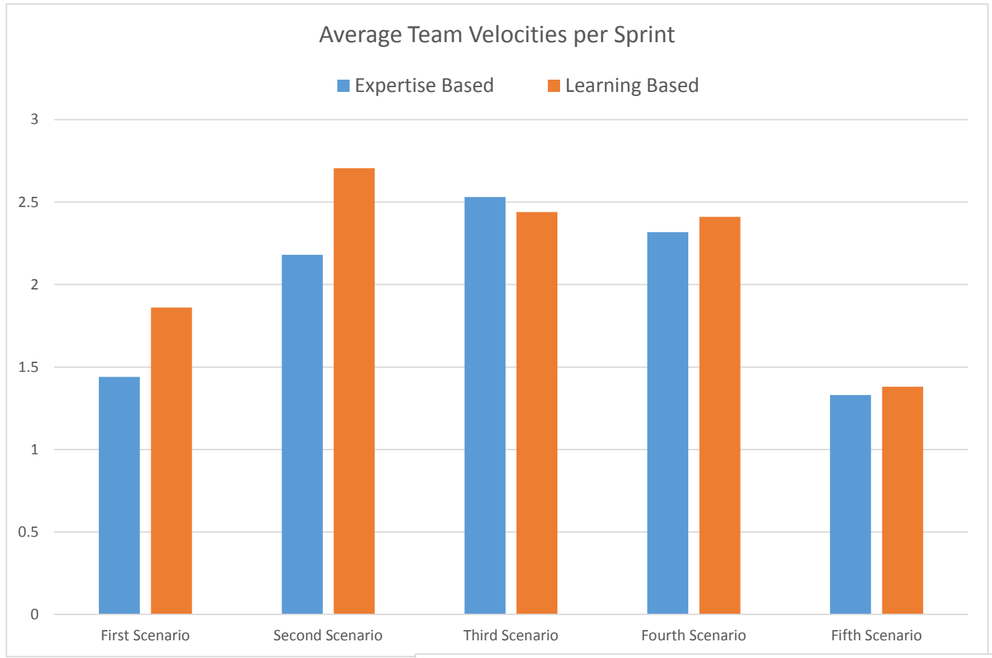
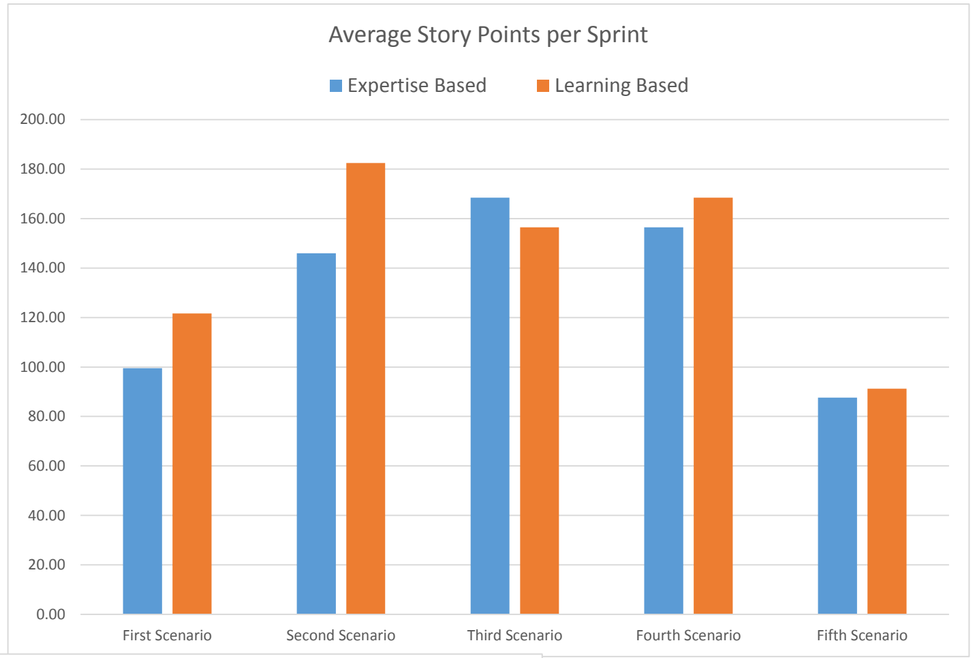
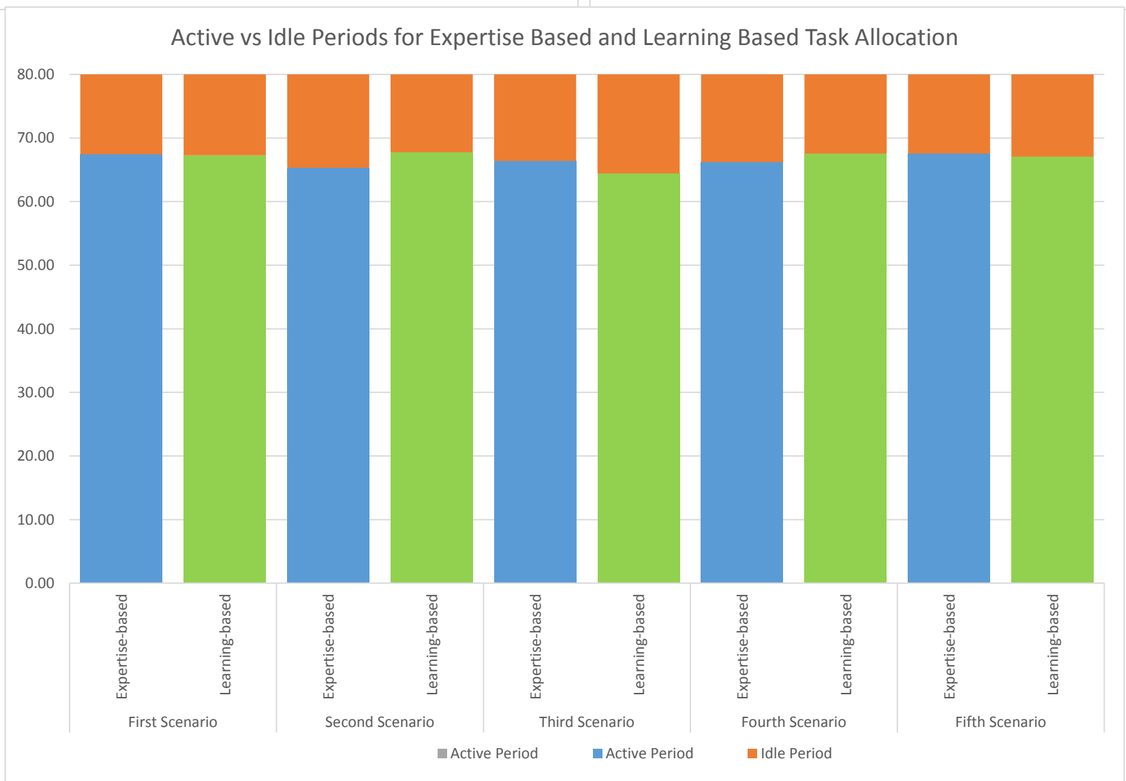
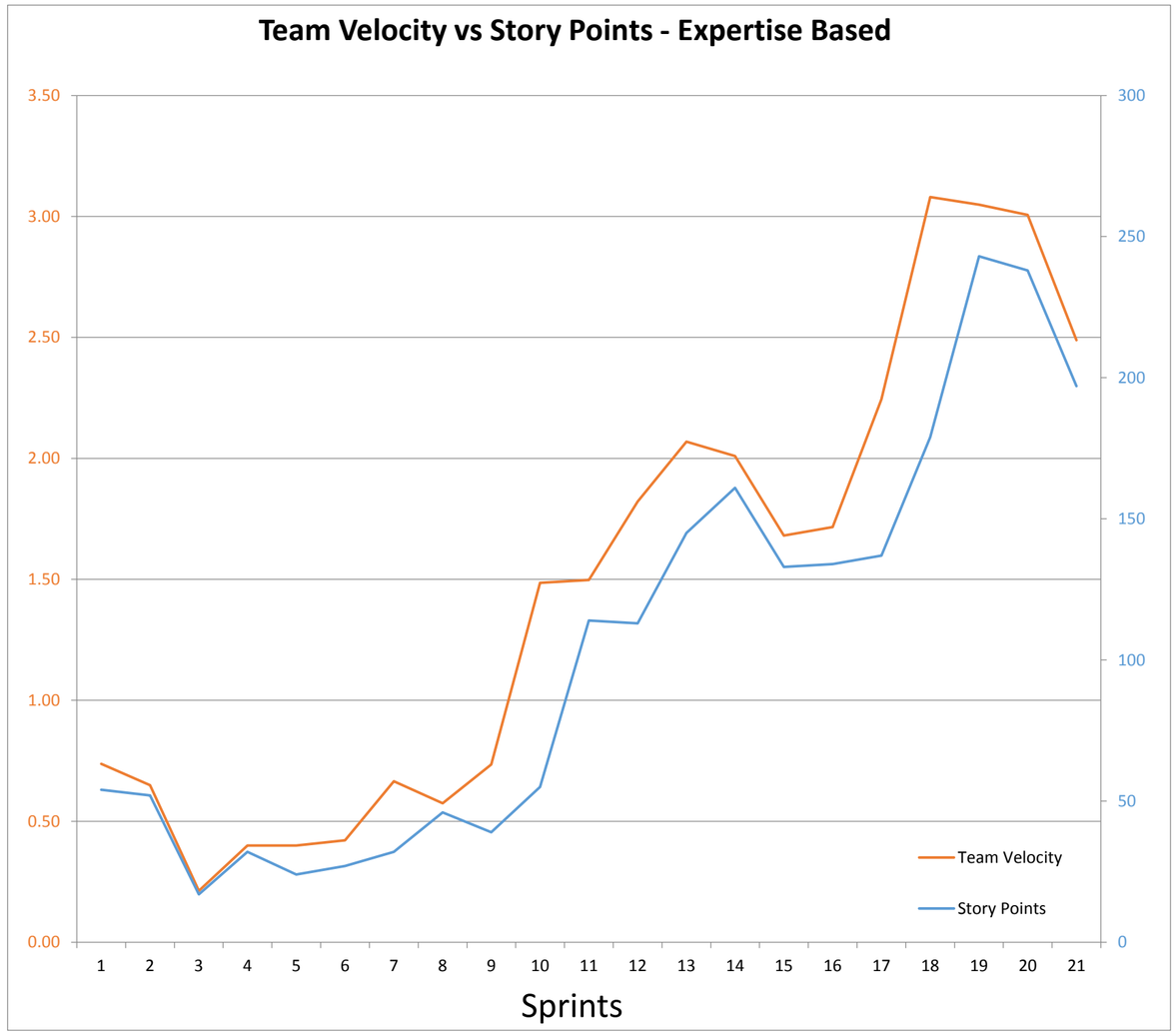
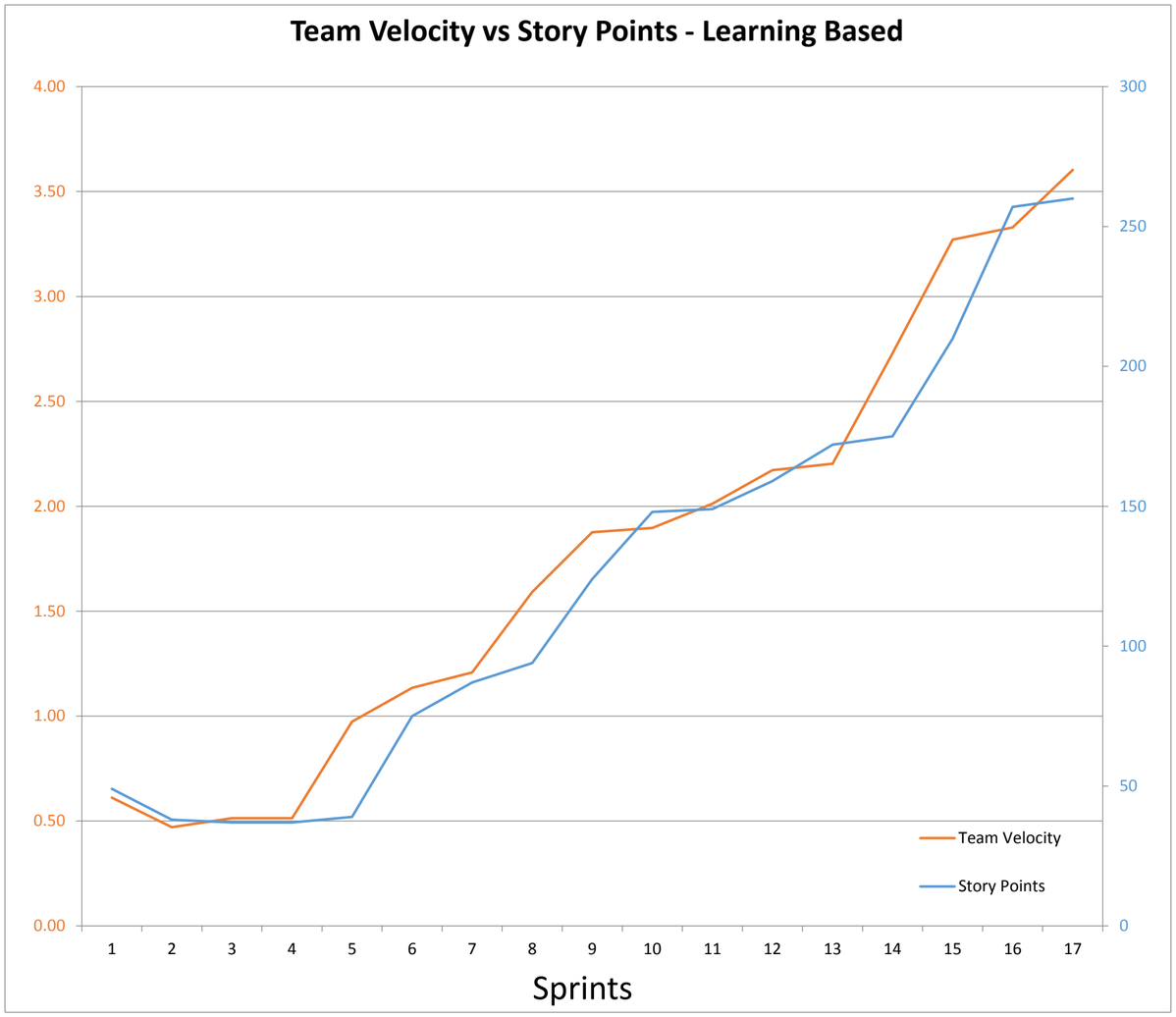

