

Analysis of Archery Athlete Development Management in Improving Performance and Achievement in Jambi City

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ABSTRACT

This study aims to analyze the management of archery athlete development in improving performance and achievement in Jambi City. This study uses a descriptive qualitative approach with a focus on the coaching patterns implemented by archery clubs, coaches, and support from the Indonesian National Sports Committee (KONI) Jambi. Data collection was conducted through observation, in-depth interviews with coaches, athletes, and club administrators, and documentation of training and performance coaching activities. The results of the study indicate that the management of archery athlete development in Jambi City has been implemented systematically, but several obstacles remain, such as limited training facilities, inconsistent funding, and a lack of certified coach development programs. An effective coaching strategy involves performance-based training planning, regular evaluation of athlete performance, and improvement of coach competency. Synergy between KONI, clubs, and coaches is a key factor in optimizing the performance of archery athletes in Jambi City. This study is expected to provide recommendations for regional policymakers and coaches in improving the quality of athlete development in a sustainable manner.

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1. INTRODUCTION

Sports are an integral part of developing quality human resources. In the modern era, sports are seen not only as physical activity but also as a tool for improving performance, building character, and fostering regional pride. The Indonesian government, through Law Number 11 of 2022 concerning Sports, emphasizes that developing high-performance sports is a shared responsibility between the central government, regional governments, and the sports community. This demonstrates the importance of planned and sustainable development management, particularly in promising sports like archery.

Archery itself is a sport that continues to grow rapidly in Indonesia. Since the success of Indonesian athletes such as Riau Ega Agatha and Diananda Choirunisa at the SEA Games and the 2020 Tokyo Olympics, public interest in archery has increased significantly. According to Rizky Putri [1], it can be seen that archery is a strategic sport to be developed at the regional level. This is evidenced by the many archery athletes who have brought honor to Jambi at the national level. Furthermore, Jambi is known as a province that consistently sends quality archery athletes. The development of these athletes' achievements is inseparable from the role of the Indonesian National Sports Committee (KONI) in providing coaching.

At the local level, Jambi City is one of the regions that has shown progress in archery development. Based on the Jambi City DISPORA Annual Report [2], there are 46 active athletes with 12 provincial medal winners and 4 athletes who have reached the national championship. This achievement is inseparable from the role of the Indonesian Archery Association (PERPANI) of Jambi City which actively provides development through

scheduled training and internal competitions. However, challenges still arise from aspects of organizational management, funding, and the application of technology in the development process.

Athlete development is a continuous process that requires integration between technical, psychological, and managerial aspects. According to Buana [3], athlete performance development depends not only on the quality of training, but also on the effectiveness of the management system that regulates the entire process from planning, implementation, to evaluation. In this context, the management functions—planning, organizing, actuating, and controlling—have a crucial role in ensuring that every activity runs according to the direction of achieving performance.

Previous studies have shown that the success of sports coaching at the regional level is greatly influenced by the organization's ability to manage resources. Imron et al [4] emphasized that the sustainability of coaching requires medium-term strategic planning that is prepared based on an analysis of the needs and performance achievements of athletes.

However, in Jambi City, the coaching system still faces classic obstacles such as limited operational funds, limited training facilities, and a lack of nationally certified coaches. Furthermore, some evaluation processes are still conducted conventionally without the support of digital technology that can monitor athlete performance in real time. However, according to Muammar Khaddafi et al. [5], the application of information technology can increase efficiency, transparency, and accuracy in coaching decision-making.

From an institutional perspective, the Jambi City Sports and Sports Agency (DISPORA) have undertaken various improvement efforts, including the procurement of new archery equipment, training coaches, and funding for participation in national competitions. However, these measures have not been fully effective due to the lack of a monitoring system based on measurable athlete performance indicators. Research by Muammar Khaddafi et al. [6] shows that periodic, data-based monitoring has a direct impact on increasing motivation and consistent athlete performance.

In addition to internal organizational aspects, environmental factors also play a significant role. Social conditions, family support, and local government policies are key determinants of successful development. In the context of Jambi City, community support for archery is growing, but sponsorship and private sector participation remains limited. This has resulted in reduced opportunities for athletes to participate in tournaments outside the region, which are crucial for developing a competitive mindset.

Based on the above description, it can be emphasized that the success of archery athlete development in Jambi City is highly dependent on the effectiveness of management implemented by the coaching organization, synergy between institutions, and the use of information technology in the coaching process. Therefore, this study aims to analyze the management of archery athlete development in improving performance and achievement in Jambi City, with a focus on the four main management functions. The results of this study are expected to provide evaluation material and recommendations for relevant institutions in formulating sports development policies based on professional management and actual data.

2. METHOD

This research method uses a qualitative/quantitative approach with the aim of gaining a deep/measurable understanding of the phenomenon being studied.



