■ **Orijinal Makale / Original Article** ■

# Ranking the Performances of Goalkeepers By WASPAS Method: AFC Asian Cup Qatar 2023

## Kaleci Performanslarının WASPAS Yöntemiyle Sıralanması: AFC Asya Kupası Katar 2023

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## Abstract

This study aims to evaluate and rank goalkeepers' performances who competed in the Asian Cup Qatar 2023 according to some parameters. The sample size of the study was 22 goalkeepers. Data were obtained from the official website of the Asian Football Confederation (AFC) and Transfermarkt. Criteria used in the analysis to rank the performances of the goalkeepers were save percentage per match, number of catches and punches, and successful passes percentage per match. The criteria were weighted via the ranking method. Five steps of the WASPAS method among multi-criteria decision-making (MCDM) techniques were used to rank goalkeepers. According to the results of the analysis, GKs were ranked from 1 to 22 in terms of their performances, and the mean composite optimal value (Qi) was 0.696. The highest Qi value was 0.866, while the lowest was calculated as 0.310. According to the performance ranking, the top 3 GKs were determined as Rustam Yatimov (Tajikistan), Meshaal Barsham (Qatar), and Mathew Ryan (Australia). On the other hand, the lowest-ranked GKs were determined as Enando Ari (Indonesia), Zion Suzuki (Japan), and Rami Hamada (Palestine).

**Keywords:** *Goalkeeper, goalkeeper performance, ranking goalkeeper, WASPAS method, MCDM*

## Özet

Bu çalışma, Asya Kupası Katar 2023'te mücadele eden kalecilerin performanslarını bazı parametrelere göre değerlendirmeyi ve sıralamayı amaçlamaktadır. Araştırmanın örneklemini 22 kaleci oluşturmuştur. Veriler Asya Futbol Konfederasyonu'nun (AFC) resmi internet sitesinden ve Transfermarkt'tan elde edilmiştir. Kalecilerin performanslarını sıralamak için analizde kullanılan kriterler maç başına kurtarış yüzdesi, yakalama ve yumruk sayısı ve maç başına başarılı pas yüzdesidir. Kriterler sıralama yöntemiyle ağırlıklandırılmıştır. Kalecilerin sıralamasında çok kriterli karar verme (ÇKKV) tekniklerinden WASPAS yönteminin beş adımı kullanılmıştır. Analiz sonuçlarına göre kaleciler performanslarına göre 1'den 22'ye kadar sıralanmış olup ortalama bileşik optimal değeri (Qi) 0.696 olarak bulunmuştur. En yüksek Qi değeri 0.866 iken en düşük ise 0.310 olarak hesaplanmıştır. Performans sıralamasına göre ilk 3 kaleci, Rustam Yatimov (Tacikistan), Meshaal Barsham (Katar) ve Mathew Ryan (Avustralya) olarak belirlenmiştir. Öte yandan en düşük sıradaki kaleciler ise Enando Ari (Endonezya), Zion Suzuki (Japonya) ve Rami Hamada (Filistin) olarak tespit edilmiştir.

**Anahtar Kelimeler:** *Kaleci, kaleci performansı, kaleci sıralaması, WASPAS yöntemi, ÇKKV*

## 1. INTRODUCTION

Goalkeeping is a unique position in football. Because the goalkeeper (GK) is the only player who can control the ball with his hands in the special area. Therefore, the GK has a possibility to prevent the goal which has an impact on the match results directly (Perez-Arroniz et al., 2023). In addition to defensive responsibilities such as saving, catching, and punching, GKs have also offensive responsibilities such as passing the ball to their teammates accurately which provides the ball possession basically and even creates a goal-scoring chance occasionally (Szwarc et al., 2023).

The goalkeepers (GKs) are paid high amounts of salaries in football due to their crucial role in match results. In this sense, the top 5 GKs in the five major leagues of Europe cost the clubs around 35.000.000 € (Ligue 1), 43.000.000 € (Bundesliga), 26.000.000 € (Serie A), 55.000.000 (La Liga), and 39.000.000 € (Premier League) per year in gross (URL-1). Moreover, their market size is much higher than the salaries. Within this scope, the top 5 GKs market values are 100.000.000 € (Ligue 1), 74.000.000 € (Bundesliga), 99.000.000 € (Serie A), 160.000.000 (La Liga), and 177.000.000 € (Premier League) (URL-4). These financial data show the significance of the GKs in today's football world.