Average Team Velocities per Sprint
Expertise Based
Learning Based
3
2.5
2
1.5
1
0.5
0
First Scenario
Second Scenario
Third Scenario
Fourth Scenario
Fifth Scenario

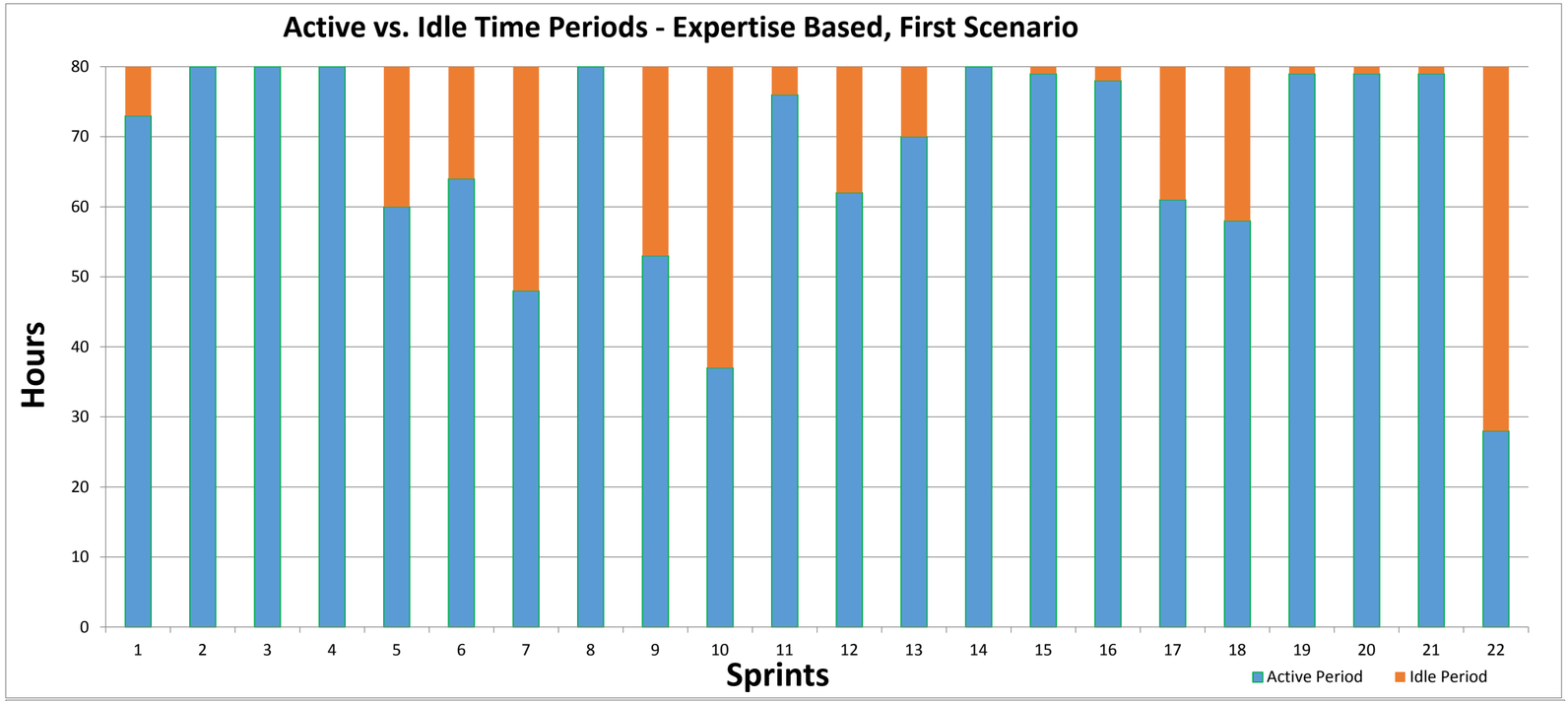

Average Story Points per Sprint
