# Criteria Analysis

## Engineer 1

Pairwise Comparison Matrix:  
[[1. 1. 1. 1. 3. ]  
 [1. 1. 3. 3. 3. ]  
 [1. 0.333 1. 1. 1. ]  
 [1. 0.333 1. 1. 1. ]  
 [0.333 0.333 1. 1. 1. ]]

Weights:  
[0.237, 0.351, 0.147, 0.147, 0.117]

Max Eigenvalue: 5.197

Consistency Index (CI): 0.049

Consistency Ratio (CR): 0.044

Random Index (RI): 1.12

## Engineer 2

Pairwise Comparison Matrix:  
[[1. 5. 5. 1. 1. ]  
 [0.2 1. 1. 1. 3. ]  
 [0.2 1. 1. 1. 1. ]  
 [1. 1. 1. 1. 1. ]  
 [1. 0.333 1. 1. 1. ]]

Weights:  
[0.378, 0.174, 0.121, 0.173, 0.153]

Max Eigenvalue: 5.766

Consistency Index (CI): 0.191

Consistency Ratio (CR): 0.171

Random Index (RI): 1.12

## Engineer 3

Pairwise Comparison Matrix:  
[[1. 1. 3. 1. 1. ]  
 [1. 1. 3. 3. 7. ]  
 [0.333 0.333 1. 9. 7. ]  
 [1. 0.333 0.111 1. 3. ]  
 [1. 0.143 0.143 0.333 1. ]]

Weights:  
[0.236, 0.324, 0.276, 0.101, 0.064]

Max Eigenvalue: 6.587

Consistency Index (CI): 0.397

Consistency Ratio (CR): 0.354

Random Index (RI): 1.12

## Engineer 4

Pairwise Comparison Matrix:  
[[1. 1. 1. 1. 1.]  
 [1. 1. 1. 1. 1.]  
 [1. 1. 1. 1. 1.]  
 [1. 1. 1. 1. 1.]  
 [1. 1. 1. 1. 1.]]

Weights:  
[0.2, 0.2, 0.2, 0.2, 0.2]

Max Eigenvalue: 5.0

Consistency Index (CI): -0.0

Consistency Ratio (CR): -0.0

Random Index (RI): 1.12

## Engineer 5

Pairwise Comparison Matrix:  
[[1. 1. 1. 1. 3. ]  
 [1. 1. 1. 1. 3. ]  
 [1. 1. 1. 1. 1. ]  
 [1. 1. 1. 1. 1. ]  
 [0.333 0.333 1. 1. 1. ]]

Weights:  
[0.243, 0.243, 0.192, 0.192, 0.13]

Max Eigenvalue: 5.197

Consistency Index (CI): 0.049

Consistency Ratio (CR): 0.044

Random Index (RI): 1.12

## Engineer 6

Pairwise Comparison Matrix:  
[[1. 1. 1. 1. 1.]  
 [1. 1. 1. 1. 1.]  
 [1. 1. 1. 1. 1.]  
 [1. 1. 1. 1. 1.]  
 [1. 1. 1. 1. 1.]]

Weights:  
[0.2, 0.2, 0.2, 0.2, 0.2]

Max Eigenvalue: 5.0

Consistency Index (CI): -0.0

Consistency Ratio (CR): -0.0

Random Index (RI): 1.12

## Engineer 7

Pairwise Comparison Matrix:  
[[1. 1. 1. 1. 1.]  
 [1. 1. 1. 1. 1.]  
 [1. 1. 1. 1. 1.]  
 [1. 1. 1. 1. 1.]  
 [1. 1. 1. 1. 1.]]

