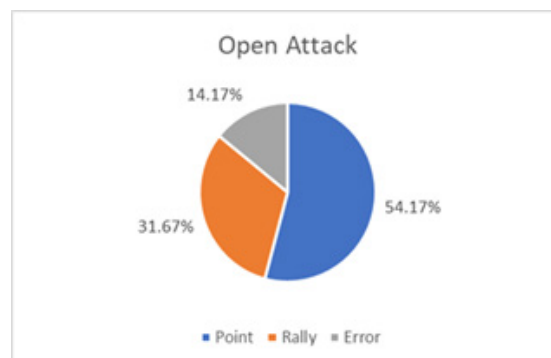


Figure 2. Open attack diagram of the Indonesian Men's National Volleyball Team at the 33rd SEA Games in 2025 in Thailand.

Table 2. Quick Attack

Attack	Point	Rally	Error	Number	Effective (%)
Quick Attack	40	18	8	66	60.61

Based on **Table 2**, it shows that the Indonesian Men's National Volleyball Team recorded 66 quick attacks during the 33rd SEA Games in Thailand in 2025. Of these attacks, 40 resulted in points, 18 continued in rallies, and 8 ended in errors. Based on these findings, the Indonesian Men's National Volleyball Team had a quick attack effectiveness rate of 60.61%.

Reviewing each phase of the match, the Indonesian Men's National Volleyball Team applied attack pattern in all of their matches. In the group phase against Myanmar, there were 14 quick attacks that resulted in 10 points, 2 rallies, and 2 errors. Next, when facing the Philippines in the group phase, the number of quick attacks

remained at 14 attacks, contributing 7 points, 6 rallies, and 1 errors. In the semifinal against Vietnam, the frequency of quick attacks increased to 20 attacks, resulting in 13 points, 6 rallies, and 1 error. Meanwhile, in the final against Thailand, the Indonesian Men's National Volleyball Team performed 18 quick attacks, resulting in 10 points, 4 rallies, and 4 errors. To clarify the distribution of quick attack results, **Figure 3** presents a diagram of quick attacks.

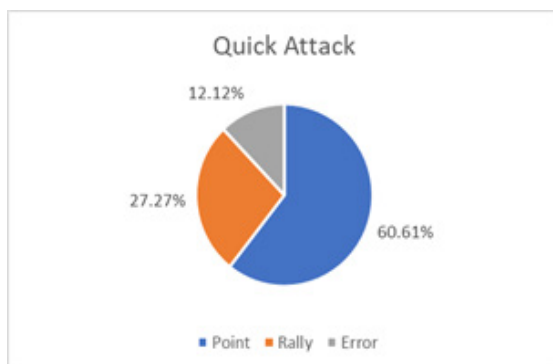


Figure 3. Quick attack diagram of the Indonesian Men's National Volleyball Team at the 33rd SEA Games in 2025 in Thailand.

Table 3. Back Attack

Attack	Point	Rally	Error	Number	Effective (%)
Back Attack	53	27	15	95	55.79

Based on **Table 3**, it shows that the Indonesian Men's National Volleyball Team recorded 95 back attacks during the 33rd SEA Games in Thailand in 2025. Of these attacks, 53 resulted in points, 27 continued in rallies, and 15 ended in errors. Based on these findings, the Indonesian Men's National Volleyball Team had a back attack effectiveness rate of 55.79%.

Reviewing each match, the Indonesian Men's National Volleyball Team applied a back attack pattern in all of their matches. In the group stage against Myanmar, there were 14 back attacks that resulted in 9 points, 3 rallies, and 2 errors. Next, when facing the Philippines in the group stage, the number of back attacks increased to 22 attacks, contributing 13 points, 7 rallies, and 2 errors. In the semifinal against Vietnam, the frequency of back attacks was recorded at 28 attacks, resulting in 12 points, 9 rallies, and 7 errors. Meanwhile, in the final against Thailand, the use of back attacks reached the highest number, namely 31 attacks, with 19 points, 8 rallies, and 4 errors. To clarify the distribution of back attack results, **Figure 4** presents a diagram of back attacks.

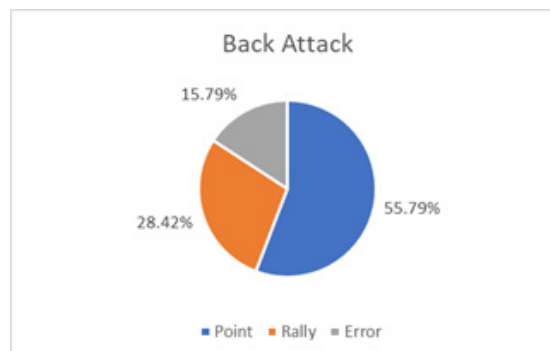


Figure 4. Back attack diagram of the Indonesian Men's National Volleyball Team at the 33rd SEA Games in 2025 in Thailand.