Expertise Based
Learning Based
200.00
180.00
160.00
140.00
120.00
100.00
80.00
60.00
40.00
20.00
0.00
First Scenario
Second Scenario
Third Scenario
Fourth Scenario
Fifth Scenario

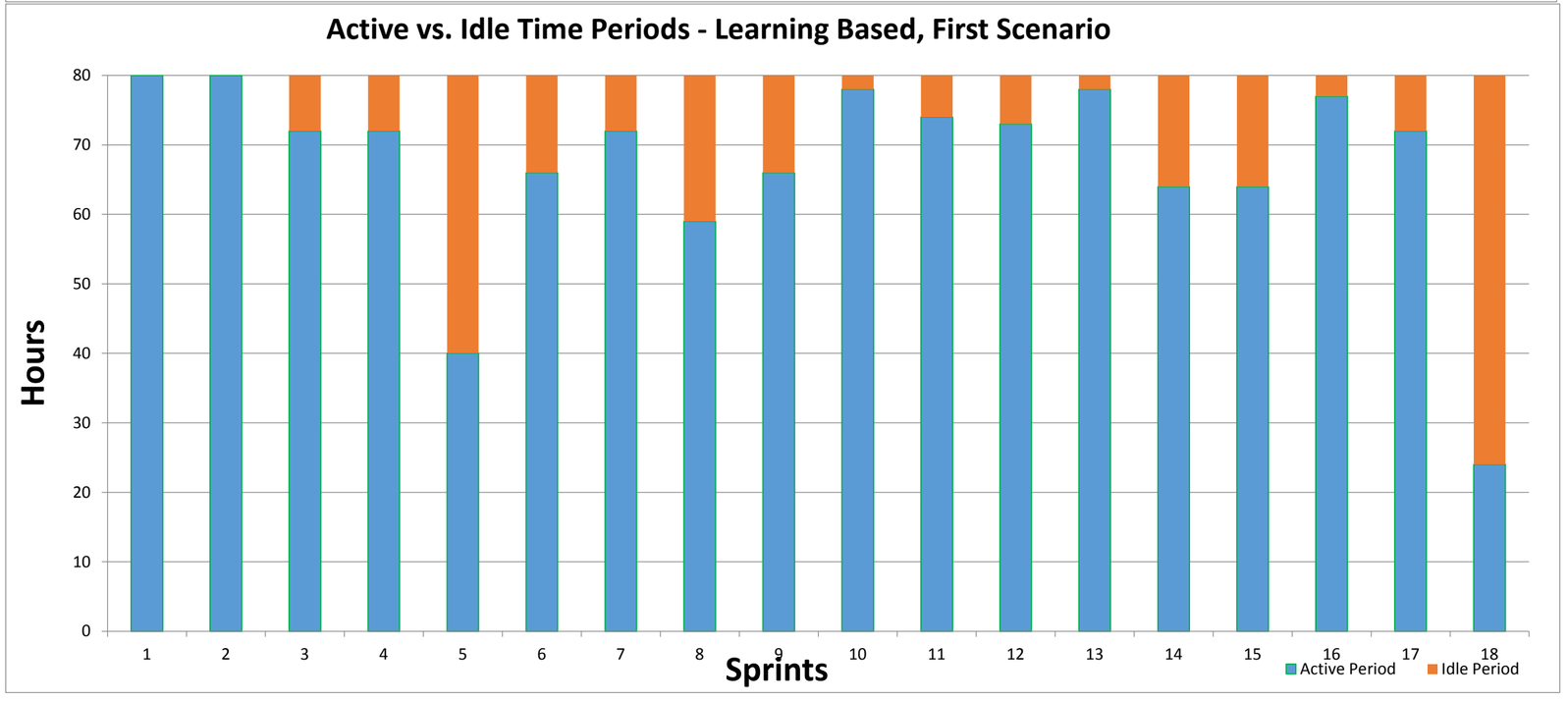

