

The Performance of Basketball Referees in Leading Matches: Examined Aspect of Decision Making, Game Management, and Mechanics Court

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Abstract

The growth of basketball has been extended to various regions and every time there must be changes in any aspect, including the game's rules. Referees are a very important supporting element in a basketball competition because the game would not work if there were no referees. The referee is assigned to guide and control the game from beginning to end following the regulations that apply. Consistency is important for the referee in leading a game. Factors that influence referees when making decisions are grouped into four topics; accuracy of errors, rules, professionalism, and ideal decision-making. When a referee is evaluated, it requires a tool to evaluate and a person to evaluate. For this reason, the right evaluation tools and potential evaluators are needed and master the evaluation material for the performance of basketball referees, including decision-making (play calling), game management, and court mechanics. The method used in this study is the aggregation of performance evaluation or composite assessment that combines play calling to get the percentage of decision-making accuracy of decision making made by the referee in leading the match in this case related to fouls and violations, for game management of the data is taken from the performance assessment by the game management assessment procedure, while for data from the mechanic court is taken from the referee's movement procedure (three procedure officiating) during the game. The three evaluation assessment results were combined into one so that the value of each referee who led the match was obtained, the average value of each instrument, the total value of all referees, and the average. In this study, the results obtained from play calling the average of the total value of the referee is 91.33, the average result of the total value of game management is 89.63, while the average result of the total value of the mechanic court is 89.33 so that the total result of the average of the three instruments is 90.10. From this, it can be concluded that the evaluation of the performance of the basketball referee who served in the Indonesia Basketball League Season 2023-2024 is included in the excellent category.

Keywords: *Referee, Performance Evaluation, Play Calling, Game Management, Court Mechanics.*

INTRODUCTION

The development of basketball sports has penetrated various regions and at any time there must be developments in any aspect, including the game's rules. Basketball game rules always undergo changes every two years published by the Federation Internationale del Basketball (FIBA). This rule change is to perfect the existing rules. Playing basketball increases stamina,

muscle strength, and body agility (Piñar et al., 2009). This sport requires good cooperation, thus helping to improve communication and collaboration skills. Playing basketball can also develop strategic thinking and quick decision-making skills on the field (Catteeuw et al., 2009; Nabli et al., 2019).

In this game, each player has a specific position that is related to their skills and role on the field. For example, the point guard is in charge of organizing the flow of the game and ensuring the ball moves smoothly between players. Shooting guards focus more on scoring points with long-range shots, while small forwards are tasked with adapting to various situations, both offense and defense. Power forwards and centers often act as defenders and monitors of the area near the ring (Suárez-Iglesias et al., 2024). These positions work together to build an effective game strategy. The referee is a very important supporting element in a basketball match because the match will not run if there is no referee.

In addition to being the mediator and referee on the field, the referee is also tasked with guiding and monitoring the game from beginning to end by the applicable regulations (Nabli et al., 2019). Referees play a very important role in ensuring that basketball games are organized based on the rules and run smoothly. Referees in basketball matches must have accuracy, speed of reaction, open mindset, accuracy in making decisions based on the rules, and interpretation of appropriate actions according to events on the field. A referee must be consistent in applying the rules and making decisions with movements according to procedures, this aims to avoid confusion among players and coaches. The referee's accuracy is important in paying attention to situations that occur on the field, including the movements of the players and how the ball moves by observing and focusing on the movements of players with the ball or players moving without the ball.

Besides that, the referee must also be good at understanding the strategies and tactics of the competing teams. The ability to recognize game patterns and make the right decisions based on the situation on the field. Consistency is important for referees in leading a match (Schweizer et al., 2013). High-level and experienced referees have higher decision-making accuracy and decision sensitivity than low-level and less experienced referees (Hancock & Ste-Marie, 2013). Factors that influence referees when making decisions are grouped into four themes; error accuracy, rules, professionalism, and ideal decision-making (Lane et al., 2006).