There are various indicators to evaluate and rank GKs' performance in the literature (Tienza-Valverde et al., 2023) such as conceded goals per minute, prevented goals percentage, clean sheets (Gaviao et al., 2021), saves, blocks, clearances, deflections, passes, throws (Mikikis et al., 2021), passing types and zones, faced shots, conceded goals (Sainz de Baranda et al., 2019), number of sprints, sprint distance, successful passes percentage, recovered balls, lost balls (Serrano et al., 2019). These studies prove the both defensive and offensive roles of GKs and provide guidance on how to rank their performance.

Based on the statistics, conceptual framework, and literature review mentioned above, this study aims to rank GKs that competed in the AFC Asian Cup Qatar 2023 via the WASPAS (Weighted Aggregated Sum Product Assessment) method. For this purpose, three indicators were determined save percentage, number of catches and punches, and successful passes percentage (e.g. Güngör, 2024; Berri et al., 2023; Szwarc et al., 2023). The research question of the study is "What is the performance ranking of GKs that competed in the AFC Asian Cup Qatar 2023?".

## 2. MATERIALS AND METHOD

### Research Model

A general survey design among quantitative research designs was utilized in this descriptive research. The data was longitudinal in terms of time, and the unit of analysis was the individual. In the general survey design, any characteristics of the sample on a specific subject can be revealed. (Gürbüz & Şahin, 2018). The research model used to rank the performance of goalkeepers is presented in Figure 1 below.
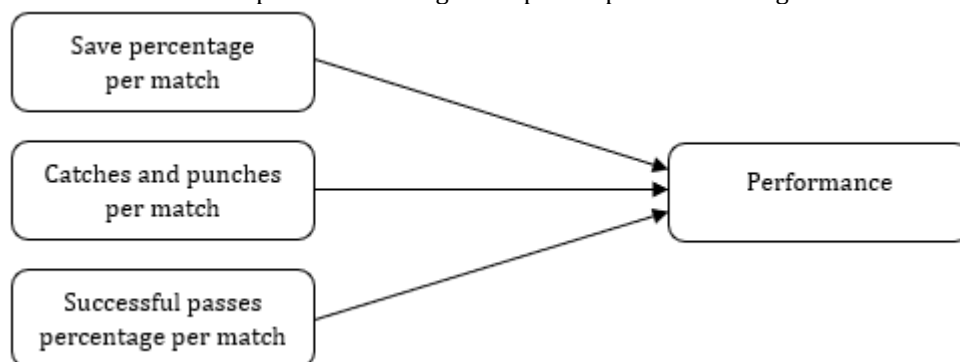


**Figure 1.** Research model

### Research Group

The population of the study is 31 GKs who competed in the AFC Asian Cup Qatar 2023, as shown in Table 1. However, nine of them were excluded from the study due to the short playing time (less than 270 minutes in the tournament). This was because each participant team played three matches in the group stage, which took 270 minutes. The excluded GKs signed with "*" in the Table 1. Finally, 22 GKs were included in the analysis and comprised the sample of the study. The descriptives of the GKs show that the mean age of the sample is 29 and the average market value is around 655.000 €.