Active vs Idle Periods for Expertise Based and Learning Based Task Allocation
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
Expertise-based
Learning-based
First Scenario
Second Scenario
Third Scenario
Fourth Scenario
Fifth Scenario
Active Period
Active Period
Idle Period

First Scenario – Everyone starts with low expertise in every skill area

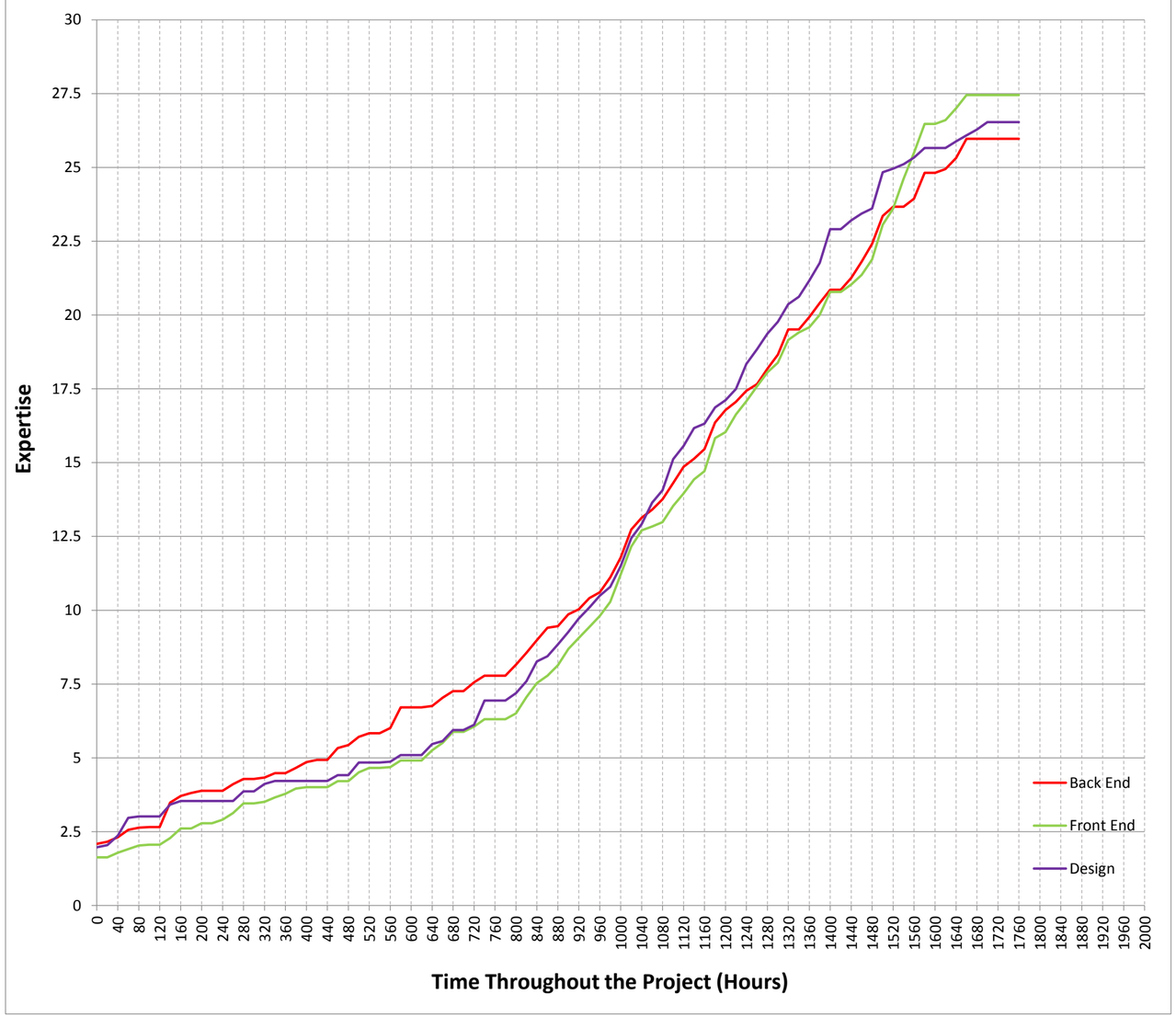




