

The Determination of The Defender Position in Football Uses The Magiq (Multi-Attribute Global Inference Quality) Method

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Abstract. Defender is a stronghold to a football team. Generally position defender there are four position, among other the centre back, full back, wing back, and sweeper. There are ten parameter used to measure defender. Among other things these covering parameter, a heading, pressing, tackling, control, passing, crossing, the stamina, dribbling, and shooting. Because the parameters further many, it makes coach was experiencing problems in putting what is appropriate to players. To help coach in determining the position in accordance with their condition players, then required a decision support system. Methods used in system a supporter of this decision is a method of magiq, it was because the measurement of conformity a player with its position use multi criteria. The system made could not determine the position of the right or left. Testing system do with 20 players. The results the coach agree with the system as many as 15 players. It means system based 75%. This is because in factor mentality and understanding tactics in playing ignored.

I. Introduction.

The football is one of the branches of a sport that most attractive to by the majority of the population in Indonesia. Many of the fans have opinions concerning the game subuah a football club. A club of course want the victory and winning the. There are all sorts of second-placed as key, for example composition players, carefulness coach, the selection of formation, the ability of individual players and so on. All the key trying to filled by a club through the activities of a routine training mission composed in a presentable manner ranging from basic training as dribbling, of passing, shooting and cooperation team [1].

Problems that often faced in a football team that is placement the position of a player who do not based on ability to present, this affecting in the game a team. Each player has an favored but position his choice not necessarily position best if seen from capability owned the player. Especially defenders being fortified of defense in a team where coach only rely on instinct and whose body are large and strong alone in memiiah a player on this position. And not enough of that was the acts of every survive good and it takes for defender for example pressing, covering, a heading, tackling, passing, crossing, control, shooting, dribbling,

stamina. With the criteria for assessing which that is more specific to the position of the defender, is expected to be more optimal in determining the position defender fitting within a team. A case study that had been selected based here of schools football son of the hero of school diamana football governing body he could only push the its achievements have good could come of by pssi kabupaten sampang .Of this is going to play ssb about to be born it bibit-bibit a football player who the target of high quality so that it can help removed from winning the a variety of the event in the region as well national in the province as well.

Therefore need to support system the decision to solve those problems , in this research writer try practicing magiq (multi-attribute global inference of quality) in in the system to determine the position defender .In previous studies pertaining to the determination of the football players nobody use this method .Although magiq have targeted extensive research , this technique is very useful in practice [2]. Magiq own is one of methods used in decision-making multi-kriteria and was first introduced by james d .Mccaffrey [3].This method having quite a bit in common with analytical technique processes (ahp) and consequently the rating of these simple multi-attribute technique exploiting rank (smarter) [4].And in the calculation of the weights employed the concept of rank a centroid order (roc) [5] .On this method the weightings of perankingan and are packaged in one magiq facilitate the process so that we in processing a making [6] .And from the calculation on a method of tersebut shall be found out and the position of a player ideal coping the time that my players gave a recommendation to coach so that it can make us consideration.

II. literature review.

There are some the done before that was the reference in this study, including: tjandra, ellysa, 2014 in his research titled “the support system the decision to determine scholars sympathy at the university of “x” with the global multi-attribute inference of quality (magiq)” . In the process of scholarship sympathy would require several criteria as a its consideration. These criteria are academic merit, the family, paying ability and supporting factors. In accordance with the methods magiq so criteria and subcriteria will be arranged form tree in the order of priority of criteria. Priority value depends on prefensi supervising lecturer academic team. The data used was data students applying scholarship to their respective - faculty and selection process determined by supervising lecturer academic that has been set by each side. From the pilot and recommendations system obtained students eligible for a scholarship and can be used by a team supervising lecturer academic. But to ensure valid the suitability data from students were needs to be verification file supporters of any student [3].

Other research was carried out by the adityas lukito in the year 2015 with a title “the support system a decision which was made a tablet pc indofood acquired misp shares through web based both a method of multi attribute inference invalid quality given the unpredictability of global chief executive officer of new (magiq)” .This application is reasonable enough the system that made are going to be providing pilihan to help user when mount a full scale search a tablet , especially to user that is less know about a tablet pc .On apikasi the support system this decision was based on provide her with their top five options bank credits really needed by pt pgn promised to supply games of the match , the department of multimedia , the internet , the business of , and cusom to user who understand and could not comprehend a tablet pc .The results of the matter of validating the support system decision can be help for selecting villagers to a tablet pc in accordance with what is required by user [7].