Weights:  
[0.2, 0.2, 0.2, 0.2, 0.2]

Max Eigenvalue: 5.0

Consistency Index (CI): -0.0

Consistency Ratio (CR): -0.0

Random Index (RI): 1.12

## Engineer 8

Pairwise Comparison Matrix:  
[[1. 9. 1. 1. 1. ]  
 [0.111 1. 1. 1. 1. ]  
 [1. 1. 1. 1. 1. ]  
 [1. 1. 1. 1. 1. ]  
 [1. 1. 1. 1. 1. ]]

Weights:  
[0.349, 0.122, 0.177, 0.177, 0.177]

Max Eigenvalue: 5.665

Consistency Index (CI): 0.166

Consistency Ratio (CR): 0.148

Random Index (RI): 1.12

## Engineer 9

Pairwise Comparison Matrix:  
[[1. 3. 5. 1. 3. ]  
 [0.333 1. 5. 3. 1. ]  
 [0.2 0.2 1. 3. 5. ]  
 [1. 0.333 0.333 1. 5. ]  
 [0.333 1. 0.2 0.2 1. ]]

Weights:  
[0.347, 0.258, 0.167, 0.152, 0.076]

Max Eigenvalue: 6.736

Consistency Index (CI): 0.434

Consistency Ratio (CR): 0.388

Random Index (RI): 1.12

## Engineer 10

Pairwise Comparison Matrix:  
[[1. 1. 1. 1. 1.]  
 [1. 1. 1. 1. 1.]  
 [1. 1. 1. 1. 1.]  
 [1. 1. 1. 1. 1.]  
 [1. 1. 1. 1. 1.]]

Weights:  
[0.2, 0.2, 0.2, 0.2, 0.2]

Max Eigenvalue: 5.0

Consistency Index (CI): -0.0

Consistency Ratio (CR): -0.0

Random Index (RI): 1.12

## Engineer 11

Pairwise Comparison Matrix:  
[[1. 3. 1. 1. 3. ]  
 [0.333 1. 1. 3. 3. ]  
 [1. 1. 1. 3. 1. ]  
 [1. 0.333 0.333 1. 3. ]  
 [0.333 0.333 1. 0.333 1. ]]

Weights:  
[0.289, 0.23, 0.23, 0.155, 0.096]

Max Eigenvalue: 5.711

Consistency Index (CI): 0.178

Consistency Ratio (CR): 0.159

Random Index (RI): 1.12

## Engineer 12

Pairwise Comparison Matrix:  
[[1. 1. 5. 5. 5. ]  
 [1. 1. 1. 1. 5. ]  
 [0.2 1. 1. 0.2 1. ]  
 [0.2 1. 5. 1. 1. ]  
 [0.2 0.2 1. 1. 1. ]]

Weights:  
[0.417, 0.231, 0.091, 0.178, 0.083]

Max Eigenvalue: 5.777

Consistency Index (CI): 0.194

Consistency Ratio (CR): 0.174

Random Index (RI): 1.12

## Engineer 13

Pairwise Comparison Matrix:  
[[1. 3. 3. 3. 5. ]  
 [0.333 1. 7. 9. 0.333]  
 [0.333 0.143 1. 0.2 3. ]  
 [0.333 0.111 5. 1. 3. ]  
 [0.2 3. 0.333 0.333 1. ]]

Weights:  
[0.328, 0.294, 0.088, 0.145, 0.146]

Max Eigenvalue: 8.041

Consistency Index (CI): 0.76

Consistency Ratio (CR): 0.679

Random Index (RI): 1.12

## Engineer 14

Pairwise Comparison Matrix:  
[[1. 1. 3. 5. 3. ]  
 [1. 1. 7. 7. 1. ]  
 [0.333 0.143 1. 7. 1. ]  
 [0.2 0.143 0.143 1. 1. ]  
 [0.333 1. 1. 1. 1. ]]

Weights:  
[0.302, 0.368, 0.139, 0.055, 0.136]

Max Eigenvalue: 5.871

Consistency Index (CI): 0.218

Consistency Ratio (CR): 0.194

Random Index (RI): 1.12

## Engineer 15

Pairwise Comparison Matrix:  
[[1. 3. 3. 1. 1. ]  
 [0.333 1. 1. 1. 1. ]  
 [0.333 1. 1. 1. 3. ]  
 [1. 1. 1. 1. 3. ]  
 [1. 1. 0.333 0.333 1. ]]