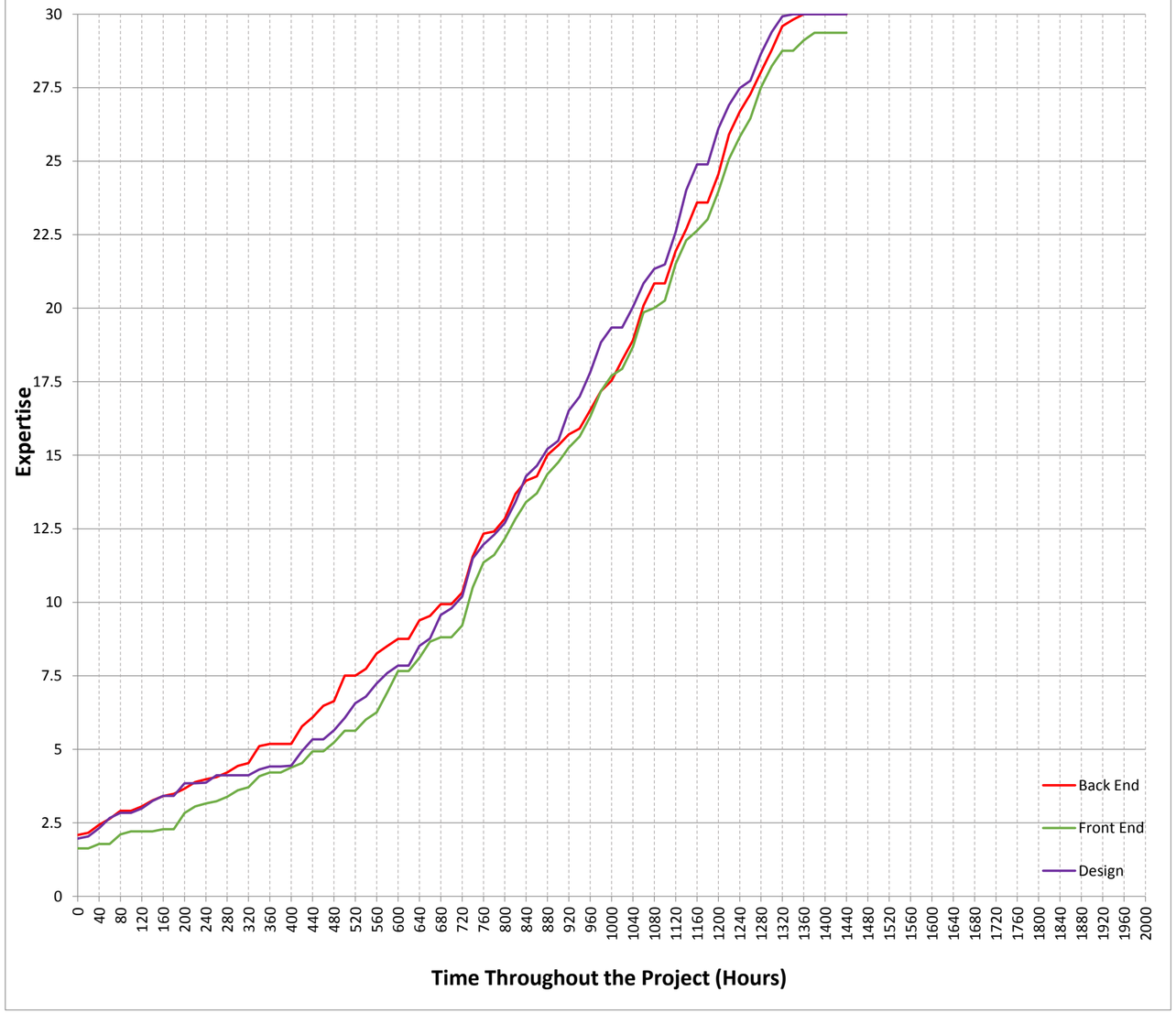

Active vs. Idle Time Periods - Expertise Based, First Scenario
Hours
0
10
20
30
40
50
60
70
80
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
Sprints
Active Period
Idle Period