**Table 1.** Demographics of the goalkeepers (GKs)

| No | Team | Team Value (€) | Name – Surname | Age | Market Value (€) |
|----|------|----------------|----------------|-----|------------------|
| 1 | Qatar | 19.000.000 | Meshaal Barsham | 26 | 550.000 |
| 2 | Lebanon | 8.000.000 | Mostafa Matar | 28 | 500.000 |
| 3 | China PR | 11.000.000 | Yan Junling | 33 | 400.000 |
| 4 | Tajikistan | 8.000.000 | Rustam Yatimov | 25 | 900.000 |
| 5 | Qatar | 19.000.000 | Saad Al Sheeb* | 34 | 125.000 |
| 6 | Qatar | 19.000.000 | Salah Zakaria* | 24 | 400.000 |
| 7 | Australia | 41.000.000 | Mathew Ryan | 31 | 4.000.000 |
| 8 | India | 7.000.000 | Gurpreet Singh Sandhu | 32 | 225.000 |
| 9 | Uzbekistan | 27.000.000 | Utkir Yusupov | 33 | 700.000 |
| 10 | Syria | 17.000.000 | Ahmad Madanieh | 34 | 150.000 |
| 11 | United Arab Emirates | 33.000.000 | Khalid Eisa | 34 | 400.000 |
| 12 | Hong Kong, China | 6.000.000 | Yapp Hung Fai* | 33 | 250.000 |
| 13 | IR Iran | 52.000.000 | Alireza Beiranvand | 31 | 1.200.000 |
| 14 | Palestine | 7.000.000 | Rami Hamada | 29 | 300.000 |
| 15 | Hong Kong, China | 6.000.000 | Tse Ka Wing* | 24 | 250.000 |
| 16 | Japan | 318.000.000 | Zion Suzuki | 21 | 1.000.000 |
| 17 | Vietnam | 6.000.000 | Filip Nguyen | 31 | 600.000 |
| 18 | Indonesia | 9.000.000 | Enando Ari | 21 | 250.000 |
| 19 | Iraq | 13.000.000 | Jalal Hassan | 32 | 375.000 |
| 20 | Iraq | 13.000.000 | Ahmed Basil* | 27 | 400.000 |
| 21 | Korea Republic | 193.000.000 | Kim Seung-Gyu* | 33 | 800.000 |
| 22 | Bahrain | 10.000.000 | Ebrahim Lutfallah | 31 | 325.000 |
| 23 | Malaysia | 7.000.000 | Syihan Hazmi | 28 | 300.000 |
| 24 | Jordan | 17.000.000 | Yazeed Abulaila | 31 | 350.000 |
| 25 | Korea Republic | 193.000.000 | Jo Hyeon-Woo | 32 | 1.000.000 |
| 26 | Thailand | 15.000.000 | Patiwat Khammai* | 29 | 350.000 |
| 27 | Kyrgyz Republic | 6.000.000 | Erzhan Tokotaev | 23 | 400.000 |
| 28 | Saudi Arabia | 24.000.000 | Ahmed Al Kassar | 32 | 100.000 |
| 29 | Oman | 9.000.000 | Ibrahim Al Mukhaini | 26 | 400.000 |
| 30 | Saudi Arabia | 24.000.000 | Raghid Najjar* | 27 | 150.000 |
| 31 | Thailand | 15.000.000 | Saranon Anuin* | 29 | 250.000 |

*Note: the sign of "*" was used to indicate excluded GKs.*

### Data Collection

Demographics of the population were collected from Transfermarkt (URL-4,5,6). The related data for the variables save percentage, number of catches and punches, and successful passe percentage used in the analysis were collected from the official website of the AFC Asian Cup Qatar 2023 (URL-3) between February 15th and 20th, 2024. Both sources are publicly available. Therefore, this study does not require ethics committee approval.

### Data Analysis

The WASPAS method (Zavadskas, 2012) among MCDM was used to analyze the data, which is a mixture of WSM (Weighted Sum Model) and WSP (Weighted Product Method). For this purpose, the three determined criteria (save percentage, number of catches and punches, and successful passe percentage) were weighted through the ranking method (Stillwell et al., 1981). The criteria of the study are presented in Table 2.