The characteristics of a referee must be established to lead the game properly, among these characteristics are: consistency, relationship, firmness, calm attitude, integrity, decision, trust, and motivation. To achieve the category of a good referee and have characteristics, it requires a measuring tool in the form of an evaluation or assessment of the referee's performance and provides feedback to the referee who can determine and qualify that a referee can be said to be good in terms of leading a match. The assessment carried out in the field will be an evaluation and input for the referee so that in leading the match it can run well so that a good referee category can be achieved.

At the time a referee is evaluated, it requires a tool to evaluate and a person to evaluate. However, currently, the evaluation tool and assessment of the referee's professional ability is still not perfect, in other words, it is still not qualified to be used as an evaluation tool for referees. The requirement is that basketball referees not only need to remember the scoring rules but also have the quality of professional referees, that is, at the same time they can assess the ability to adjust the speed of basketball games and must remain fair while officiating basketball matches. Currently, the basketball referee assessment model is still not

comprehensive and feasible which still does not include assessment of motion and point of view as well as overall instruments that can evaluate referees in carrying out their duties in basketball games. For this reason, the right evaluation tools and potential evaluators are needed and master the evaluation material for basketball referees, including decision-making (play calling), game management, and court mechanics.

Furthermore, Widoyoko (2011) explains that evaluation is a process of providing information that can be used as a consideration to determine the worth and merit of the goals achieved, design, implementation, and impact to help make decisions, help accountability, and improve understanding of phenomena. According to this formulation, the essence of evaluation is the provision of information that can be used as a consideration in making decisions. Evaluation can be defined as an assessment that refers to the activity of comparing something with a certain unit of measure, so it is quantitative. This definition is written in the Oxford Advanced Learner's Dictionary of Current English evaluation is to find out, and decide the amount or value which means an effort that determines the value or amount. In addition to the meaning based on translation, the words contained in the definition indicate that evaluation activities must be carried out carefully, responsibly, using strategies, and can be accounted for (Arikunto & Jabar, 2014).

Evaluation is a process that systematically and objectively assesses all elements of a program and an activity whether the activity is effective or not, running well or needs improvement and to determine its overall value or significance. (Hakan & Seval, 2011) explain that evaluation is the process of understanding, giving meaning, obtaining, and communicating information for decision-making needs. Evaluation is the process of collecting data and information to assess the quality of a process or product (Ekmekçi et al., 2019, 2020; Widoyoko, 2011). The purpose of the evaluation results is to provide credible information for decision-makers to identify ways to achieve more intended results that can be used as a basis for decision-making on the quality of an activity.

Evaluations can be on various levels, ranging from individual or classroom evaluations to large-scale national policies or programs. Through evaluation one can gain a better understanding of the performance of an activity and can make more informed and measurable decisions (Christie, 2015; Pramono et al., 2020). Evaluation is a continuous process that applies under planned or unplanned conditions that aim to systematically question the value of an object. In other words, evaluation is a sophisticated concept that includes the phases of selecting information, analyzing, using, and making a decision (Hakan & Seval, 2011).

Performance evaluation proposed by Simanjuntak (2005) is a method and process of assessing the performance of a person or group of people or work units in a company or organization by performance standards or goals set in advance. Haines & Case (2011) states that performance evaluation focuses on the quality of service delivery and the results achieved by a program. This evaluation usually includes short-term and medium-term results. Referee performance evaluation plays an important role in maintaining the integrity of sport and ensuring that every match is run fairly.

This situation needs to be supported by the role of Science and Technology (Kepmenpora No 46 of 2019), thus realizing the achievement of better sports achievements. Assessment of referee performance begins with the first crucial aspect, which is decision-making accuracy. In a fast-paced basketball match, the referee must be able to make decisions in a very short time (Ziv et al., 2020). The accuracy of this decision is very important because it can affect the

course of the match and the final result. The decisions the referee makes depend not only on the existing rules but also on the situation and context of the game. A referee must be able to adapt quickly to changing situations during the match, be it fouls, injuries, or increasingly intense interactions between players.

