FIFA/Coca-Cola Women's World Ranking

Background

In 2003, ten years after the launch of the FIFA/Coca-Cola World Ranking for men's national teams, the FIFA/Coca-Cola Women's World Ranking was introduced as an objective yardstick for measuring the sporting performance of a steadily expanding number of national teams in the women's game. By launching the ranking, FIFA hoped to give the popularity of women's football a well-deserved extra boost.

Today, the FIFA/Coca-Cola Women's World Ranking is not just a tool to determine the current strength of each team based on their performance on the pitch but is also used in the draws of various international tournaments, such as the FIFA Women's World Cup™, the Women's Olympic Football Tournament and other confederation competitions.

In line with its original purpose, the ranking can also be used as a development tool, especially for developing member associations as it helps to increase the exposure of national teams and their players and to accelerate the improvement of various sporting aspects, such as the talent development pathway from grassroots to elite level.

General considerations

The teams are ranked according to a value that is a measure of their actual strength. The calculation of the ranking value (or rating points) of a team involves several steps. Nevertheless, the system used is still straight forward and allows all interested parties to understand the teams' movements.

Since the first match, held in the 1970s (the first FIFA-sanctioned women's international game was held on 17 April 1971 when France faced the Netherlands), it has been possible to comprehensively catalogue data relating to international women's football matches and competitions.

Only teams that had played five matches before the 1999 FIFA Women's World Cup™ against teams that had also played five matches before that edition were included in the inaugural ranking in 2003.

Basics of the ranking methodology

The basic formula for the ranking is quite simple:

New rating points = old rating points + (actual result – expected result)

This means that the new rating of a team depends on the difference between the "actual result" achieved in a match (which is converted into a value) and the "expected result", which is a pre-determined value based on the different strengths of the two opponents.

Should the "actual result" value exceed the "expected result" value, the new rating points will be higher than the old value. This is a fair approach, as it rewards the teams that performed better than expected. At the same time, the teams that do not perform as well as expected lose the same number of rating points as that gained by the opponents. This is because the underperforming team's "expected result" value was greater than the "actual result" value.

One conclusion that can be drawn from this basic rule is that the number of rating points earned by a team for a win depends on the strength of the opponent team. A win over a weak team scarcely improves their

standing in the ranking, while a win over a stronger team is rewarded with a clear increase of the ranking value.

Evaluation criteria

The calculations of the rating points are based on an algorithm using the Elo methodology, according to which the increase or decrease in the rating is dependent on the actual result of a match compared to the expected result. For this reason, the main parameters impacting the formula are the following:

1. Actual result of the match
    - Goal difference and goals scored
2. Expected result of the match
    - Difference in rating points between the teams
    - Home v. away, or neutral ground
3. Importance of the match

1. Actual result of the match

Winning or losing is the most important criteria, but goal difference and goals scored are the parameters to be taken into account when determining the "actual result" value.

The "actual result" value is represented by a percentage extrapolated from the goal difference of the match and the number of goals scored by the losing team. This means that the opponent is awarded the remainder of the points – except for a draw (goal difference equal to 0), when both teams receive the same number of percentage points.

The table below shows the actual match percentage points to be allocated from a non-winning perspective:

	Goal difference						
	0	**1**	**2**	**3**	**4**	**5**	**6/+**
Goals scored	**Actual result value (%)**						
0	47	15	8	4	3	2	1
1	50	16 *	8.9	4.8	3.7	2.6	1.5
2	51	17	9.8	5.6	4.4	3.2	2
3	52	18 **	10.7	6.4	5.1	3.8 ***	2.5
4	52.5	19	11.6	7.2	5.8	4.4	3
5/+	53	20	12.5	8	6.5	5	3.5

Examples: A team that loses 1-2 (*) receives 16% of the available 100% points, while the opponents receive the remaining 84%. Similarly, a team that loses 3-4 (**) receives 18% of the available allocation, while a team that loses 3-8 (***) only receives 3.8%.

2. Expected result of the match

The "expected result" value is determined taking into account the difference in rating points between the two opponents. This value also includes a corrective parameter in the calculations to reflect the advantage of playing at home and the disadvantage of playing away; playing in a neutral venue does not require any adjustment.

The difference in rating points between two opponents is scaled according to the formula:

x = (rating team 1 – rating team 2) / scaling factor

Thus, for each team the "expected result" value is expressed in the form of a percentage ranging from 0% to 100%, as a function of the difference in scaled rating points (x) according to the formula below:

Expected result (x) = 1 / [1 + 10 ^ (x / 2)]

Examples:

Rating point difference	Expected result value
+100	64%
+200	76%
+300	85%
-300	15%

Finally, historical results show that teams perform better at home than away, as the home teams kept 66% of the points available and the opponents returned home with 34%. With the objective of including the home advantage in the calculations as well, the rating of the home team is enhanced by 100 points – which would correspond to an "expected result" value of 64% as depicted in the above table featuring the rating point difference.

3. Importance of the match

In addition to the actual result compared with the expected result, calculations must take into account the importance of a match, which is an intrinsic value depending on the nature of a competition and/or what is at stake in the match. For this reason, the number of points gained or lost by a team is weighted according to the importance of the match, as a game valid for a confederation's championship allows a more "accurate" assessment of the strength of a team than a friendly match. This element is taken into account by introducing the match importance factor.

The following table shows the difference in importance of each competition:

Competition	Match importance factor	Basis factor K = 15 *
FIFA Women's World Cup match	4	K = 15 * 4 = 60
Women's Olympic Football Tournament match	4	K = 15 * 4 = 60
FIFA Women's World Cup qualifying match	3	K = 15 * 3 = 45
Women's Olympic Football Tournament qualifying match	3	K = 15 * 3 = 45
Women's continental final tournament match	3	K = 15 * 3 = 45
Women's continental qualifying match	2	K = 15 * 2 = 30
Women's friendly match between two top ten teams	2	K = 15 * 2 = 30
Women's friendly match	1	K = 15 * 1 = 15

**The basis value of K was set to 15 after several simulations conducted by Gracenote Sports and FIFA.*

The factor for matches played at the FIFA Women's World Cup and the Women's Olympic Football Tournament (which is a senior competition and is very important in women's football) is four times bigger than the value of friendly matches, while World Cup qualifying matches and confederation final tournament matches have a factor of three. This means that a lot more rating points are at stake in major competitions.

Considering that friendly matches may feature teams not necessarily fielding their best 11 players, their match importance factor is 1. However, for friendly matches amongst the top ten ranked teams, the prestige of these matches makes them a better estimate of the strength of the teams involved, hence they are awarded double importance compared to regular friendlies.

Extended formula

Now that the basic elements of the ranking calculations have been explained, the extended formula can be introduced:

$$P_{After} = P_{Before} + K * (R_{Actual} - R_{Expected})$$

Where:

- P_{After} is the rating points after the match
- P_{Before} is the rating points before the match
- **K** is the importance of the match
- R_{Actual} is the actual result of the match
- $R_{Expected}$ is the expected result of the match

Final remarks

- The ranking of a team is deemed official when they have played at least five matches against teams with an official ranking.
- Teams that have not played at least one match during the last 48 months are deemed inactive and therefore not included in the ranking.
- Only international "A" matches complying with the Laws of the Game and following the Regulations Governing International Matches are valid for ranking purposes.