

# Fantasy Football Optimization Report

An Evolutionary & Swarm Intelligence Approach

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University of Trieste - Optimization of Artificial Intelligence Course

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# 1. Empirical Performance Analysis

Performance by Strategy:

Strategy	Managers	Avg Total Score	Avg Team Score
PSO	4	188.15	11.08
DE	4	183.85	10.99
ES	4	179.68	10.90

Figure 1: Average Team Score by Strategy

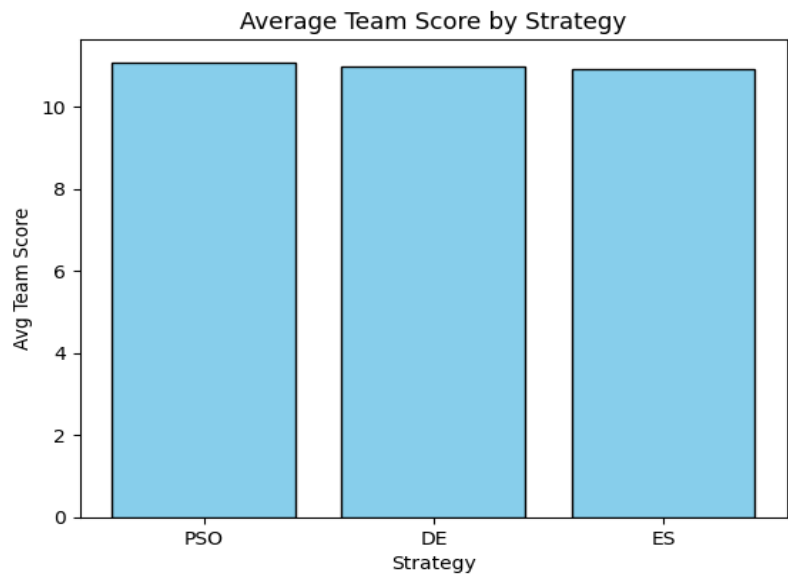


Figure 2: Manager Distribution by Strategy

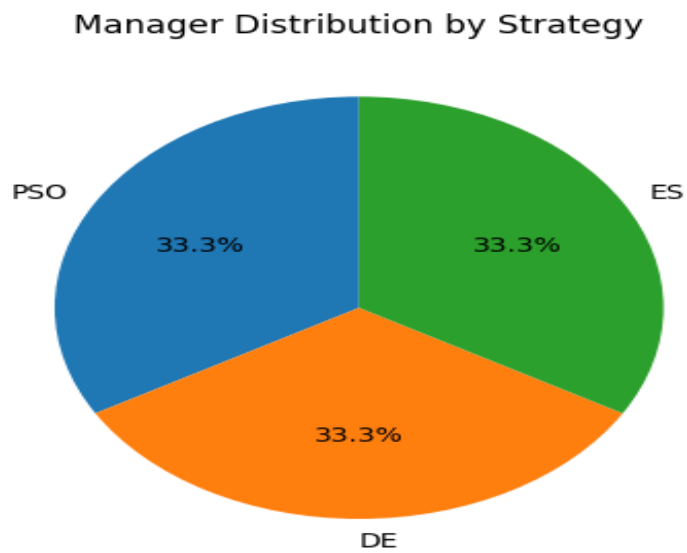
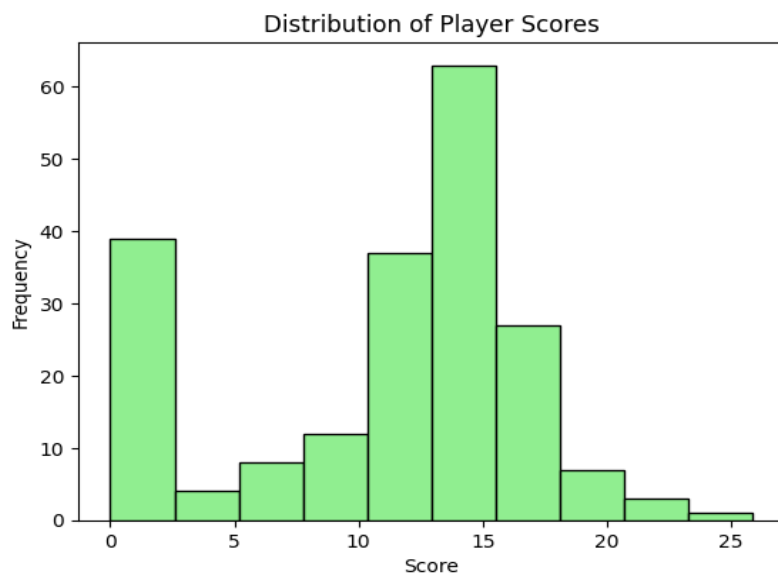