**Table 2.** Criteria and ranks

| Rank | Code | Criteria | Aim |
|------|------|----------|-----|
| 1 | SP | Save percentage per match | Maksimum |
| 2 | CP | Catches and punches per match | Maksimum |
| 3 | SPP | Successful passes percentage per match | Maksimum |

5 Steps of the WASPAS method were implemented as follows:

- *Step 1:* Generation of the decision matrix
- *Step 2:* Weighting coefficients of criteria
- *Step 3:* Normalization of the decision matrix

- *Step 4:* Calculation of the total relative significance values according to WSM and WPM
- *Step 5:* Calculation and ranking of the joint optimal values

**Step 1 - Generation of the decision matrix:** The decision matrix (X) is generated by determining alternatives and criteria as the equation (1) below.

$$X = [x_{ij}]_{mxn} = \begin{bmatrix} x_{11} & \cdots & x_{1n} \\ \vdots & \ddots & \vdots \\ x_{m1} & \cdots & x_{mn} \end{bmatrix} \quad i = 1,2,\dots,m \quad j = 1,2,\dots,n \tag{1}$$

**Step 2 - Weighting coefficients of criteria:** The coefficients of the criteria are weighted via various weighting methods.

**Step 3 - Normalization of the decision matrix:** Formula (2) is used for utility criteria and formula (3) is used for cost criteria as below.

Utility criteria: $x_{ij} = \dfrac{x_{ij}}{maks\,x_{ij}}$ $\hfill (2)$

Cost criteria: $\quad : x_{ij} = \dfrac{min\,x_{ij}}{x_{ij}}$ $\hfill (3)$

**Step 4 - Calculation of the total relative significance values according to WSM and WPM:** Formula (4) is used to calculate the total relative significance value according to WSM. Formula (5) is used to calculate the total relative significance value according to WPM as below.

(WSM) Total relative significance of *i.* alternative: $\left(Q_i^{(1)}\right) = \sum_{j=1}^{n} x_{ij} w_j$ $\hfill (4)$

(WPM) Total relative significance of *i.* alternative: $\left((Q)_i^{(2)}\right) = \prod_{j=1}^{n} x_{ij}^{\,w_j}$ $\hfill (5)$

**Step 5 - Calculation and ranking of the joint optimal values:** Equation (6) is used to calculate the joint optimal values ($Q_i$). Thus, alternatives are ranked according to $Q_i$ values.

$$Q_i = \lambda Q_i^{(1)} + (1-\lambda) Q_i^{(2)} \tag{6}$$

In general, λ = 0,5 and 0 ≤ λ ≤ 1

If λ = 0, WASPAS transforms into WPM

If λ = 1, WASPAS transforms into WSM

## 3. RESULTS

The results of the 5 steps WASPAS method are presented in this section.

**Step 1**
The data of criteria were collected by the author match by match from the official website of the tournament. Later, per-match values of the criteria were calculated. Thus, the decision matrix was generated as in Table 3 below.

**Table 3.** Decision matrix

|              | SP     | CP    | SPP    |
|--------------|--------|-------|--------|
| M.Barsham    | 81.000 | 1.000 | 62.000 |
| M.Matar      | 63.000 | 1.300 | 59.000 |
| Y.Junling    | 67.000 | 0.300 | 70.000 |
| R.Yatimov    | 83.000 | 1.800 | 50.000 |
| M.Ryan       | 76.000 | 0.400 | 74.000 |
| G.S.Sandhu   | 47.000 | 0.300 | 62.000 |
| U.Yusupov    | 59.000 | 1.200 | 45.000 |
| A.Madanieh   | 73.000 | 0.500 | 48.000 |
| K.Eisa       | 61.000 | 0.800 | 67.000 |

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| | | | |
|---|---|---|---|
| **A.Beiranvand** | 68.000 | 0.700 | 72.000 |
| **R.Hamada** | 51.000 | 0.000 | 68.000 |
| **Z.Suzuki** | 37.000 | 0.400 | 75.000 |
| **F.Nguyen** | 49.000 | 0.700 | 57.000 |
| **E.Ari** | 40.000 | 1.000 | 57.000 |
| **J.Hassan** | 38.000 | 0.700 | 68.000 |
| **J.H.Woo** | 61.000 | 0.200 | 79.000 |
| **E.Lutfallah** | 70.000 | 0.500 | 59.000 |
| **S.Hazmi** | 60.000 | 1.700 | 56.000 |
| **Y.Abulaila** | 78.000 | 0.700 | 58.000 |
| **E.Tokotaev** | 65.000 | 1.300 | 71.000 |
| **A.Kassar** | 68.000 | 0.300 | 87.000 |
| **I.Mukhaini** | 70.000 | 0.700 | 59.000 |
| | **Utility** | **Utility** | **Utility** |