Therefore, the assessment of referee adaptability is an important aspect of referee performance evaluation (Wang et al., 2023). If the referee gives a foul that does not match the actual incident, it indicates inaccuracy in decision-making (Karaçam & Pulur, 2018), so the evaluation process should involve observing the decisions made by the referee during the match and comparing them with the match recordings to verify their correctness (Pla-Cortés et al., 2015). Referee decisions should be as accurate as possible, but several studies have shown that most referee decisions in sports are wrong (Catteeuw et al., 2009; Dicks et al., 2009; Fuller et al., 2004). One of the reasons why referees make mistakes is because referees have to make decisions in an environment full of probabilities (Plessner et al., 2009; Schweizer & Plessner, 2016).

Decision-makers depend on accessible information to make the right decision. The higher the correlation between signals and criteria in an environment (ecological validity), the more correct the decision made (Doherty & Kurz, 1996; Goldstein, 2004). However, as long as the relationship between signals and criteria is probabilistic, there will always be a proportion of incorrect decisions. In addition to precision and consistency, the communication aspect should also be carefully evaluated. Effective communication between referees, players, coaches, and team officials is one of the key factors in maintaining a smooth match (Suárez-Iglesias et al., 2024). Referees need to convey their decisions clearly and firmly, both verbally and non-verbally (Borin et al., 2013). Time management also needs to be part of the referee's performance evaluation. Game management is the referee's ability to manage the match so that it takes place fairly, smoothly, and by the applicable rules. Some of the things included in game management include: controlling the rhythm of the match, interacting with players, coaches, other referees, and table officials, handling difficult situations, and controlling incidents that occur on the field. Cooperation between referees is also an important aspect of evaluating their performance.

In basketball games, there is usually more than one referee in charge of ensuring that decisions are fair and objective (Weiland et al., 2024). This evaluation of referee cooperation involves assessing how well they communicate and support each other in making decisions, especially in situations that require joint decisions. In basketball matches, referees must have the ability to manage time efficiently, be it in making decisions, managing emergencies, or providing pauses or breaks. Referees who can manage time well will help keep the flow of the game smooth, without any unnecessary interruptions.

This evaluation of time management will involve observing how the referee organizes the match in terms of duration, delays, and breaks. Ethics and professionalism are a part that cannot be ignored in the evaluation of referee performance. A referee must be able to act with objectivity, without being influenced by external factors that may interfere with their decisions. Evaluation of a referee's ethics will involve assessing how well they maintain the integrity of the match, maintain a neutral attitude, and avoid any form of favoritism that could undermine confidence in their decisions (García-Santos et al., 2020). Referees must be able to handle emotionally charged situations and maintain control over the match.

Evaluation of the referee's ability to manage this conflict is very important because it can affect the smooth running of the match and create a fair atmosphere for all parties (Schrödter et al., 2023; Weiland et al., 2024). Maintaining the rhythm and flow of the game by controlling the time and avoiding the passage of match time that is not by the rules is one way to avoid conflict. Referees in dealing with protests and conflicts should remain calm and use clear gestures to avoid misunderstandings. Ensure all fouls and errors are decided to the same standard and avoid inconsistency (Mascarenhas et al., 2005).

In the context of performance evaluation, it is important to notice that evaluation does not necessarily mean negative criticism. In contrast, a good evaluation also recognizes the positive performance that the referee has achieved (Žemgulys et al., 2018). Rewarding good achievements can motivate referees to continue to improve and maintain the quality of their work. Mechanic court in basketball refers to the position, movement, and coordination of referees during the game to ensure they have the best angle of view in making decisions (Pratama & Bagus Januarto, 2019). The mechanic court in basketball referees consists of movement, positioning, main responsibilities, procedures, and communication. Referees in a basketball match must always ensure that they are always in the optimal position and clear viewpoint to observe the game. The position of the referee on the field consists of three parts, namely: lead position, center position, and trail position, what is meant by the lead position is the referee's position on the end line of the field (end line) and is always on the ball side (ball side), the center position is the referee's position at the extension of the free throw line and his position is opposite to the table officer (opposite side) and is between the Lead and Trail positions, while the trail position is the referee's position approximately at the edge of the team bench area closer to the center line and on the same side as Lead (strong side) parallel to the center of the field or last attacking player. The movement of the basketball referee during the match is adjusted to the movement of the ball, fouls, and fouls committed by players, causing an exchange of places and the referee's main control area.