Figure 3: Distribution of Player Scores



Player Score Summary:

- Best: 25.87
- Worst: 0.00
- Average: 10.98

## 2. Forced Assignments & Budget Usage

Figure 4: Forced Assignments per Manager

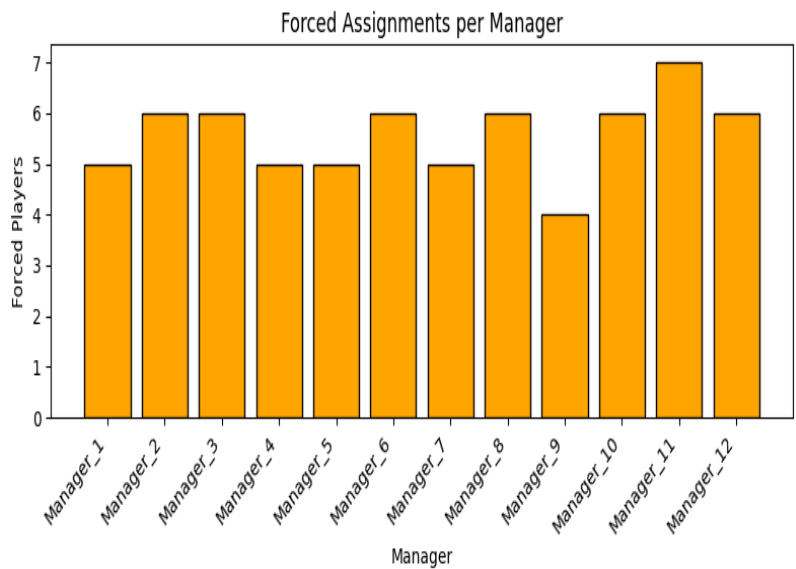
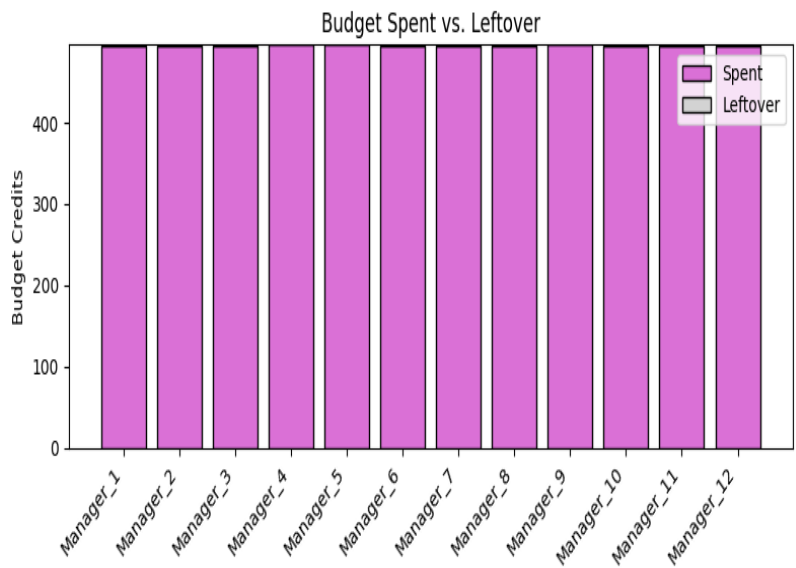


Figure 5: Budget Spent vs. Leftover



Recap Table: Manager Stats

Manager	Strat	Forced	Spent	Leftover	Objective
Manager_1	PSO	5	495.0	0.0	190.71
Manager_2	DE	6	495.0	0.0	176.61
Manager_3	ES	6	494.0	0.0	188.17
Manager_4	PSO	5	496.0	0.0	195.23
Manager_5	DE	5	496.0	0.0	180.56
Manager_6	ES	6	495.0	0.0	172.79

Manager_7	PSO	5	495.0	0.0	175.70
Manager_8	DE	6	494.0	0.0	188.23
Manager_9	ES	4	496.0	0.0	137.66
Manager_10	PSO	6	495.0	0.0	190.96
Manager_11	DE	7	494.0	0.0	189.98
Manager_12	ES	6	494.0	0.0	220.11

### 3. Final Teams

The best manager overall is Manager\_12 with a total score of 220.11.