Figure 1. Research Stages

2.1. Types and Approaches of Research

Every research generally follows a systematic flow so that the objectives can be achieved clearly and measurably [7]. This research uses a descriptive qualitative approach, namely a method that aims to describe, explain, and interpret social phenomena in depth based on textual and documentary data. This approach was chosen because the topic of archery athlete development management in Jambi City is not only related to quantitative data on achievements, but also concerns processes, policies, and organizational dynamics that cannot be measured numerically.

A descriptive qualitative approach allows researchers to conduct extensive exploration of organizational documents such as coaching reports, training programs, organizational structures, and athlete performance evaluation results. According to Nugroho et al [8], this method is effective in uncovering management patterns and sports organizational strategies that are internalized in coaching policies and practices.

In this context, the researcher did not conduct direct interviews, but instead collected and reviewed available secondary data, including internal documents from the Jambi City Indonesian Archery Association

(PERPANI), annual reports from the Youth and Sports Agency (DISPORA), and relevant academic publications. The analysis is expected to provide a comprehensive description of the implementation of athlete development management functions in the regional archery environment.

This research is a descriptive qualitative study, aimed at providing a systematic overview of the research focus's functions, including the role of the Neighborhood Association (RT) head in implementing the Population Information System in Mekar Sari Village, which includes:

- a. Preparing reports on population data within the RT area.
- b. Regularly updating population data.
- c. Submitting population data reports to the village government.

Various obstacles encountered in carrying out the RT Head's duties related to the Population Information System in Mekar Sari Village [11].

2.2. Focus and Scope of Research

This research focuses on the application of four primary functions of sports management in the context of archery athlete development: planning, organizing, implementing, and monitoring. These four functions are described in more detail as follows:

1. Planning

This stage focuses on the preparation of a systematic coaching program. Analysis is carried out on the annual training program design, competition schedule, and achievement targets set by PERPANI Jambi City. Data analysis is an important stage in this research, where the collected data is processed to find relevant information and support the research objectives [9]. Other aspects studied include young athlete recruitment strategies, budget management, and synergy between the local government and KONI. Planning is one of the main functions that supports the success of coaching. Process-oriented management requires careful planning so that all activities can run more effectively and are able to lead to successful actions. Therefore, no organization will be successful without using good management [10].

2. Organizing

This study examines PERPANI's organizational structure, division of tasks, and coordination system between coaches, athletes, and administrators. The focus is on how responsibilities and roles are effectively divided so that the coaching program runs efficiently. Dr. Fitri Nur Mahmudah, M.Pd [11] explains that the success of sports coaching is greatly influenced by a flexible and communicative organizational structure, especially in ensuring that each personnel understands their role in achieving common goals.

3. Actuating

The implementation phase includes implementation of training programs, basic and advanced technical training, athlete mental strengthening, and participation in regional and national competitions. Evaluation documents for the training program and activity schedule are used to assess the extent to which activities are implemented according to the established plan. This analysis also examines how coaches apply modern coaching principles and adapt to changes in the sporting environment [3].

4. Controlling

This final stage serves to assess the effectiveness of the implementation of the coaching program. Analysis was conducted on evaluation documents, competition results reports, and athlete performance assessment records. The monitoring process was measured by the success of achieving achievement targets, improving technical skills, and training discipline. In addition, the feedback system from coaches to administrators was also reviewed to assess the extent to which the evaluation mechanism was implemented sustainably. This assessment concluded that the coaching program needs to be improved to achieve future achievements. [12]. Thus, the scope of this study covers the entire managerial cycle of archery athlete coaching in Jambi City, from the planning stage to the final evaluation, with a focus on supporting documents and literature.

2.3. Data Source

The data in this study comes from secondary sources, namely data already available and published by official institutions or the results of previous research. The types of data used include:

1. Internal organizational documents, such as annual reports, work programs, organizational structures, and athlete achievement data from PERPANI Jambi City.
2. Government publications, including reports from the Jambi City Youth and Sports Agency (DISPORA) and data from the Indonesian National Sports Committee (KONI) on the development of the sport of archery.
3. Scientific literature, including books, journal articles, and proceedings relevant to the topic of sports coaching management.
4. Official online media, such as sports news portals and official archery federation pages that provide actual information about activities and competition results. The data is then selected based on the criteria of

relevance, validity, and completeness of content. According to Saputra et al [13], this research method aims to create an existing and accurate picture of real information and the relationship between the phenomena being investigated.