Radivan in his research to meet a task the end of which assumed the title of “ the support system a decision which was made the determination of the position of a player the football by a

method of smart and profile matching” promised to supply for the purpose of determining the position of a player football based on the results of the exercise of mostly players from the local young in ssb indonesia muda by changing the data the exercise of mostly players from the local become the attribute of the ability of a large group of players .The capability of being measured in terms of this research is only 6 the attribute of antarlain the ability you to keep kicking against , physical , stand against the syrian king , the speed of , chested the ball , and menggring .This research including accurate where its accuracy reached 75 % by the position of the system with mostly players from the local [8].

Dea reza prasetyo with a title his research on 2017 namely “the support system decision placement the position of a player football sport branch in a simple additive weighting (saw)” .In his research a coach in club kalirong fc experienced had difficulty in determining the position of a player only use the ego and instinct so as to be less than accurate in assessing the ability players.The results from the study is featuring value players and determining the position ideal players who is in kalirong fc.The conclusion of the result of this research is considered players based on the ability the player to can beman more optimal.On judgment players this in a simple additive weighting that could produce value a sum weighting directly assess based on value criteria players [9].

Chaya in 2016 its study titled “assessment system of cooperatives from the local office of cooperatives and sme kabupaten sampang with the methods magiq (multi attribute global inference of quality)”. For the judgment of koperasi-koperasi system made good and calculation of storage and also compare in value that has been calculated by using ms excel by calculation that uses methods and cooperative performance for monitoring .Based on the results of the tryouts the system of having accuracy 80,39 % in accordance with two categories of agency for a reckoning [10].

Theoretical

A.Football

In a football game includes movements run, jump, caper, kick, stamped and catch a ball for goalkeeper.Of all the motion the movement integrated in a pattern of motion needed players in carrying out their duties in playing soccer.The most dominant movement in a football game is kick. With a kick course anak-anak has been playing football.Players who have the techniques kick good, will be able to play efficiently.The kick the ball is to half (passing), shoot kegawang (shooting at the goal), and sweep (keep the ball from his own goal) and sweep to thwart attacks against (sweeping). The following is the fundamentals of football among other: 1. Dribbling, 2. Passing, 3. Trapping, 4. Heading, 5. Shooting.

Motion basic football as described above very important consideration, a coach should give training good and right, so that an athlete who had been can do motion basic football really into more easily.It also applies to an athlete who previously been having basic skills of a good will more control basic techniques football [11]. But as for the action of a superb defensive boxer who strike in football began to get a bit from a waking a series of attacks and also tim it is necessary to conduct a variety of the action of using a ball as dribble , of passing , a heading , control , etc .Also the action of without a sphere like create a , was running back up to the same type of chambers , and within it are the action of shooting and a heading in an attempt to resolve be used in suicide attacks .

On of the moments of the program is held due stand against the syrian king begins with a willing be recognised and not annoyed made its mate of the rebound to send the game wake up be used in suicide attacks .The action of football which be paid out starting on this phase the

daughter they had reserved: pressing , marking , covering , tackling , crossing , passing , control , dribling [12] [13].

A. Decision Support System (DSS)

The concept of the support system decision expressed first time around 1970 by michael s.scott morton who explained that spk is a system that computer-based devoted to help in decision-making by using data and particular model to break various problems that is not structured. That can do decision-making well better spk provide information, guide, give predictions and direct to the users of information [14].

DSS designed was primarily aimed at supporting the entire stage decision-making starting from identify problems , choose data relevant , determine the approach that was used in the decision-making process , to evaluate interactive election .Third party contributions are berpeeran in the context of the whole system information aimed to correct performance through the application of information technology .So , third party contributions are as a a system based on computers that can help in the decision-making process .Spk as information system based computer adaptive , interactive , flexible , specifically developed to support the solution of problems management is not structured to improve the quality of decision-making. DSS is a system interactive information that provides information, modeling, and pemanipulasian data. In a situation semi-structured and situations is not structured third party contributions are can be used to help decision-making, where no one knows exactly how the decision there should be. The purpose of the support system of decision is as follows. 1.Help in decision-making to problems semi-structured. 2.Give support for consideration managers and not on were replace the manager. 3.Increase the effectiveness of decisions in extract manager more than improvement efficiency. 4.Speed computing. Computers allow decision-makers in doing a lot of computing fast and easy with the money that low. 5.Increased productivity. 6.Support the quality. 7.Defenseless competitiveness. Overcome limited cognitive in processing and storage. The human brain limited in do processing and and storing information, someone sometimes difficulty in recalling and use having the limited ability to process and storing information [15].