#### Manager\_1 (PSO)

- Kean (A), Price: 81.0, Score: 21.73
- Thauvin (A), Price: 60.0, Score: 16.85
- Pedro (A), Price: 61.0, Score: 12.12
- Bonny (A), Price: 70.0, Score: 18.00
- Saelemaekers (C), Price: 51.0, Score: 11.48
- Frattesi (C), Price: 42.0, Score: 11.37
- Zappacosta (D), Price: 50.0, Score: 12.57
- Hernandez T. (D), Price: 44.0, Score: 14.39
- Carlos Augusto (D), Price: 11.0, Score: 11.13
- Valeri (D), Price: 11.0, Score: 14.08
- Baldanzi (C), Price: 9.0, Score: 9.85
- Meret (P), Price: 1.0, Score: 2.97
- Di Gregorio (P), Price: 1.0, Score: 2.73
- Caprile (P), Price: 1.0, Score: 2.27
- Mancini (D), Price: 1.0, Score: 14.73
- Bastoni (D), Price: 1.0, Score: 14.44

#### Manager\_2 (DE)

- Dumfries (D), Price: 60.0, Score: 15.25
- McTominay (C), Price: 68.0, Score: 15.82
- Kvaratskhelia (A), Price: 57.0, Score: 13.29
- Gudmundsson A. (A), Price: 58.0, Score: 10.15
- Odgaard (A), Price: 44.0, Score: 12.88
- Hernani (C), Price: 54.0, Score: 12.22
- Ekkelenkamp (C), Price: 60.0, Score: 14.06
- Thuram K. (C), Price: 51.0, Score: 13.97
- Rrahmani (D), Price: 36.0, Score: 14.82
- Arnautovic (A), Price: 1.0, Score: 5.38
- Perin (P), Price: 1.0, Score: 2.22
- Sommer (P), Price: 1.0, Score: 1.92
- Mandas (P), Price: 1.0, Score: 1.80
- Ranieri L. (D), Price: 1.0, Score: 14.43
- Tchatchoua (D), Price: 1.0, Score: 14.20
- Augello (D), Price: 1.0, Score: 14.19

#### Manager\_3 (ES)

- Reijnders (C), Price: 67.0, Score: 17.47
- Castro S. (A), Price: 35.0, Score: 17.35
- Tengstedt (A), Price: 57.0, Score: 14.29
- Pohjanpalo (A), Price: 49.0, Score: 16.16
- Cutrone (A), Price: 40.0, Score: 17.76
- Nicolussi Caviglia (C), Price: 91.0, Score: 15.34
- Man (C), Price: 55.0, Score: 16.01
- Brescianini (C), Price: 49.0, Score: 11.08
- Adli (C), Price: 44.0, Score: 12.88
- Ondrejka (C), Price: 1.0, Score: 2.67
- Rui Patricio (P), Price: 1.0, Score: 1.75
- Musso (P), Price: 1.0, Score: 1.70
- Leali (P), Price: 1.0, Score: 1.39

- Martin (D), Price: 1.0, Score: 14.13
- N'Dicka (D), Price: 1.0, Score: 14.10
- Kyriakopoulos (D), Price: 1.0, Score: 14.08

#### Manager\_4 (PSO)

- Lukaku (A), Price: 42.0, Score: 20.89
- Zaccagni (C), Price: 59.0, Score: 18.13
- Krstovic (A), Price: 42.0, Score: 19.19
- Di Lorenzo (D), Price: 64.0, Score: 15.73
- Marusic (D), Price: 44.0, Score: 12.64
- Gigot (D), Price: 42.0, Score: 4.64
- Fabbian (C), Price: 47.0, Score: 10.12
- Kone' M. (C), Price: 47.0, Score: 12.70
- Oristanio (C), Price: 50.0, Score: 15.67
- Coco (D), Price: 40.0, Score: 13.76
- De Vrij (D), Price: 12.0, Score: 10.66
- Zapata D. (A), Price: 1.0, Score: 6.26
- Fila (A), Price: 1.0, Score: 2.10
- Radu I. (P), Price: 1.0, Score: 1.27
- Terracciano (P), Price: 1.0, Score: 1.23
- Perilli (P), Price: 1.0, Score: 1.20
- Baschiroto (D), Price: 1.0, Score: 14.05
- Lovric (C), Price: 1.0, Score: 14.97