METHODOLOGY

The method used in this study is aggregation. Aggregation is the process of collecting and combining data from various sources or units into a larger whole. Aggregation is the process of collecting and combining data from various sources or units into a larger whole (Pan, 2012). However, the Aggregation Method is related to performance evaluation or composite assessment by combining play calling to get the percentage of decision-making accuracy from decision-making made (Bryman & Cramer, 2011) by the referee in leading the match in this case related to fouls and violations, for game management the data is taken from the performance assessment by the game management assessment procedure, while for data from the mechanic court it is taken from the referee's movement procedure (3 Officiating Procedures) during the match. The sample in this study is a match during the 2023-2024 competition season with a total of 190 matches and with the number of referees leading the match as many as 26 referees.

RESULT AND DISCUSSION

The results of this study will obtain the value of overall decision-making, game management value, and mechanic court value carried out by 26 referees in leading, 190 matches, and each match is led by 3 referees, so that the following results are obtained below:

Table 1: Play Calling Assessment Results

| No | Initial Subject Referee | GAME | | | | | | | | MEAN |
|----|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | |
| 1 | HAR | 93.75 | 95 | 91.09 | 95 | 93.06 | 95 | 95 | | 93.99 |
| 2 | REN | 93.75 | 91.09 | 91.09 | 92.5 | 93.75 | 90.97 | 95 | 95 | 92.89 |
| 3 | RAH | 91.09 | 90.1 | 90.58 | 90.1 | 91.09 | 90.71 | 91.54 | 93.56 | 91.10 |
| 4 | ZID | 87.97 | 91.25 | 87.32 | 92.5 | 92.5 | 91.09 | 92.5 | | 90.73 |
| 5 | REN | 94.04 | 92.5 | 91.76 | 91.09 | 91.09 | 93.56 | 93.75 | 95 | 92.85 |
| 6 | YOS | 95 | 89.69 | 90.01 | 91.09 | 92.5 | 92.36 | 91.09 | 93.75 | 91.94 |
| 7 | PUR | 89.25 | 87.22 | 85.78 | 90.71 | 89.25 | 91.54 | 93.75 | | 89.64 |
| 8 | RAJ | 93.06 | 92.5 | 92.5 | 92.5 | 95 | 95 | 93.75 | 93.75 | 93.51 |
| 9 | ARS | 88.59 | 87.22 | 87.22 | 91.25 | 85.14 | 90.2 | 92.5 | | 88.87 |
| 10 | SWA | 90.1 | 90.71 | 91.54 | 93.56 | 91.54 | 92.5 | 92.5 | 95 | 92.18 |
| 11 | ARN | 94.06 | 91.09 | 92.5 | 95 | 93.75 | 95 | 93.75 | 95 | 93.77 |
| 12 | YOH | 92.5 | 90.2 | 90.36 | 90.36 | 90.05 | 91.54 | 90.64 | | 90.81 |
| 13 | SUN | 90.1 | 92.5 | 90.63 | 91.9 | 91.25 | 93.56 | 93.75 | | 91.96 |
| 14 | SED | 91.46 | 90 | 90.34 | 90.58 | 89.72 | 91.25 | 93.75 | 95 | 91.51 |
| 15 | AGU | 91.76 | 90.71 | 91.25 | 90.64 | 92.5 | 92.5 | 91.25 | | 91.52 |
| 16 | DEN | 95 | 90.71 | 92.5 | 92.5 | 95 | 89.72 | 93.75 | | 92.74 |
| 17 | BAK | 89.69 | 91.25 | 92.5 | 90.71 | 92.36 | 91.25 | 93.75 | | 91.64 |
| 18 | GIB | 92.5 | 90.71 | 87.22 | 91.25 | 89.72 | 90.2 | 91.25 | | 90.41 |
| 19 | CHR | 90.34 | 91.25 | 89.72 | 85.14 | 90.2 | 90.64 | 93.75 | | 90.15 |
| 20 | JUL | 90.71 | 89.72 | 90.2 | 91.25 | 90.64 | 92.5 | 91.25 | | 90.90 |
| 21 | ALI | 89.72 | 92.5 | 89.69 | 91.25 | 90.71 | 92.5 | 90.64 | | 91.00 |
| 22 | ARY | 89.69 | 91.76 | 89.72 | 92.5 | 89.69 | 90.64 | 91.25 | | 90.75 |
| 23 | ROC | 91.25 | 87.32 | 90.34 | 90.64 | 90.71 | 89.69 | 89.72 | | 89.95 |
| 24 | RON | 89.69 | 90.2 | 90.64 | 89.72 | 90.64 | 92.5 | 91.25 | | 90.66 |
| 25 | SAN | 85.14 | 89.69 | 90.71 | 90.71 | 87.32 | 90.71 | 85.14 | | 88.49 |
| 26 | FAD | 89.69 | 91.25 | 90.64 | 91.76 | 90.2 | 90.34 | 90.64 | | 90.65 |
| | | | | | | | | | Mean | 91.33 |