Table 4. Service Attack

Attack	Point	Rally	Error	Number	Effective (%)
Service Attack	14	286	58	358	3.91

Based on **Table 4**, it shows that the Indonesian Men's National Volleyball Team recorded 358 service attacks at the 33rd SEA Games in Thailand in 2025. Of these attacks, 14 resulted in points, 286 continued in rallies, and 58 ended in errors. Based on these findings, the Indonesian Men's Volleyball Team had a service attack effectiveness rate of 3.91%.

Reviewing each match, the Indonesian Men's National Volleyball Team applied a service attack pattern in all of their matches. In the group stage against Myanmar, there were 73 service attacks that resulted in 3 points, 59 rallies, and 11 errors. Next, when facing the Philippines in the group stage, the number of service attacks increased to 77 attacks, contributing 5 points, 57 rallies, and 15 errors. Entering the semifinal against Vietnam, the frequency of service attacks increased sharply to 103 attempts, resulting in 1 point, 87 rallies, and 15 errors. Meanwhile, in the final against Thailand, the number of service attacks reached its highest, namely 105 attempts, with 5 points, 83 rallies, and 17 errors. To clarify the distribution of service attack results, **Figure 5** presents a diagram of service attacks.

In this study, a total attack analysis was conducted to obtain a complete empirical picture of how the Indonesian Men's National Volleyball Team attacked during the 33rd SEA Games in Thailand in 2025. The focus of the analysis was to identify the types of attacks used in the matches, as well as the results of each attack. Each type of attack was classified based on the outcome, namely attacks that resulted in points, rallies, and errors, thus enabling an objective evaluation of the contribution and effectiveness level of each

type of attack. Furthermore, the data obtained is summarised to show the total distribution of attacks and the proportion of attack results. The summary of the total attack analysis results is presented in **Table 5**, meanwhile, the comparison of the effectiveness of each type of attack is visualised in **Figure 6**.

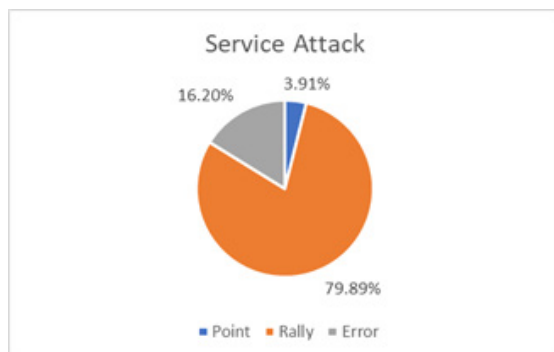


Figure 5. Service attack diagram of the Indonesian Men's National Volleyball Team at the 33rd SEA Games in 2025 in Thailand.

Table 5. Total Attacks

Attack	Point	Rally	Error	Number	Effective (%)
Open Attack	130	76	34	240	54.17
Quick Attack	40	18	8	66	60.61
Back Attack	53	27	15	95	55.79
Service Attack	14	286	58	358	3.91
Number	237	407	115	759	

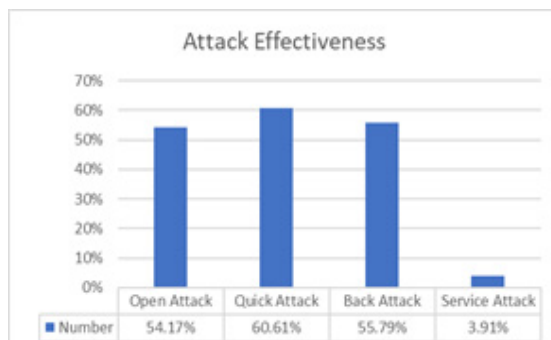


Figure 6. Diagram of the effectiveness of the Indonesian Men's National Volleyball Team's attacks at the 33rd SEA Games in 2025 in Thailand.

Based on **Table 5**, and **Figure 6**, it shows that the total number of attacks by the Indonesian Men's Volleyball National Team at the 33rd SEA Games in 2025 in Thailand was recorded at 759 attacks. Of these attacks, 237 resulted in points, 407 continued in rallies, and 115 ended in errors. The total and effectiveness of the attacks in open attacks were recorded at 240 attacks with an attack effectiveness of 54.17%, quick attacks

were recorded at 66 attacks with an attack effectiveness of 60.61%, back attacks were recorded at 95 attacks with an attack effectiveness of 55.79%, and service attack effectiveness of 3.91%.

The analysis results show that quick attacks have the highest effectiveness rate of 60.61%, followed by back attacks at 55.79%, open attacks at 54.17%, and service attacks at 3.91%. The high effectiveness rate indicates that quick attacks are more capable of scoring points directly due to the fast tempo of the game, thereby shortening the reaction time of the opponent's block and defence.