Weights:  
[0.304, 0.145, 0.192, 0.229, 0.131]

Max Eigenvalue: 5.51

Consistency Index (CI): 0.128

Consistency Ratio (CR): 0.114

Random Index (RI): 1.12

## Engineer 16

Pairwise Comparison Matrix:  
[[1. 1. 1. 1. 1. ]  
 [1. 1. 0.143 1. 1. ]  
 [1. 6.998 1. 1. 1. ]  
 [1. 1. 1. 1. 1. ]  
 [1. 1. 1. 1. 1. ]]

Weights:  
[0.182, 0.131, 0.324, 0.182, 0.182]

Max Eigenvalue: 5.508

Consistency Index (CI): 0.127

Consistency Ratio (CR): 0.113

Random Index (RI): 1.12

## Engineer 17

Pairwise Comparison Matrix:  
[[1. 1. 1. 1. 1.]  
 [1. 1. 1. 1. 1.]  
 [1. 1. 1. 1. 1.]  
 [1. 1. 1. 1. 1.]  
 [1. 1. 1. 1. 1.]]

Weights:  
[0.2, 0.2, 0.2, 0.2, 0.2]

Max Eigenvalue: 5.0

Consistency Index (CI): -0.0

Consistency Ratio (CR): -0.0

Random Index (RI): 1.12

## Engineer 18

Pairwise Comparison Matrix:  
[[1. 1. 1. 1. 1.]  
 [1. 1. 1. 1. 1.]  
 [1. 1. 1. 1. 1.]  
 [1. 1. 1. 1. 1.]  
 [1. 1. 1. 1. 1.]]

Weights:  
[0.2, 0.2, 0.2, 0.2, 0.2]

Max Eigenvalue: 5.0

Consistency Index (CI): -0.0

Consistency Ratio (CR): -0.0

Random Index (RI): 1.12

## Engineer 19

Pairwise Comparison Matrix:  
[[1. 1. 1. 1. 1.]  
 [1. 1. 1. 1. 1.]  
 [1. 1. 1. 1. 1.]  
 [1. 1. 1. 1. 1.]  
 [1. 1. 1. 1. 1.]]

Weights:  
[0.2, 0.2, 0.2, 0.2, 0.2]

Max Eigenvalue: 5.0

Consistency Index (CI): -0.0

Consistency Ratio (CR): -0.0

Random Index (RI): 1.12

## Engineer 20

Pairwise Comparison Matrix:  
[[1. 5. 5. 5. 1. ]  
 [0.2 1. 1. 5. 5. ]  
 [0.2 1. 1. 5. 5. ]  
 [0.2 0.2 0.2 1. 5. ]  
 [1. 0.2 0.2 0.2 1. ]]

Weights:  
[0.421, 0.198, 0.198, 0.098, 0.086]

Max Eigenvalue: 7.062

Consistency Index (CI): 0.515

Consistency Ratio (CR): 0.46

Random Index (RI): 1.12

## Engineer 21

Pairwise Comparison Matrix:  
[[1. 1. 1. 1. 1.]  
 [1. 1. 1. 1. 1.]  
 [1. 1. 1. 1. 1.]  
 [1. 1. 1. 1. 1.]  
 [1. 1. 1. 1. 1.]]

Weights:  
[0.2, 0.2, 0.2, 0.2, 0.2]

Max Eigenvalue: 5.0

Consistency Index (CI): -0.0

Consistency Ratio (CR): -0.0

Random Index (RI): 1.12

## Engineer 22

Pairwise Comparison Matrix:  
[[1. 9. 1. 0.111 0.143]  
 [0.111 1. 9. 0.111 0.333]  
 [1. 0.111 1. 1. 9. ]  
 [9.001 9.001 1. 1. 9. ]  
 [6.998 3. 0.111 0.111 1. ]]

Weights:  
[0.148, 0.152, 0.171, 0.385, 0.144]