Table 2: Game Management Assessment Results

| No | Initial Subject Referee | GAME | | | | | | | | MEAN |
|----|-------------------------|-------|-------|-------|-------|-------|-------|-------|----|-------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | |
| 1 | HAR | 90 | 90 | 90 | 90 | 90 | 90 | 90 | | 90.00 |
| 2 | REN | 90 | 90 | 89.36 | 90 | 90 | 90 | 90 | 90 | 89.92 |
| 3 | RAH | 89.56 | 90 | 89.26 | 89.38 | 90 | 90 | 90 | 90 | 89.78 |
| 4 | ZID | 87.97 | 88.56 | 87.32 | 90 | 90 | 89.36 | 90 | | 89.03 |
| 5 | REN | 90 | 90 | 89.63 | 90 | 90 | 90 | 90 | 90 | 89.95 |
| 6 | YOS | 90 | 89.69 | 90 | 89.63 | 90 | 90 | 90 | 90 | 89.92 |
| 7 | PUR | 89.25 | 87.22 | 85.78 | 90 | 89.25 | 90 | 90 | | 88.79 |
| 8 | RAJ | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90.00 |
| 9 | ARS | 88.59 | 87.22 | 87.22 | 90 | 85.14 | 90 | 90 | | 88.31 |
| 10 | SWA | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90.00 |
| 11 | ARN | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90.00 |
| 12 | YOH | 90 | 88.62 | 90 | 89.26 | 87.88 | 90 | 89.26 | | 89.29 |
| 13 | SUN | 90 | 90 | 89.36 | 90 | 89.62 | 90 | 90 | | 89.85 |
| 14 | SED | 90 | 90 | 90 | 90 | 89.72 | 90 | 90 | 90 | 89.97 |
| 15 | AGU | 90 | 90 | 90 | 90 | 90 | 89.45 | 89.63 | | 89.87 |
| 16 | DEN | 90 | 89.62 | 90 | 90 | 90 | 89.72 | 90 | | 89.91 |
| 17 | BAK | 89.69 | 90 | 90 | 90 | 88.55 | 89.88 | 90 | | 89.73 |
| 18 | GIB | 90 | 90 | 87.22 | 90 | 89.72 | 90 | 90 | | 89.56 |
| 19 | CHR | 90 | 90 | 89.72 | 85.14 | 90 | 90 | 90 | | 89.27 |

