

S2 File: DEA evaluation process. It includes the following contents: output and input for DEA, efficiency summary, summary of output slacks, summary of input slacks, and projection summary of 13 DMUs.

OUTPUT AND INPUT for DEA

DMU	technology efficiency
1	0.477
2	0.477
3	0.817
4	0.544
5	0.477
6	0.554
7	0.771
8	0.778
9	0.785
10	0.866
11	1.000
12	1.000
13	1.000
mean	0.734

EFFICIENCY SUMMARY:

OUTPUT1	OUTPUT2	INPUT1	INPUT2	INPUT3
353.1	0.003084421	56.74	1.51191	6.877
358.53	0.004654193	57.61	1.746375	8.9311
294.24	0.002283314	47.28	0.479744	8.1255
198.01	0.005842487	31.82	1.055296	5.6801
418.9	0.003932982	67.31	3.91	8.6376
208	0.003854604	33.42	1.0565	3.5706
132.49	0.006039741	21.29	0.296848	2.4646
111.9	0.005736576	17.98	0.276853	2.6159
118.59	0.008163265	19.05	0.495022	5.0992
88.29	0.00817127	14.19	0.46013	2.8291
353.15	0.00580282	27.08	0.608538	3.2299
100.62	0.011937448	16.17	0.545014	2.6993
120.57	0.007843752	19.37	0.135026	2.1558

SUMMARY OF OUTPUT SLACKS:

DMU	output:1	output:2
1	0.000	0.003
2	0.000	0.001
3	0.000	0.012

4	0.000	0.000
5	0.000	0.003
6	0.000	0.000
7	0.000	0.000
8	0.000	0.000
9	0.000	0.000
10	0.000	0.000
11	0.000	0.000
12	0.000	0.000
13	0.000	0.000
mean	0.000	0.001

SUMMARY OF INPUT SLACKS:

DMU	input 1	input 2	input 3
1	0.000	0.113	0.052
2	0.000	0.216	0.983
3	0.000	0.000	2.275
4	0.000	0.139	0.831
5	0.000	1.144	0.291
6	2.204	0.211	0.000
7	0.475	0.000	0.000
8	0.000	0.000	0.321
9	0.000	0.000	1.838
10	0.000	0.004	0.481
11	0.000	0.000	0.000
12	0.000	0.000	0.000
13	0.000	0.000	0.000
mean	0.206	0.141	0.544

Results for DMU: 1

Technical efficiency = 0.477

PROJECTION SUMMARY:

variable	original value	radial movement	slack movement	Projected value
output 1	353.100	0.000	0.000	353.100
output 2	0.003	0.000	0.003	0.006
input 1	56.740	-29.664	0.000	27.076
input 2	1.512	-0.790	-0.113	0.608
input 3	6.877	-3.595	-0.052	3.229

Results for DMU: 2

Technical efficiency = 0.477

PROJECTION SUMMARY:

variable	original value	radial movement	slack movement	Projected value
output 1	358.530	0.000	0.000	358.530
output 2	0.005	0.000	0.001	0.006
input 1	57.610	-30.117	0.000	27.493
input 2	1.746	-0.913	-0.216	0.618
input 3	8.931	-4.669	-0.983	3.279

Results for DMU: 3

Technical efficiency = 0.817

PROJECTION SUMMARY:

variable	original value	radial movement	slack movement	Projected value
output 1	294.240	0.000	0.000	294.240
output 2	0.002	0.000	0.012	0.014
input 1	47.280	-8.672	0.000	38.608
input 2	0.480	-0.088	0.000	0.392
input 3	8.126	-1.490	-2.275	4.360

Results for DMU: 4

Technical efficiency = 0.544

PROJECTION SUMMARY:

variable	original value	radial movement	slack movement	Projected value
output 1	198.010	0.000	0.000	198.010
output 2	0.006	0.000	0.000	0.006
input 1	31.820	-14.508	0.000	17.312
input 2	1.055	-0.481	-0.139	0.435
input 3	5.680	-2.590	-0.831	2.259

Results for DMU: 5

Technical efficiency = 0.477

PROJECTION SUMMARY:

variable	original value	radial movement	slack movement	Projected value
output 1	418.900	0.000	0.000	418.900
output 2	0.004	0.000	0.003	0.007
input 1	67.310	-35.188	0.000	32.122
input 2	3.910	-2.044	-1.144	0.722
input 3	8.638	-4.516	-0.291	3.831

Results for DMU: 6
 Technical efficiency = 0.554
 PROJECTION SUMMARY:

variable	original value	radial movement	slack movement	Projected value
output 1	208.000	0.000	0.000	208.000
output 2	0.004	0.000	0.000	0.004
input 1	33.420	-14.907	-2.204	16.309
input 2	1.056	-0.471	-0.211	0.374
input 3	3.571	-1.593	0.000	1.978

Results for DMU: 7
 Technical efficiency = 0.771
 PROJECTION SUMMARY:

variable	original value	radial movement	slack movement	Projected value
output 1	132.490	0.000	0.000	132.490
output 2	0.006	0.000	0.000	0.006
input 1	21.290	-4.886	-0.475	15.929
input 2	0.297	-0.068	0.000	0.229
input 3	2.465	-0.566	0.000	1.899

Results for DMU: 8
 Technical efficiency = 0.778
 PROJECTION SUMMARY:

variable	original value	radial movement	slack movement	Projected value
output 1	111.900	0.000	0.000	111.900
output 2	0.006	0.000	0.000	0.006
input 1	17.980	-3.990	0.000	13.990
input 2	0.277	-0.061	0.000	0.215
input 3	2.616	-0.581	-0.321	1.714

Results for DMU: 9
 Technical efficiency = 0.785
 PROJECTION SUMMARY:

variable	original value	radial movement	slack movement	Projected value
output 1	118.590	0.000	0.000	118.590

output 2	0.008	0.000	0.000	0.008
input 1	19.050	-4.096	0.000	14.954
input 2	0.495	-0.106	0.000	0.389
input 3	5.099	-1.096	-1.838	2.165

Results for DMU: 10

Technical efficiency = 0.866

PROJECTION SUMMARY:

variable	original value	radial movement	slack movement	Projected value
output 1	88.290	0.000	0.000	88.290
output 2	0.008	0.000	0.000	0.008
input 1	14.190	-1.895	0.000	12.295
input 2	0.460	-0.061	-0.004	0.395
input 3	2.829	-0.378	-0.481	1.970

Results for DMU: 11

Technical efficiency = 1.000

PROJECTION SUMMARY:

variable	original value	radial movement	slack movement	Projected value
output 1	353.150	0.000	0.000	353.150
output 2	0.006	0.000	0.000	0.006
input 1	27.080	0.000	0.000	27.080
input 2	0.609	0.000	0.000	0.609
input 3	3.230	0.000	0.000	3.230

Results for DMU: 12

Technical efficiency = 1.000

PROJECTION SUMMARY:

variable	original value	radial movement	slack movement	Projected value
output 1	100.620	0.000	0.000	100.620
output 2	0.012	0.000	0.000	0.012
input 1	16.170	0.000	0.000	16.170
input 2	0.545	0.000	0.000	0.545
input 3	2.699	0.000	0.000	2.699

Results for DMU: 13

Technical efficiency = 1.000

PROJECTION SUMMARY:

variable	original value	radial movement	slack movement	Projected value
output 1	120.570	0.000	0.000	120.570
output 2	0.008	0.000	0.000	0.008
input 1	19.370	0.000	0.000	19.370
input 2	0.135	0.000	0.000	0.135
input 3	2.156	0.000	0.000	2.156