*SP = Save percentage CP = Catches and punches SPP = Successful passes percentage*

**Step 2**

Criteria (SP, CP, SPP) were weighted via the ranking method. In this step, SP was determined as the most important criterion because the main responsibility of the GK is preventing the goals. Then, SPP was determined as the second important criterion as an offensive characteristic. Finally, CP was determined as the least important criterion because there are GKs that can be categorized as line GKs in the sample. Hence, coefficient values were calculated as shown in Table 4. Finally, the criteria were weighted as in Table 5 below.

**Table 4.** Coefficient values of the criteria

| | Total Ranking | | Sorting Ranks | | Rank Base | |
|---|---|---|---|---|---|---|
| **Criteria** | **mj** | **wj** | **mj** | **wj** | **mj** | **wj** |
| **SP** | 3 | 0.500 | 1.000 | 0.546 | 9.000 | 0.643 |
| **CP** | 1 | 0.167 | 0.333 | 0.182 | 1.000 | 0.071 |
| **SPP** | 2 | 0.333 | 0.500 | 0.273 | 4.000 | 0.286 |
| | 6 | 1 | 1.833 | 1.001 | 14 | 1.000 |

*mj = ranking weight value of j. criterion, wj = weight value of j. criterion*

**Table 5.** Criteria weights

| W1 | W2 | W3 |
|---|---|---|
| **0.643** | 0.071 | 0.286 |

**Step 3**

The decision matrix was normalized as shown in Table 6.

**Table 6.** Normalized decision matrix

| | SP | CP | SPP |
|---|---|---|---|
| **M.Barsham** | 0.976 | 0.556 | 0.713 |
| **M.Matar** | 0.759 | 0.722 | 0.678 |
| **Y.Junling** | 0.807 | 0.167 | 0.805 |
| **R.Yatimov** | 1.000 | 1.000 | 0.575 |
| **M.Ryan** | 0.916 | 0.222 | 0.851 |
| **G.S.Sandhu** | 0.566 | 0.167 | 0.713 |
| **U.Yusupov** | 0.711 | 0.667 | 0.517 |
| **A.Madanieh** | 0.880 | 0.278 | 0.552 |
| **K.Eisa** | 0.735 | 0.444 | 0.770 |
| **A.Beiranvand** | 0.819 | 0.389 | 0.828 |
| **R.Hamada** | 0.614 | 0.000 | 0.782 |
| **Z.Suzuki** | 0.446 | 0.222 | 0.862 |
| **F.Nguyen** | 0.590 | 0.389 | 0.655 |
| **E.Ari** | 0.482 | 0.556 | 0.655 |
| **J.Hassan** | 0.458 | 0.389 | 0.782 |
| **J.H.Woo** | 0.735 | 0.111 | 0.908 |
| **E.Lutfallah** | 0.843 | 0.278 | 0.678 |
| **S.Hazmi** | 0.723 | 0.944 | 0.644 |
| **Y.Abulaila** | 0.940 | 0.389 | 0.667 |
| **E.Tokotaev** | 0.783 | 0.722 | 0.816 |

| | | | |
|---|---|---|---|
| **A.Kassar** | 0.819 | 0.167 | 1.000 |
| **I.Mukhaini** | 0.843 | 0.389 | 0.678 |

**Step 4**

The total relative significance values were calculated according to WSM (Table 7) and WPM (Table 8).