Based on the importance of performance evaluation in volleyball, attack effectiveness is a key indicator of a team's offensive performance, where champion teams have better attack effectiveness, more consistent rally frequency, and lower errors compared to other teams, contributing to the team's success in competition (Sitti & Rangubhet, 2025). Based on the analysis of the Indonesian Men's National Volleyball Team's attacks at the 33rd SEA Games in 2025 in Thailand, the most frequently used type of attack was the service attack.

In modern volleyball, the serve is not merely the start of a rally, but rather an initial tactical action that can put pressure on the defence and disrupt the opponent's receiving structure, thereby influencing the dynamics of the game (Maneiro et al., 2026). The effectiveness of the service attack in this study was relatively low at 3.91%, indicating that its contribution to direct points was limited. Research shows that the effectiveness of the serve in generating direct points is relatively low, even at the elite level, with a small success rate, thus limiting the chances of a service attack scoring points directly (Laclote-Gutierrez et al., 2025). This relatively low effectiveness suggests that, although the serve is used frequently, its contribution to scoring points directly remains limited. One factor that may influence this situation is the high quality of the opposing team's return, which reduces the likelihood of the serve resulting in a direct point. This is in line with previous findings stating that the service in volleyball is offensive and serves to put pressure on the opponent's receive, but does not always result in direct points (Pawlik et al., 2024).

An open attack in volleyball refers to an offensive technique in which a player strikes the ball from an open position, which is an important offensive strategy with high potential for scoring points (Irawan et al., 2023). Although the open attack is often the primary choice and contributes many points, this type of attack tends to be less ef-

fective than faster or more planned attacks, especially when the quality of the receive is less than ideal (Wang & Wang, 2025). This is evidenced by the low effectiveness of the open attack in this study, which was 54.17%. The 54.17% success rate for open attacks indicates that the success of an attack is heavily influenced by the quality of the first ball reception. A suboptimal reception results in a higher and slower set, thereby giving the opposition time to organise their block and defensive system to the fullest. Consequently, the attacking patterns become easier to read and the chances of scoring points decrease.

Back attacks in this study showed an attack effectiveness rate of 55.79%. These results indicate that utilising attacks from the back row adds further variety to a team's attacking strategy. By involving players from the back row, the distribution of attacks becomes more varied and less predictable to the opposition, forcing the opposing blockers to divide their attention between front row and back row attackers. The results of statistical research on matches in the Italian elite league revealed that back attacks were most often performed from positions 1 and 6 by players, indicating a tactical preference for using back attacks in profesional volleyball competitions (Widyaningrum et al., 2023). Variations in attacks through back attacks effectively complicate the opponent's defence, as they require quick adjustments in block and cover distribution to anticipate attacks from unexpected positions (Bujang et al., 2025).

In this study, quick attacks were found to be the most effective type of attack compared to other types of attacks, as the fast tempo of the attack provides a tactical advantage in facing the opponent's defence and maximises scoring opportunities (Luangtrongkit et al., 2024). These findings suggest that fast paced attacks provide a tactical advantage in elite level volleyball matches. The speed with which a quick attack is executed can reduce the reaction time of the opposing blockers and defenders, making the attack more difficult to anticipate. This is demonstrated by the effectiveness of quick attacks in the Indonesian Men's National Volleyball Team's matches at the 33rd SEA Games in 2025 in Thailand, which was 60.61%. This high effectiveness indicates that the tempo of the attack plays an important role in successfully scoring points. This is supported by findings that the quick attack has a high level of technical difficulty and is difficult for the opposing team to predict, as it is executed at a very fast tempo and with a low ball height, thereby significantly reducing the defence's reaction time

and making it challenging for opposing players to anticipate the attack (Pratama et al., 2020).

CONCLUSION

This study shows that the effectiveness of the Indonesian Men's National Volleyball Team's attacks at the 33rd SEA Games in 2025 in Thailand is not only determined by the type of attack, but is also influenced by the pace of play, the quality of the first ball reception, and the variety of attack patterns employed. The quick attack is the most effective strategy, as the fast pace of the attack limits the opponent's reaction time and prevents them from setting up their defence optimally. Conversely, the effectiveness of the open attack and back attack is highly dependent on the quality of the reception and the predictability of the attack patterns, making them easier for opponents to anticipate when not supported by good ball distribution. Meanwhile, the service attack serves more as a strategy to apply initial pressure and disrupt the opponent's attack build up rather than as the primary source of points.

Overall, the success of an attack stems from the cohesion among players, the quality of technical execution, and the team's ability to combine attack tempo and variation situationally. Therefore, improvements in attacking performance should focus on strengthening the quality of the reception, accelerating the pace of play, and developing more adaptive strategic variations to prevent the opponent from easily predicting the team's moves. These findings provide a more comprehensive understanding of the effectiveness of attacks in a match context and can serve as a basis for designing more optimal training programmes and competition strategies.

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