Max Eigenvalue: 11.811

Consistency Index (CI): 1.703

Consistency Ratio (CR): 1.52

Random Index (RI): 1.12

## Engineer 23

Pairwise Comparison Matrix:  
[[1. 1. 3. 1. 1. ]  
 [1. 1. 3. 3. 1. ]  
 [0.333 0.333 1. 1. 1. ]  
 [1. 0.333 1. 1. 1. ]  
 [1. 1. 1. 1. 1. ]]

Weights:  
[0.238, 0.296, 0.123, 0.153, 0.191]

Max Eigenvalue: 5.245

Consistency Index (CI): 0.061

Consistency Ratio (CR): 0.055

Random Index (RI): 1.12

## Engineer 24

Pairwise Comparison Matrix:  
[[1. 1. 3. 1. 1. ]  
 [1. 1. 1. 1. 1. ]  
 [0.333 1. 1. 3. 1. ]  
 [1. 1. 0.333 1. 1. ]  
 [1. 1. 1. 1. 1. ]]

Weights:  
[0.262, 0.184, 0.211, 0.159, 0.184]

Max Eigenvalue: 5.423

Consistency Index (CI): 0.106

Consistency Ratio (CR): 0.094

Random Index (RI): 1.12

## Engineer 25

Pairwise Comparison Matrix:  
[[1. 1. 3. 3. 3. ]  
 [1. 1. 1. 1. 1. ]  
 [0.333 1. 1. 1. 3. ]  
 [0.333 1. 1. 1. 3. ]  
 [0.333 1. 0.333 0.333 1. ]]

Weights:  
[0.357, 0.187, 0.179, 0.179, 0.098]

Max Eigenvalue: 5.349

Consistency Index (CI): 0.087

Consistency Ratio (CR): 0.078

Random Index (RI): 1.12

## Engineer 26

Pairwise Comparison Matrix:  
[[1. 5. 3. 5. 5. ]  
 [0.2 1. 3. 5. 1. ]  
 [0.333 0.333 1. 5. 1. ]  
 [0.2 0.2 0.2 1. 3. ]  
 [0.2 1. 1. 0.333 1. ]]

Weights:  
[0.465, 0.208, 0.147, 0.087, 0.093]

Max Eigenvalue: 6.112

Consistency Index (CI): 0.278

Consistency Ratio (CR): 0.248

Random Index (RI): 1.12

## Engineer 27

Pairwise Comparison Matrix:  
[[1. 1. 1. 1. 1. ]  
 [1. 1. 3. 1. 1. ]  
 [1. 0.333 1. 1. 1. ]  
 [1. 1. 1. 1. 1. ]  
 [1. 1. 1. 1. 1. ]]

Weights:  
[0.194, 0.257, 0.161, 0.194, 0.194]

Max Eigenvalue: 5.151

Consistency Index (CI): 0.038

Consistency Ratio (CR): 0.034

Random Index (RI): 1.12

## Engineer 28

Pairwise Comparison Matrix:  
[[1. 1. 1. 1. 1.]  
 [1. 1. 1. 1. 1.]  
 [1. 1. 1. 1. 1.]  
 [1. 1. 1. 1. 1.]  
 [1. 1. 1. 1. 1.]]

Weights:  
[0.2, 0.2, 0.2, 0.2, 0.2]

Max Eigenvalue: 5.0

Consistency Index (CI): -0.0

Consistency Ratio (CR): -0.0

Random Index (RI): 1.12

## Engineer 29

Pairwise Comparison Matrix:  
[[1. 3. 3. 3. 3. ]  
 [0.333 1. 1. 3. 3. ]  
 [0.333 1. 1. 3. 3. ]  
 [0.333 0.333 0.333 1. 5. ]  
 [0.333 0.333 0.333 0.2 1. ]]

Weights:  
[0.398, 0.203, 0.203, 0.131, 0.065]