#### Manager\_5 (DE)

- Vlahovic (A), Price: 46.0, Score: 16.78
- Piccoli (A), Price: 58.0, Score: 17.54
- Diao (C), Price: 47.0, Score: 6.70
- Vlastic (C), Price: 38.0, Score: 13.62
- Tete Morente (C), Price: 64.0, Score: 13.27
- Mbangula (A), Price: 60.0, Score: 9.63
- Raspadori (A), Price: 45.0, Score: 7.14
- Dimarco (D), Price: 60.0, Score: 14.26
- Neres (C), Price: 40.0, Score: 13.18
- Zielinski (C), Price: 14.0, Score: 11.91
- Pasalic (C), Price: 10.0, Score: 14.53
- McKennie (C), Price: 9.0, Score: 12.00
- Maignan (P), Price: 1.0, Score: 0.88
- Ravaglia F. (P), Price: 1.0, Score: 0.70
- De Gea (P), Price: 1.0, Score: 0.68
- Vasquez (D), Price: 1.0, Score: 13.90
- Dodo' (D), Price: 1.0, Score: 13.84

#### Manager\_6 (ES)

- Pinamonti (A), Price: 62.0, Score: 18.25
- Dybala (A), Price: 64.0, Score: 15.79
- Kolo Muani (A), Price: 45.0, Score: 7.10
- Colombo (A), Price: 57.0, Score: 17.00
- Calhanoglu (C), Price: 57.0, Score: 14.21
- El Shaarawy (C), Price: 51.0, Score: 11.24
- Angelino (D), Price: 51.0, Score: 15.38
- Vogliacco (D), Price: 57.0, Score: 9.93
- Luperto (D), Price: 37.0, Score: 15.00
- Patric (D), Price: 8.0, Score: 5.52
- Paleari (P), Price: 1.0, Score: 0.30

- Seghetti (P), Price: 1.0, Score: 0.30
- Pizzignacco (P), Price: 1.0, Score: 0.26
- Bellanova (D), Price: 1.0, Score: 13.82
- Bijol (D), Price: 1.0, Score: 13.76
- Guendouzi (C), Price: 1.0, Score: 14.92

#### Manager\_7 (PSO)

- Pulisic (C), Price: 57.0, Score: 17.29
- De Ketelaere (A), Price: 41.0, Score: 16.30
- Barella (C), Price: 67.0, Score: 15.13
- Dorgu (D), Price: 41.0, Score: 13.17
- De Winter (D), Price: 55.0, Score: 8.90
- Gyasi (C), Price: 60.0, Score: 15.17
- Zappa (D), Price: 46.0, Score: 15.00
- Caprari (A), Price: 31.0, Score: 13.25
- Shomurodov (A), Price: 54.0, Score: 6.39
- Martinez Jo. (P), Price: 27.0, Score: 1.80
- Hainaut (C), Price: 9.0, Score: 9.54
- Ganvoula (A), Price: 2.0, Score: 2.57
- Carnesecchi (P), Price: 1.0, Score: 0.22
- Butez (P), Price: 1.0, Score: 0.21
- Gatti (D), Price: 1.0, Score: 13.63
- Lazaro (D), Price: 1.0, Score: 13.57
- Pezzella Giu. (D), Price: 1.0, Score: 13.57

#### Manager\_8 (DE)

- Thuram (A), Price: 45.0, Score: 21.04
- Esposito Se. (A), Price: 38.0, Score: 17.21
- Adams C. (A), Price: 76.0, Score: 16.71
- Zortea (D), Price: 46.0, Score: 15.10
- Leao (A), Price: 40.0, Score: 16.13
- De Roon (C), Price: 36.0, Score: 15.57
- Maldini (C), Price: 58.0, Score: 12.45
- Dele-Bashiru (C), Price: 60.0, Score: 9.23
- Darmian (D), Price: 45.0, Score: 11.52
- Lazovic (C), Price: 44.0, Score: 13.29
- Reina (P), Price: 1.0, Score: 0.20
- Rossi F. (P), Price: 1.0, Score: 0.00
- Bagnolini (P), Price: 1.0, Score: 0.00
- Idzes (D), Price: 1.0, Score: 13.53
- Beukema (D), Price: 1.0, Score: 13.38
- Djimsiti (D), Price: 1.0, Score: 12.87