**Table 7.** Total relative significance values (WSM)

| | SP | CP | SPP |
|---|---|---|---|
| **M.Barsham** | 0.628 | 0.039 | 0.204 |
| **M.Matar** | 0.488 | 0.051 | 0.194 |
| **Y.Junling** | 0.519 | 0.012 | 0.230 |
| **R.Yatimov** | 0.643 | 0.071 | 0.164 |
| **M.Ryan** | 0.589 | 0.016 | 0.243 |
| **G.S.Sandhu** | 0.364 | 0.012 | 0.204 |
| **U.Yusupov** | 0.457 | 0.047 | 0.148 |
| **A.Madanieh** | 0.566 | 0.020 | 0.158 |
| **K.Eisa** | 0.473 | 0.032 | 0.220 |
| **A.Beiranvand** | 0.527 | 0.028 | 0.237 |
| **R.Hamada** | 0.395 | 0.000 | 0.224 |
| **Z.Suzuki** | 0.287 | 0.016 | 0.247 |
| **F.Nguyen** | 0.379 | 0.028 | 0.187 |
| **E.Ari** | 0.310 | 0.039 | 0.187 |
| **J.Hassan** | 0.294 | 0.028 | 0.224 |
| **J.H.Woo** | 0.473 | 0.008 | 0.260 |
| **E.Lutfallah** | 0.542 | 0.020 | 0.194 |
| **S.Hazmi** | 0.465 | 0.067 | 0.184 |
| **Y.Abulaila** | 0.604 | 0.028 | 0.191 |
| **E.Tokotaev** | 0.503 | 0.051 | 0.233 |
| **A.Kassar** | 0.527 | 0.012 | 0.286 |
| **I.Mukhaini** | 0.542 | 0.028 | 0.194 |

**Table 8.** Total relative significance values (WPM)

| | SP | CP | SPP |
|---|---|---|---|
| **M.Barsham** | 0.985 | 0.959 | 0.908 |
| **M.Matar** | 0.838 | 0.977 | 0.895 |
| **Y.Junling** | 0.871 | 0.881 | 0.940 |
| **R.Yatimov** | 1.000 | 1.000 | 0.854 |
| **M.Ryan** | 0.945 | 0.899 | 0.955 |
| **G.S.Sandhu** | 0.694 | 0.881 | 0.908 |
| **U.Yusupov** | 0.803 | 0.972 | 0.828 |
| **A.Madanieh** | 0.921 | 0.913 | 0.844 |
| **K.Eisa** | 0.820 | 0.944 | 0.928 |
| **A.Beiranvand** | 0.880 | 0.935 | 0.947 |
| **R.Hamada** | 0.731 | 0.000 | 0.932 |
| **Z.Suzuki** | 0.595 | 0.899 | 0.958 |
| **F.Nguyen** | 0.712 | 0.935 | 0.886 |
| **E.Ari** | 0.625 | 0.959 | 0.886 |
| **J.Hassan** | 0.605 | 0.935 | 0.932 |
| **J.H.Woo** | 0.820 | 0.855 | 0.973 |
| **E.Lutfallah** | 0.896 | 0.913 | 0.895 |
| **S.Hazmi** | 0.812 | 0.996 | 0.882 |
| **Y.Abulaila** | 0.961 | 0.935 | 0.891 |
| **E.Tokotaev** | 0.854 | 0.977 | 0.944 |
| **A.Kassar** | 0.880 | 0.881 | 1.000 |
| **I.Mukhaini** | 0.896 | 0.935 | 0.895 |

**Step 5**

Alternatives (GKs) were ranked as shown in Table 9. According to the final results of the analysis, the sample was ranked from 1 to 22 and the mean $Q_i$ value was 0.696. The highest $Q_i$ value was 0.866, while the lowest was 0.310.

**Table 9.** Ranks of the alternatives

| Alternatives | National Team | Qi | Rank |
|---|---|---|---|
| R.Yatimov | Tajikistan | 0.866 | 1 |
| M.Barsham | Qatar | 0.865 | 2 |
| M.Ryan | Australia | 0.830 | 3 |
| Y.Abulaila | Jordan | 0.812 | 4 |
| A.Kassar | Saudi Arabia | 0.800 | 5 |
| E.Tokotaev | Kyrgyz Republic | 0.788 | 6 |
| A.Beiranvand | IR Iran | 0.786 | 7 |
| I.Mukhaini | Oman | 0.757 | 8 |
| E.Lutfallah | Bahrain | 0.744 | 9 |
| Y.Junling | China PR | 0.741 | 10 |
| M.Matar | Lebanon | 0.733 | 11 |
| A.Madanieh | Syria | 0.727 | 12 |
| K.Eisa | United Arab Emirates | 0.722 | 13 |
| S.Hazmi | Malaysia | 0.715 | 14 |
| J.H.Woo | Korea Republic | 0.712 | 15 |
| U.Yusupov | Uzbekistan | 0.649 | 16 |
| F.Nguyen | Vietnam | 0.592 | 17 |
| G.S.Sandhu | India | 0.568 | 18 |
| J.Hassan | Iraq | 0.537 | 19 |
| E.Ari | Indonesia | 0.534 | 20 |
| Z.Suzuki | Japan | 0.531 | 21 |
| R.Hamada | Palestine | 0.310 | 22 |