2.3.1. Data Collection

The data for this research includes primary and secondary data, collected through questionnaires, direct interviews, and field observations. This study uses both primary and secondary data. Raw data was collected using methods such as questionnaires, direct interviews, and field observations. To determine the informants in this study, a purposive sampling technique was used, as explained by Sugiyono (2017:218). This is a sampling approach that is not random, but rather determined based on specific criteria related to the research objectives, thus providing clarity regarding the issue being studied. Secondary data is information obtained from sources that have previously collected data. This data is not obtained directly from primary sources, but rather through documents, reports, archives, or notes related to the research (algorithms, pseudocode, or other). There are several stages in the data collection process:

a. Observation

Observation is direct observation of the implementation of the Population Information System by the RT Head in Mekar Sari Village. This observation is conducted in the field to actually observe the process, such as how the RT Head compiles and updates data and submits reports [12].

b. Interviews

Interviews are a data collection method involving direct questions and answers between the researcher and key informants (RT Heads 03 and 08) and other informants selected through purposive sampling. This in-depth interview aimed to gather information regarding the role of the neighborhood association (RT) head and the obstacles in implementing the Population Information System. Key informants are individuals considered to have in-depth knowledge related to the topic being researched. In this situation, the primary information sources were the RT heads of neighborhood associations 007 and 010 in Mekar Sari Village, Kumpeh District, Muaro Jambi Regency. Data sources consisted of individuals who possessed knowledge and understanding of the subject being researched and were willing to provide information deemed important by the researcher. In this study, a purposive sampling method was used, including the Mekar Sari Village leader, the Head of Administration and General Affairs in Mekar Sari Village, and surrounding residents [13].

2.4. Data Analysis Techniques

This research employed content analysis, a technique used to systematically, objectively, and in-depthly examine the contents of documents. The analysis was conducted through the following stages:

1. Identify Relevant Documents

Researchers first examined documents and literature relevant to the research topic. Each document was examined to ensure its relevance to aspects of coaching management, particularly in the context of archery.

2. Thematic Coding

At this stage, the document content is categorized into four major management themes: planning, organizing, implementing, and controlling. This technique helps organize the textual data into a thematic structure that is easier to analyze.

3. Narrative analysis

Each theme is analyzed narratively by comparing findings from documents and sports management theory. The results illustrate the relationship between policy, implementation, and athlete performance.

4. Interpretation and Synthesis

At this stage, researchers draw meaning from the thematic analysis results and relate them to modern management theory. This process yields a comprehensive understanding of coaching practices in Jambi City and theoretically based recommendations for improvement.

5. Preparation of Analysis Reports

All interpretation results are arranged in the form of a scientific narrative to answer the formulation of research problems and support the findings in the discussion. This process follows the Miles and Huberman analysis model which emphasizes data reduction, data presentation, and drawing conclusions, but is applied in the context of documents, not interview results (Sugiyono, 2020).

2.5. Data Validity

To maintain the validity and reliability of research results, triangulation of literature sources was conducted, namely comparing various documents from different academic and institutional sources. This

technique was used to extend the research time to see whether the information obtained was correct, increase the level of accuracy and pay more attention to the sequence of data obtained and compare the results of the data obtained [14].

In addition, a credibility evaluation of the sources was conducted by reviewing the publisher's reputation, year of publication, and relevance to the research context. Documents originating from official government institutions and sports organizations received top priority. With these steps, the research results are expected to have a high level of accuracy and be able to provide a valid scientific contribution to the development of sports management in the region.

The RT heads in Mekar Sari Village play a crucial role in managing population data by regularly compiling, updating, and reporting data. However, they face obstacles such as limited resources, technical issues, and poor communication with the village government. This suggests that support and system improvements are needed to make the RT heads' performance in the Population Information System more effective [14].

3. RESULTS AND DISCUSSION

3.1. General Overview of Archery Athlete Development in Jambi City

Archery in Jambi City is under the auspices of the Indonesian Archery Association (PERPANI) of Jambi City, which coordinates with the Jambi Provincial KONI. According to the Jambi City Sports and Sports Agency (DISPORA) report (2024), the number of active athletes and their achievements over the past three years can be seen in Table 1 below:

Table 1. Number of Athletes and Archery Achievements in Jambi City (2022–2024)

| Year | Number of Athletes | Provincial Medal | National Medal | Performance Increase Presentation |
|------|--------------------|------------------|----------------|-----------------------------------|
| 2022 | 38 | 7 | 1 | - |
| 2023 | 42 | 10 | 2 | +18% |
| 2024 | 46 | 12 | 4 | +23% |

Source: DISPORA Kota Jambi, 2024

There has been a consistent increase in the number of athletes and medals won. This demonstrates the effectiveness of the coaching strategy and coordination between coaches, administrators, and local government. These results align with findings [3], which emphasize the importance of sustainable coaching programs and regional policy support for achievement-based sports development.

3.2. Implementation of Coaching Management Functions

1. Planning

The Jambi City Indonesian Sports Association (PERPANI) is implementing a two-year Medium-Term Training Program (PLJM), focusing on improving basic techniques, discipline, and competition participation. The 2023–2024 PLJM document targets an average 5% improvement in accuracy per semester and an increase in the number of national athletes from 3 to 5.