#### Manager\_9 (ES)

- Ederson D.s. (C), Price: 54.0, Score: 16.00
- Pobega (C), Price: 67.0, Score: 8.02
- Savona (D), Price: 39.0, Score: 13.04
- Soule' (A), Price: 54.0, Score: 7.81
- Mandragora (C), Price: 55.0, Score: 10.59
- Sottit (C), Price: 59.0, Score: 10.84
- Viola (C), Price: 55.0, Score: 10.82
- Ilic (C), Price: 48.0, Score: 7.57
- Mkhitaryan (C), Price: 49.0, Score: 14.37
- Ceccherini (D), Price: 9.0, Score: 0.00
- Dominguez B. (A), Price: 1.0, Score: 8.52



- Douvikas (A), Price: 1.0, Score: 2.20
- Pierotti (A), Price: 1.0, Score: 15.18
- Radunovic (P), Price: 1.0, Score: 0.00
- Vigorito (P), Price: 1.0, Score: 0.00
- Chiorra (P), Price: 1.0, Score: 0.00
- Pereira P. (D), Price: 1.0, Score: 12.70

#### Manager\_10 (PSO)

- Lucca (A), Price: 65.0, Score: 18.83
- Martinez L. (A), Price: 69.0, Score: 18.85
- Orsolini (C), Price: 43.0, Score: 14.88
- Morata (A), Price: 50.0, Score: 11.47
- Mosquera (A), Price: 47.0, Score: 14.29
- Marin (C), Price: 47.0, Score: 13.41
- Chukwueze (C), Price: 44.0, Score: 8.18
- Politano (C), Price: 45.0, Score: 15.02
- Samardzic (C), Price: 47.0, Score: 13.13
- Cataldi (C), Price: 20.0, Score: 10.64
- Frendrup (C), Price: 12.0, Score: 14.57
- Perisan (P), Price: 1.0, Score: 0.00
- Christensen O. (P), Price: 1.0, Score: 0.00
- Martinelli T. (P), Price: 1.0, Score: 0.00
- Ismajli (D), Price: 1.0, Score: 12.69
- Goglichidze (D), Price: 1.0, Score: 12.55
- Gila (D), Price: 1.0, Score: 12.46

#### Manager\_11 (DE)

- Castellanos (A), Price: 59.0, Score: 18.53
- Weah (C), Price: 43.0, Score: 12.37
- Mota (A), Price: 76.0, Score: 13.58
- Beltran L. (A), Price: 45.0, Score: 15.40
- Delprato (D), Price: 52.0, Score: 13.47
- Conceicao (C), Price: 45.0, Score: 12.09
- Gosens (D), Price: 43.0, Score: 13.87
- Cambiaso (D), Price: 31.0, Score: 13.03
- Cristante (C), Price: 47.0, Score: 10.37
- Ellertsson (C), Price: 45.0, Score: 14.85
- Burnete (A), Price: 1.0, Score: 1.60
- Sommariva (P), Price: 1.0, Score: 0.00
- Di Gennaro (P), Price: 1.0, Score: 0.00
- Pinsoglio (P), Price: 1.0, Score: 0.00
- Coppola D. (D), Price: 1.0, Score: 12.38
- Zampano (D), Price: 1.0, Score: 12.30
- Romagnoli (D), Price: 1.0, Score: 12.01
- Ricci S. (C), Price: 1.0, Score: 14.13

#### Manager\_12 (ES) <-- Top Performer

- Retegui (A), Price: 64.0, Score: 25.87
- Lookman (A), Price: 76.0, Score: 18.47
- Dovbyk (A), Price: 50.0, Score: 17.60
- Dia (A), Price: 47.0, Score: 16.93
- Paz N. (C), Price: 58.0, Score: 16.88
- Ndoye (C), Price: 45.0, Score: 15.07
- Sohm (C), Price: 68.0, Score: 16.01
- Strefezza (C), Price: 53.0, Score: 15.70

- Zambo Anguissa (C), Price: 7.0, Score: 17.20
- Cacace (D), Price: 10.0, Score: 11.35
- Colpani (C), Price: 10.0, Score: 13.11
- Furlanetto (P), Price: 1.0, Score: 0.00
- Fruchtl (P), Price: 1.0, Score: 0.00
- Samooja (P), Price: 1.0, Score: 0.00
- Kamara H. (D), Price: 1.0, Score: 12.00
- Tavares N. (D), Price: 1.0, Score: 11.96
- Dossena (D), Price: 1.0, Score: 11.96