| No | Initial Subject Referee | GAME | | | | | | | | MEAN |
|----|-------------------------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | |
| 20 | JUL | 90 | 89.72 | 90 | 89.62 | 90 | 90 | 90 | | 89.91 |
| 21 | ALI | 89.72 | 90 | 89.69 | 90 | 90 | 90 | 90 | | 89.92 |
| 22 | ARY | 89.69 | 90 | 89.72 | 90 | 89.69 | 90 | 90 | | 89.87 |
| 23 | ROC | 90 | 87.32 | 90 | 90 | 90 | 89.69 | 89.72 | | 89.53 |
| 24 | RON | 89.69 | 90 | 90 | 89.72 | 90 | 90 | 90 | | 89.92 |
| 25 | SAN | 85.14 | 89.69 | 90 | 90 | 87.32 | 90 | 85.14 | | 88.18 |
| 26 | FAD | 89.69 | 90 | 90 | 90 | 90 | 90 | 90 | | 89.96 |
| | | | | | | | | | Mean | 89.63 |

Table 3: Asessment Mechanic Court Results

| No | Initial Subject Referee | GAME | | | | | | | | MEAN |
|----|-------------------------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | |
| 1 | HAR | 89.43 | 90 | 90 | 90 | 90 | 90 | 90 | | 89.92 |
| 2 | REN | 90 | 90 | 89.61 | 90 | 90 | 90 | 90 | 90 | 89.95 |
| 3 | RAH | 90 | 88.24 | 90 | 89.61 | 90 | 88.6 | 90 | 90 | 89.56 |
| 4 | ZID | 87.97 | 90 | 87.32 | 90 | 88.6 | 87.49 | 90 | | 88.77 |
| 5 | REN | 90 | 90 | 90 | 89.79 | 90 | 88.46 | 90 | 89.6 | 89.73 |
| 6 | YOS | 90 | 89.69 | 90 | 90 | 88.55 | 90 | 89.72 | 90 | 89.75 |
| 7 | PUR | 89.25 | 87.22 | 85.78 | 90 | 89.25 | 90 | 90 | | 88.79 |
| 8 | RAJ | 90 | 90 | 89.79 | 90 | 90 | 90 | 90 | 90 | 89.97 |
| 9 | ARS | 88.59 | 87.22 | 87.22 | 90 | 85.14 | 90 | 90 | | 88.31 |
| 10 | SWA | 90 | 90 | 90 | 90 | 89.61 | 90 | 89.79 | 90 | 89.93 |
| 11 | ARN | 90 | 88.55 | 90 | 90 | 89.79 | 90 | 87.49 | 90 | 89.48 |
| 12 | YOH | 90 | 90 | 87.49 | 89.61 | 90 | 90 | 88.34 | | 89.35 |
| 13 | SUN | 90 | 90 | 89.53 | 90 | 90 | 89.79 | 88.55 | | 89.70 |
| 14 | SED | 90 | 90 | 90 | 88.51 | 89.72 | 90 | 89.73 | 90 | 89.75 |
| 15 | AGU | 90 | 90 | 90 | 88.53 | 87.49 | 90 | 89.79 | | 89.40 |
| 16 | DEN | 90 | 89.71 | 90 | 87.79 | 90 | 89.72 | 90 | | 89.60 |
| 17 | BAK | 89.69 | 90 | 90 | 87.71 | 90 | 88.55 | 90 | | 89.42 |
| 18 | GIB | 90 | 89.79 | 87.22 | 90 | 89.72 | 90 | 90 | | 89.53 |
| 19 | CHR | 90 | 90 | 89.72 | 85.14 | 86.23 | 90 | 90 | | 88.73 |
| 20 | JUL | 90 | 89.72 | 90 | 90 | 88.37 | 87.24 | 89.21 | | 89.22 |
| 21 | ALI | 89.72 | 90 | 89.69 | 90 | 88.35 | 87.37 | 90 | | 89.30 |
| 22 | ARY | 89.69 | 90 | 89.72 | 85.25 | 89.69 | 87.79 | 89.79 | | 88.85 |
| 23 | ROC | 89.31 | 87.32 | 90 | 87.24 | 89.71 | 89.69 | 89.72 | | 89.00 |
| 24 | RON | 89.69 | 90 | 89.79 | 89.72 | 90 | 88.35 | 89.79 | | 89.62 |
| 25 | SAN | 85.14 | 89.69 | 90 | 89.71 | 87.32 | 90 | 85.14 | | 88.14 |
| 26 | FAD | 89.69 | 90 | 88.55 | 85.14 | 90 | 88.55 | 89.79 | | 88.82 |
| | | | | | | | | | Mean | 89.33 |