The main constraints in planning are limited funding and training facilities. According to data from the Sports and Youth Agency (DISPORA) [2], only 60% of planned activities can be realized due to limited transportation budgets outside the region. This finding supports the view of Pratama et al. [15] that regional sports planning often lacks a balance between targets and available resources.

2. Organizing

The organizational structure of PERPANI Jambi City has four main areas: Performance Development, Facilities and Infrastructure, Finance, and Public Relations. Each area is chaired by an active administrator, but most of them work on a volunteer basis. As a result, coordination between areas is sometimes suboptimal, particularly in overseeing routine activities.

However, collaboration with clubs such as Jambi Archery Club and Telanaipura Archery has created synergy in joint training and the sharing of nationally certified coaches. Fauzi [16] emphasized the importance of competency-based task allocation for sports organizations to function effectively and professionally.

3. Actuating

Training sessions are held at the Jambi KONI Archery Field, scheduled five times per week. According to the 2024 training recap, athlete attendance reached 82%, with an average training score increase of 7% over the past six months. This data demonstrates the athletes' discipline and consistency.

The training activity structure refers to the PB PERPANI Coaching Guidelines (2023), which divides sessions into three main stages, as shown in Table 2.

Table 2. Structure of the Jambi City PERPANI Archery Athlete Training (2024)

| Training Stage | Time (minute) | Main Focus | Evaluation Indicators |
|-------------------------------|---------------|---------------------------------|---|
| Warm-up & Basic Techniques | 40 | Body posture, breathing control | Consistency of body position and accuracy of initial target |
| Technical & Tactical Training | 70 | Anchor point, shot stability | Average accuracy per session increased by $\geq 5\%$ |
| Evaluation & Cooling | 20 | Analyze individual performance | Record scores per athlete and coach correction suggestions |

Source: PB PERPANI (2023); DISPORA Kota Jambi (2024)

Data analysis showed that implementing this training structure successfully improved competitive results. Athletes with attendance rates $>80\%$ demonstrated more consistent performance than those with inconsistent training.

4. Controlling

Evaluations are conducted quarterly through meetings between coaches and the performance management team. Each evaluation covers individual performance, target achievement, and budget effectiveness. However, oversight remains manual, using written notes and reports.

According to the results of a study by Bahtiar Hari Hardovi et al [17] in Jember Regency, the use of information technology and social media provides an opportunity for more effective promotion, helps overcome these obstacles, and maximizes the potential of sports tourism in a more measurable manner. Thus, the implementation of a digital evaluation system will greatly assist Jambi City in strengthening its control function based on quantitative and objective data.

3.3. Theoretical Discussion

The findings of this study indicate that the management of archery athlete development in Jambi City is quite effective in terms of implementation and coordination, but still needs improvement in the data-based planning system and digital evaluation.

Weaknesses in manual oversight hamper the speed of managerial decision-making. Compared to coaching systems in developed provinces like Central Java, Jambi still lags behind in digitizing athlete data (PB PERPANI, 2023). These findings support George Terry's theory that organizational success depends heavily on the balance of four management functions: planning, organizing, actuating, and controlling. An imbalance in any one function can hinder the achievement of overall organizational goals.

By strengthening the planning and control functions, as well as integrating the performance analytics system, archery athlete development in Jambi City has the potential to increase significantly in the next two years, in line with the targets of the 2025–2026 Regional Sports Development Plan (RPOD).

4. CONCLUSION

This study concludes that the management of archery athlete development in Jambi City has demonstrated quite good performance, particularly in training implementation and coordination between coaching elements. Data shows an increase in the number of active athletes and achievements at the provincial and national levels over the past three years. This indicates that the development strategy implemented by the Indonesian Archery Association (PERPANI) of Jambi City is effective and sustainable.

From a management function perspective, the four main elements—planning, organizing, implementing, and monitoring—have been implemented in a structured manner. However, several weaknesses remain, particularly in long-term planning and the data-driven evaluation system. The manual monitoring process makes it take longer for coaches and administrators to make strategic decisions related to improving athlete performance.

The implementation of targeted and consistent training according to the PB PERPANI (2023) guidelines has been proven to have a positive impact on improving athletes' basic technical skills and shooting score consistency. High levels of discipline in training, supported by nationally certified coaches and adequate training facilities from the Indonesian Youth and Sports Agency (DISPORA), are crucial factors in improving performance. However, further development of training facilities and increased financial support are needed to ensure coaching reaches more potential athletes.

Overall, the effectiveness of archery athlete development management in Jambi City can be categorized as good, but needs to be strengthened through digital evaluation, increased managerial capacity of administrators, and synergy between clubs, the government, and the Indonesian National Sports Committee (KONI). With more professional and data-driven management, Jambi City has the potential to become a leading center for archery development at the national level

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