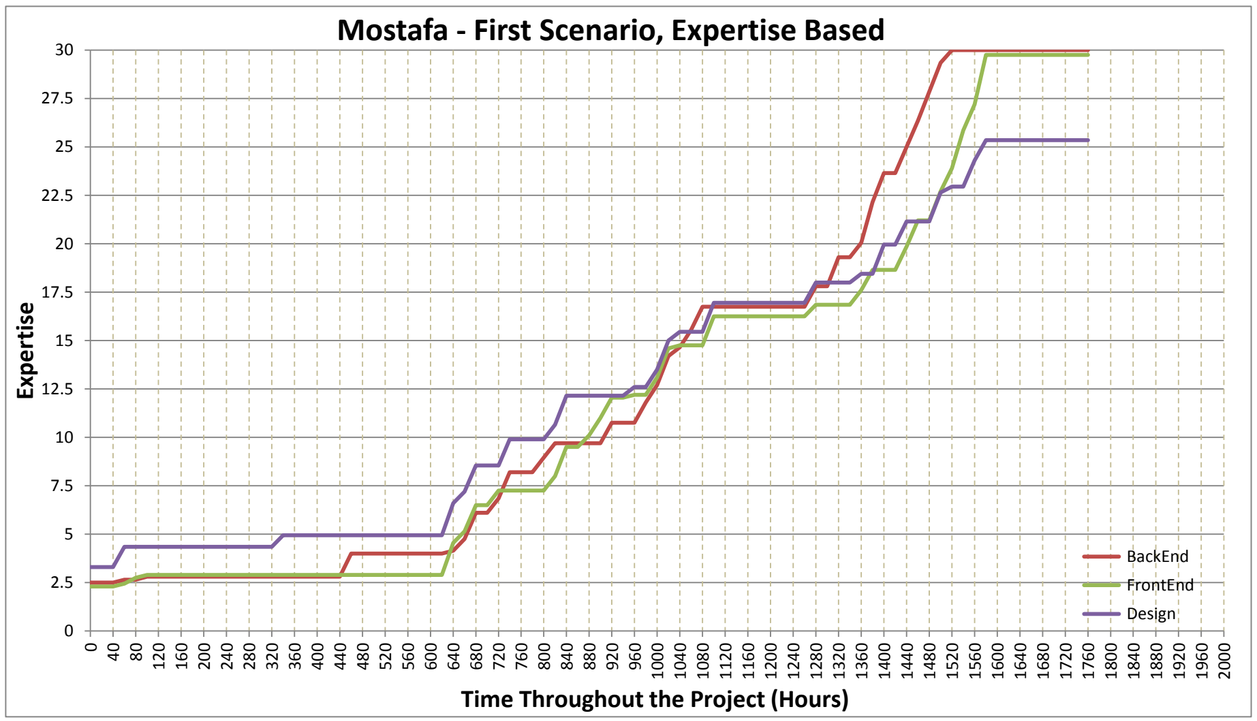

Active vs. Idle Time Periods - Learning Based, First Scenario
Hours
0
10
20
30
40
50
60
70
80
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
Sprints
Active Period
Idle Period