B. Multi-Attribute Global Inference Of Quality (MAGIQ)

Even though magiq have not yet undergone extensive research , this method have been proven in the implementation and practice .Magiq was first introduced by james d .Mccaffrey .Magiq used to determine a whole judgment or kwalitaas of any factor that has had a significant effect of a system .This method employed the concept of rank order a centroid (roc) .The concept of roc based on the level of priority of any criteria .It gives us a a method of magiq weight on each prioritasnya criteria in accordance of ranking based on the level .Where roc will rank rank a matrix with the same number to 1 .On this method the weightings of perangkingan and are packaged in one magiq facilitate the process so that we are in the process of making a decision.

Calculation weights from his factor use Rank Order Centroid (ROC),[2] :

$$W(A_k) = \sum_{i=k}^n \frac{(1/i)}{n} \dots \dots (1)$$

Information:

- w (Ak) is function
- n is the number of ranking attribute attributes than

- k is the upper attribute
- i is value increment

While for reckoning weight to a criterion and attributes given equal weight if element having n sub-element e, so weight each element of such as $1/n$ where n is the sum of criteria or attributes. Next to count the final result to the method magiq this can be described in the equation of follows:

$$V_{qual} = \sum_{i=1}^n (V(F_i)) * W(F_i) \dots (2)$$

$$V(F_i) = \sum_{j=1}^m (V(C_j) * W(C_j)) \dots (3)$$

$$V(C_j) = \sum_{l=1}^k (V(A_l) * W(A_l)) \dots (4)$$

Information:

- v _ qual: quality value as a whole .
- v (fi): the criteria f i.
- v (cj): value sub-kriteria c j.
- v (A1): value to to attribute the .
- w: weight .

The resolution magiq method is:

- 1 .Determining the criteria , sub-kriteria and attributes to be used
- 2 .Sort on the priority , either on criteria , sub-kriteria and attributes
- 3 .Count weights criteria , sub-kriteria , and attributes .
- 4 .Count the criteria , sub-criteria
- 5 .The last count final score the overall

III. System design

A system design is the design process system do first, before making application. That application made to walk and functioning well, so a system design needs to be done so they could be used in determining the position defender to players in accordance with the data exercise of a coach. In addition, this program also ease in election process defensive positions (defender), because of the system structured and adapted to reflect the needs. Design this system consisting of, an overall picture system to be made. It that could support in the design this system is the use of model design, as flowchart, , use case diagram, activity diagram, and models design of other systems in accordance with their needs.

The general description of architecture system that created in this research is :

Inserting exercise a performer (pressing data , covering , a heading , tackling , of passing , crossing , contol , shooting , dribling , the stamina) In determining the extent to kriteia priorities in terms of silverware and subkriteria to makes the trees a decision which was made

Counting w or the weight of criteria and subkriteria with using formulas

$$W(A_k) = \sum_{i=k}^n \frac{(1/i)}{n} \dots \dots (1)$$

Count the value of the criteria and subkriteria with using formulas

$$V(C_j) = \sum_{l=1}^k (V(A_l) * W(A_l)) \dots \dots (2)$$

$$V(F_i) = \sum_{j=1}^m (V(C_j) * W(C_j)) \dots \dots (3)$$

Counting the results of an end by using the formula

$$V_{\text{qual}} = \sum_{i=1}^n (V(F_i)) * W(F_i) \dots \dots (4)$$

Counting rata-rata result of 5 period of exercise

After every piece was counted will appear the result of reckoning in the form of the final result the position of each player

The priority of any position stamped on table 1 to 4. Table 1 showed the arrangement of the priorities of the centre back.

Table 1. the arrangement of the priorities of the centre back

Parameters	priority	weight ROC
Covering	1	0,2929
Heading	2	0,1929
Pressing	3	0,1429
Tackling	4	0,10956
Control	5	0,08456
Passing	6	0,06456
Crossing	7	0,0479
stamina	8	0,03361
Dribling	9	0,02111
Shooting	10	0,01

IV. Conclusion and Advice

Striking result it is commonly from the tests of that have been undertaken by came up with a conclusion that the results of the system which so in accordance with the observation coach as many as 15 a sluggish start before sweeping 20 a performer who observed , or the slide show as much as 75 % .This has happened because of the data used data only back on the bike again , while the subject of an observation to him the reference of coach will learn from the experience a game in hand with each player .For example a performer upon the name of ach aelig an ach .Maizin , system patients outside the system was totally wrong about him as swepper but the assessed as one of the fullback with the reason the mostly players from the local often do less than our a heading , despite the fact that this if the impact is considered the data the drill a heading including the good.

Suggestions for further research besides seen data the rehearsal is also have to see statistic the game of the player.This because in training players not were under pressure from an opponent.

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