## 4. DISCUSSION AND CONCLUSION

Primarily, this study supports the pertinence and usefulness of the variables of save percentage, number of catches and punches, and successful passes percentage which were used in previous studies (Berri et al., 2023; Szwarc et al., 2023; Tienza-Valverde et al., 2023; Sainz de Baranda et al., 2019; Serrano et al., 2019). Secondarily, even though there is scarce literature regarding ranking GKs performances via MCDM methods, the conclusions of the studies (e.g. Görçün & Küçükönder, 2021; Hatem & Ikram, 2023) are consistent with each other.

Görçün and Küçükönder (2021) ranked the performance of 19 goalkeepers playing in the English Premier League. In their study, where 17 criteria (e.g. goal saved, accuracy short pass, clearance, yellow cards, aerial won, fouls) were weighted with CRITIC and PSI methods, goalkeepers were ranked with the WASPAS method. According to the analysis results of the 2018/2019 season, the first place in the ranking was Nick Pope (Burnley), while the last was Paulo Gazzaniga (Tottenham). In this context, the relevant study has many strengths. The number of criteria used in the study is quite sufficient, and the evaluations made by seven field experts were taken into account when weighing these criteria. In addition, the league nature of the competition can be stated as another strength of the study. As a result, when Transfermarkt (2024) data is examined, Nick Pope (age 27), who had a market value of € 10.000.000 at the end of the 2019 season, doubled his market value to € 20.000.000 despite reaching the age of 31 in 2024. This situation also supports the result of the study.

Hatem and Ikram (2023) made the starting line-up selections for the French National Team in the 2022 Qatar World Cup. In their study where five criteria (metrics, physical, mental, technical, offense, and defence) were used for 27 players, the MOORA method was implemented to rank the players. According to the results of the analysis, the rankings of the three goalkeepers in the squad were determined as Hugo Lloris (13th), Alphonse Areola (16th), and Mike Maignan (23rd). Hugo Lloris was the goalkeeper in 6 of the 7 matches France played in the World Cup and they reached the final in the tournament (URL-2). This situation supports the result of the study. Consequently, it is seen that the rankings made with MCDM (Multi-criteria decision-making) methods (e.g. WASPAS, MOORA) give important clues for the future. This is a remarkable finding for many stakeholders in football (goalkeepers, clubs, national teams, coaches, trainers, scouts, etc.).

GKs who competed in the AFC Asian Cup Qatar 2023 were ranked via the WASPAS method in this study with the variables of save percentage per match, number of catches and punches per match, and successful passes percentage per match. Consequently, the top 3 GKs were determined as Rustam Yatimov (Tajikistan), Meshaal Barsham (Qatar), and Mathew Ryan (Australia). On the other hand, the lowest-ranked GKs were determined as Enando Ari (Indonesia), Zion Suzuki (Japan), and Rami Hamada (Palestine).

Rustam Yatimov (Rank 1) had the highest statistics in the tournament with 83% save and 1,8 catches and punches per match. Additionally, his national team Tajikistan is the 18th among 24 participants in terms of market value. This means that Tajikistan was expected to be eliminated in the group stage. However, Tajikistan qualified from the group stage and eliminated United Arab Emirates in the round of 16.

Meshaal Barsham (Rank 2) was the winner of the Best Goalkeeper award (URL-3). His national team Qatar was the winner of the tournament even if they were the 8th valuable team. He was also the second GK in terms of the save per match with 81%. It is important to indicate that he played three more matches than Rustam Yatimov and these there matches were against high-performance teams in the tournament. Hence, it is fair to say that he deserved the Best Goalkeeper award.