Max Eigenvalue: 5.537

Consistency Index (CI): 0.134

Consistency Ratio (CR): 0.12

Random Index (RI): 1.12

## Engineer 30

Pairwise Comparison Matrix:  
[[1. 1. 3. 1. 1. ]  
 [1. 1. 3. 1. 1. ]  
 [0.333 0.333 1. 0.333 0.333]  
 [1. 1. 3. 1. 1. ]  
 [1. 1. 3. 1. 1. ]]

Weights:  
[0.231, 0.231, 0.077, 0.231, 0.231]

Max Eigenvalue: 5.0

Consistency Index (CI): 0.0

Consistency Ratio (CR): 0.0

Random Index (RI): 1.12

## Engineer 31

Pairwise Comparison Matrix:  
[[1. 1. 1. 1. 1.]  
 [1. 1. 1. 1. 1.]  
 [1. 1. 1. 1. 1.]  
 [1. 1. 1. 1. 1.]  
 [1. 1. 1. 1. 1.]]

Weights:  
[0.2, 0.2, 0.2, 0.2, 0.2]

Max Eigenvalue: 5.0

Consistency Index (CI): -0.0

Consistency Ratio (CR): -0.0

Random Index (RI): 1.12

## Engineer 32

Pairwise Comparison Matrix:  
[[1. 0.111 0.111 0.111 0.111]  
 [9.001 1. 0.111 0.111 0.143]  
 [9.001 9.001 1. 0.143 0.143]  
 [9.001 9.001 6.998 1. 0.143]  
 [9.001 6.998 6.998 6.998 1. ]]

Weights:  
[0.019, 0.049, 0.123, 0.263, 0.546]

Max Eigenvalue: 6.879

Consistency Index (CI): 0.47

Consistency Ratio (CR): 0.419

Random Index (RI): 1.12

## Engineer 33

Pairwise Comparison Matrix:  
[[1. 1. 3. 1. 3. ]  
 [1. 1. 3. 1. 1. ]  
 [0.333 0.333 1. 1. 1. ]  
 [1. 1. 1. 1. 3. ]  
 [0.333 1. 1. 0.333 1. ]]

Weights:  
[0.282, 0.235, 0.124, 0.235, 0.124]

Max Eigenvalue: 5.299

Consistency Index (CI): 0.075

Consistency Ratio (CR): 0.067

Random Index (RI): 1.12

## Engineer 34

Pairwise Comparison Matrix:  
[[1. 1. 1. 1. 1.]  
 [1. 1. 1. 1. 1.]  
 [1. 1. 1. 1. 1.]  
 [1. 1. 1. 1. 1.]  
 [1. 1. 1. 1. 1.]]

Weights:  
[0.2, 0.2, 0.2, 0.2, 0.2]

Max Eigenvalue: 5.0

Consistency Index (CI): -0.0

Consistency Ratio (CR): -0.0

Random Index (RI): 1.12

## Engineer 35

Pairwise Comparison Matrix:  
[[1. 1. 1. 1. 3. ]  
 [1. 1. 1. 1. 3. ]  
 [1. 1. 1. 1. 1. ]  
 [1. 1. 1. 1. 1. ]  
 [0.333 0.333 1. 1. 1. ]]

Weights:  
[0.243, 0.243, 0.192, 0.192, 0.13]

Max Eigenvalue: 5.197

Consistency Index (CI): 0.049

Consistency Ratio (CR): 0.044

Random Index (RI): 1.12

## Aggregate Results

Aggregate Pairwise Comparison Matrix:  
[[1. 1. 1.316 1.056 1.316]  
 [1. 1. 1.316 1.116 1.179]  
 [0.76 0.76 1. 1. 1. ]  
 [0.947 0.896 1. 1. 1.116]  
 [0.76 0.848 1. 0.896 1. ]]

Aggregate Weights:  
[0.225, 0.222, 0.178, 0.197, 0.178]

Aggregate Max Eigenvalue: 5.005

Aggregate Consistency Index (CI): 0.001

Aggregate Consistency Ratio (CR): 0.001

Aggregate Random Index (RI): 1.12