Table 4: Referee Performance Assessment Final Score

| No | Initial Subject Referee | Play Calling | Game Management | Mechanic Court | Mean |
|----|-------------------------|--------------|-----------------|----------------|-------|
| 1 | HAR | 93.99 | 90.00 | 89.92 | 91.30 |
| 2 | HAR | 92.89 | 89.92 | 89.95 | 90.92 |
| 3 | REN | 91.10 | 89.78 | 89.56 | 90.14 |
| 4 | RAH | 90.73 | 89.03 | 88.77 | 89.51 |
| 5 | ZID | 92.85 | 89.95 | 89.73 | 90.84 |
| 6 | REN | 91.94 | 89.92 | 89.75 | 90.53 |
| 7 | YOS | 89.64 | 88.79 | 88.79 | 89.07 |

| No | Initial Subject Referee | Play Calling | Game Management | Mechanic Court | Mean |
|----|-------------------------|--------------|-----------------|----------------|--------------|
| 8 | PUR | 93.51 | 90.00 | 89.97 | 91.16 |
| 9 | RAJ | 88.87 | 88.31 | 88.31 | 88.50 |
| 10 | ARS | 92.18 | 90.00 | 89.93 | 90.70 |
| 11 | SWA | 93.77 | 90.00 | 89.48 | 91.08 |
| 12 | ARN | 90.81 | 89.29 | 89.35 | 89.81 |
| 13 | YOH | 91.96 | 89.85 | 89.70 | 90.50 |
| 14 | SUN | 91.51 | 89.97 | 89.75 | 90.41 |
| 15 | SED | 91.52 | 89.87 | 89.40 | 90.26 |
| 16 | AGU | 92.74 | 89.91 | 89.60 | 90.75 |
| 17 | DEN | 91.64 | 89.73 | 89.42 | 90.27 |
| 18 | BAK | 90.41 | 89.56 | 89.53 | 89.83 |
| 19 | GIB | 90.15 | 89.27 | 88.73 | 89.38 |
| 20 | CHR | 90.90 | 89.91 | 89.22 | 90.01 |
| 21 | JUL | 91.00 | 89.92 | 89.30 | 90.07 |
| 22 | ALI | 90.75 | 89.87 | 88.85 | 89.82 |
| 23 | ARY | 89.95 | 89.53 | 89.00 | 89.49 |
| 24 | ROC | 90.66 | 89.92 | 89.62 | 90.07 |
| 25 | RON | 88.49 | 88.18 | 88.14 | 88.27 |
| 26 | SAN | 90.65 | 89.96 | 88.82 | 89.81 |
| | MEAN | 91.33 | 89.63 | 89.33 | 90.10 |

Table 5: Corelation and Reability

| Correlations | | | | | |
|-----------------|---------------------|--------------|-----------------|----------------|--------|
| | | Play Calling | Game Management | Mechanic Court | Total |
| Play Calling | Pearson Correlation | 1 | .676** | .643** | .899** |
| Sig. (2-tailed) | | | <.001 | <.001 | <.001 |
| N | | 26 | 26 | 26 | 26 |
| Game Management | Pearson Correlation | .676** | 1 | .719** | .772** |
| Sig. (2-tailed) | | <.001 | | <.001 | <.001 |
| N | | 26 | 26 | 26 | 26 |
| Mechanic Court | Pearson Correlation | .643** | .719** | 1 | .791** |
| Sig. (2-tailed) | | <.001 | <.001 | | <.001 |
| N | | 26 | 26 | 26 | 26 |
| Total | Pearson Correlation | .899** | .772** | .791** | 1 |
| Sig. (2-tailed) | | <.001 | <.001 | <.001 | |
| N | | 26 | 26 | 26 | 26 |