Surprisingly, Zion Suzuki (Rank 21) got the second lowest rank in the tournament although he was the 3rd valuable GK with a 1.000.000 € market value. He was the last GK in terms of save per match with 37%. His national team Japan with the highest market value by far expected to win the tournament. However, they were eliminated by IR Iran in the quarter-finals. Rami Hamada (Rank 22) was the last ranked. Despite this, the Palestine national team qualified from the group stage and was eliminated by the winner of the tournament (Qatar) in the round of 16. They are the 19th among 24 participants with a 7.000.000 € market value. The reason for this contradiction can be explained by the variable of catches and punches because he was the only GK who didn't have any catches or punches per match.

In addition to Hamada's issue, this study includes another weakness as well. For instance, the variable of errors leading to goals couldn't be added to the analysis. Because 18 GKs didn't make any errors leading to goals. Only four GKs had errors in the tournament. In this way, the normalized value of this variable transformed into zero for all GKs even those who had errors in the tournament. Therefore this variable was excluded before analysis. These four GKs were Erzhan Tokotaev (Kyrgyz Republic), Ibrahim Al Mukhaini (Oman), Gurpreet Singh Sandhu (India), and Zion Suzuki (Japan). Errors leading to goals value of them were 1,3 (E. Tokotaev), 0,3 (I. Mukhaini), 0,3 (G. Sandhu), and 0,2 (Z. Suzuki). In light of this information, the 6th rank of E. Tokotaev can be interpreted as a misleading position due to his high statistics regarding errors leading to goals per match.

## 5. LIMITATIONS AND RECOMMENDATIONS

This study has some limitations. For instance, the variable of errors leading to goals couldn't be added to the analysis. Because 18 GKs didn't make any errors leading to goals. Only four GKs had errors in the tournament. In this way, the normalized value of this variable transformed into zero for all GKs even those who had errors in the tournament. Therefore this variable was excluded before analysis. These four GKs were Erzhan Tokotaev (Kyrgyz Republic), Ibrahim Al Mukhaini (Oman), Gurpreet Singh Sandhu (India), and Zion Suzuki (Japan). Errors leading to goals value of them were 1,3 (E. Tokotaev), 0,3 (I. Mukhaini), 0,3 (G. Sandhu), and 0,2 (Z. Suzuki). In light of this information, the 6th rank of E. Tokotaev can be interpreted as a misleading position due to his high statistics regarding errors leading to goals per match. Another limitation is that only three variables were used in this study as performance indicators and the period of the competition is short-term. Lastly, Qatar was the host country of the tournament. This might provide an advatange for Meshaal Barsham among other GKs.

This study includes important clues for the practitioners. For example, football clubs can use ranking methods to decide on GK transfers. National teams can make selections for the squad. GK coaches can develop their training techniques according to ranking results. Statistical institutions can update the market value of GKs according to their rankings and so on. Finally, some recommendations can be made for future studies in the context of this study as follows:

- Various criteria can be added such as national team value. Because these kinds of tournaments are short-term when they compare with the leagues.
- Qualitative methods can be used for the analysis. Interviews can be done with the experts or GKs to understand the factors lying behind the success of the short-term tournaments.
- Variables can be weighted by different kinds of methods.
- Similar kinds of models can be implemented for different positions in football such as attackers, midfielders, or defenders.
- Effect of the jersey colour can be investigated on GK performance.

## 6. CONFLICT OF INTEREST AND ETHICS COMMITTEE APPROVAL

**Conflict of interest:** *The author declared that there was no conflict of interest.*

**Financial support:** *The author did not receive any financial support for this study.*

**Ethics Approval:** *The author declares that the article complies with national and international research and publication ethics. In the event of a contrary situation, the **Journal of Sport and Recreation Research** has no responsibility, and all responsibility belongs to the article's authors.*

**Ethics committee approval:** *This study did not require ethics committee approval. Data for the study were collected from publicly available official web sites.*

**Informed consent:** *This study did not require informed consent.*

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