**. Correlation is significant at the 0.01 level (2-tailed).

| Reliability Statistics | | |
|--------------------------------|--|------------|
| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
| .870 | .923 | 4 |
| 0,7 -- 0,9 Reliabilitas Tinggi | | |

| | |
|----------------|--------------|
| R Tabel | 0.374 |
| N--26 | |

DISCUSSION

In officiating a match well, the referee is required to adapt his refereeing to the existing dynamics of each match (Brand & Ekkekakis, 2018). Furthermore, Unkelbach & Memmert, (2008) explained that each referee needs sufficient time to calibrate their judgement scale, and therefore they avoid using extreme sanctions at the beginning of the match but the referee must also take extreme decisions. Measuring referee performance is quite difficult and complex. Evaluation of referee performance should be done by experts in the field. It is important to determine referee performance and know the variables that affect it (Spencer, 2015).

The term referee self-efficacy is defined as the level of belief that a referee has the capacity to perform well in their job (Guillén & Feltz, 2011). Furthermore, the areas of referee self-efficacy are game knowledge and strategic skills, decision-making skills, psychological skills, communication and control in the game, and physical fitness (Guillén & Feltz, 2011; Karaçam & Pulur, 2018; Myers, 2012). In this study, it is more focused on the decision-making, game management, and mechanic court of the referee when officiating the match. The decisions made by the referee do not only depend on the existing rules, but also on the situation and context of the game. The results of this study related to referee decision making in the Indonesia Basketball League season 2023-2024 from 190 matches and 26 referees in charge of leading the match obtained the average score on decision making is 91.33 and these results fall into the excellent category.

From the results of this decision making, it can be explained that during the match, the mistakes made by the referees were very few or very small compared to the correct decision making. For the evaluation results of game management, the results were 89.63 and these results were also included in the excellent category. In the game management, it can be explained that the movements carried out by the referees in leading matches such as player control, coaches and reserve players in the bench, as well as game communication and control such as time, 24 seconds, substitutions and others are in accordance with procedures. While the evaluation of the mechanic court obtained a result of 89.33 and these results are included in the excellent category. This means that the court mechanics carried out by the referees such as: change of power area, correct positioning and others are in accordance with the procedure.

The results of the validity and reliability tests, the following results were obtained: Play calling gets a result of 0.899 smaller than the significance value of 0.001, meaning that the results of the play calling validation test are significant/valid. Game management gets a result of 0.772 smaller than the significance value of 0.001, meaning the results of the game management validation test are significant/valid.

Mechanic court validation test results get 0.791 smaller than the significance value of 0.001, meaning the mechanic court validation test results are significant. The reliability test result with Cronbach's alpha is 0.870 and is included in the high reliability category (0.7 - 0.9). Evaluation of referee performance includes an assessment of their ability to manage a dynamic and changing match.

In addition, effective interaction requires referees to develop not only communication skills, but also human judgement skills that can help them to be more responsive to fluctuations in player temperament. In particular, although it is known that positioning is crucial (Hüttermann et al., 2018) not much is known about the ability of referees to position themselves on the field to make the right decisions.

CONCLUSION

This study shows the performance of basketball referees in the Indonesia Basketball League season 2023-2024 related to the evaluation carried out through direct observation of the referee during the match related to decision making, game management, and mechanic court get very good results, because the three instruments show very good results. The results for decision making 91.33, results from game management 89.62 and results from mechanic court 89.33.

The validity test results of the three instruments/items (play calling, game management and mechanic court) get significant results, while the reliability test results for the three instruments/items are in the high reliability category.

The results of this study can be used for the assessment and evaluation of the performance of referees in charge of leading matches at all levels to obtain results that can be used for referee improvement when leading matches in order to obtain quality referees.

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