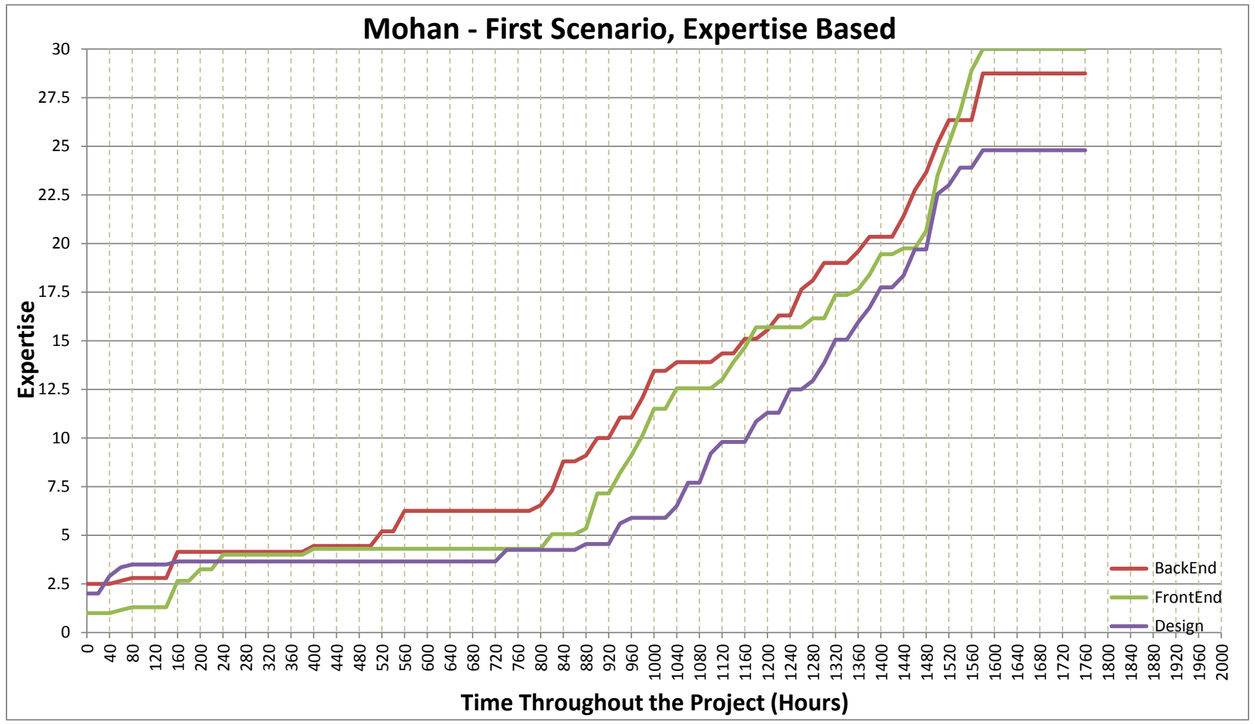
Team Average - First Scenario, Expertise Based

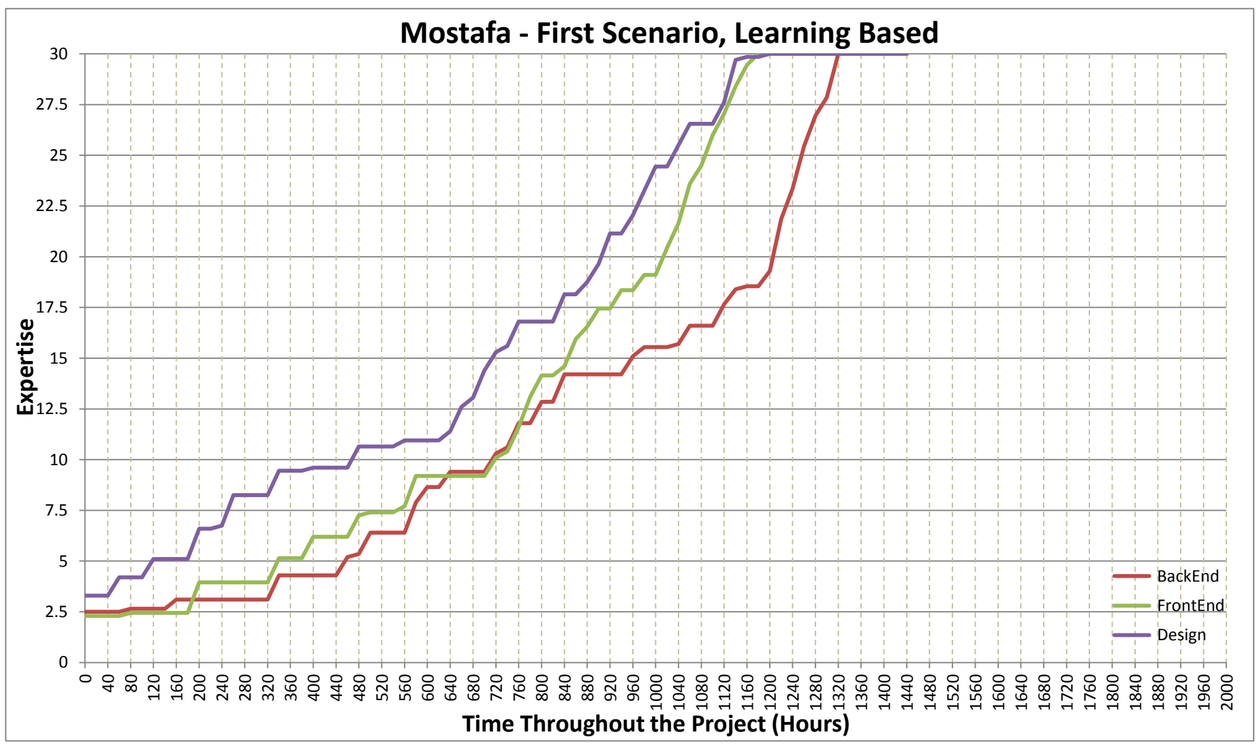


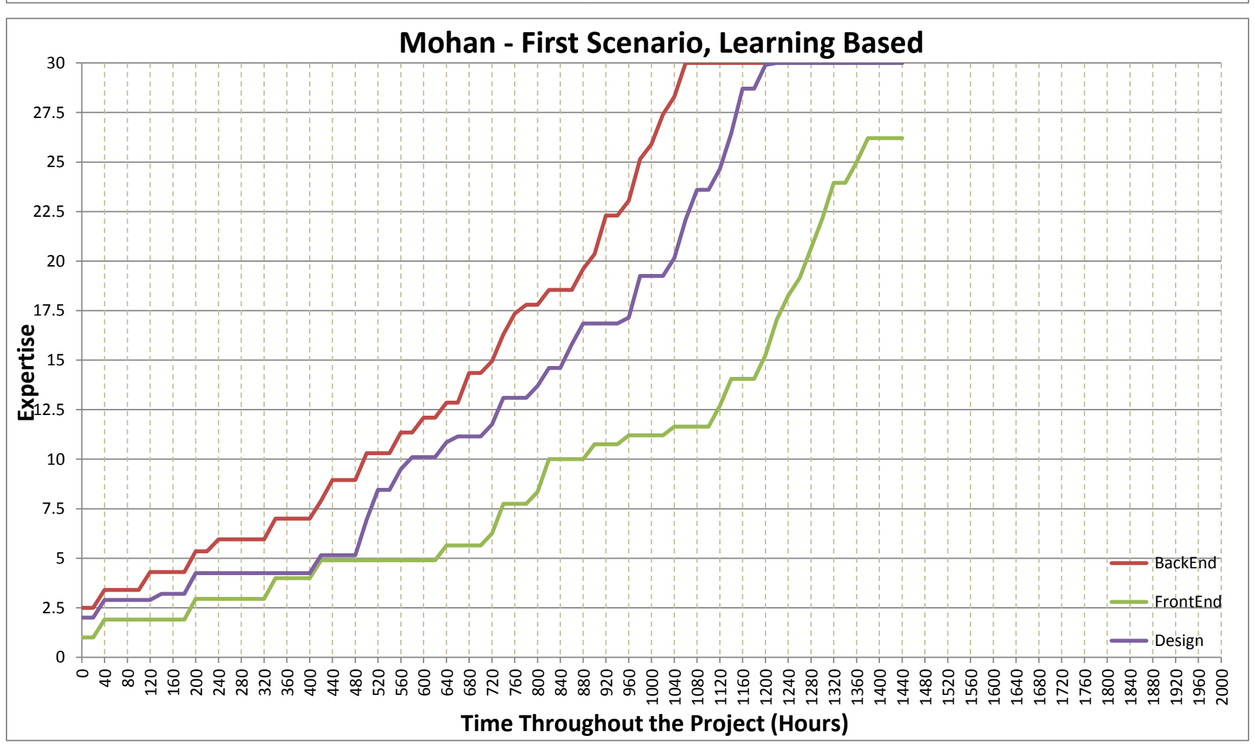
Team Average - First Scenario, Learning Based

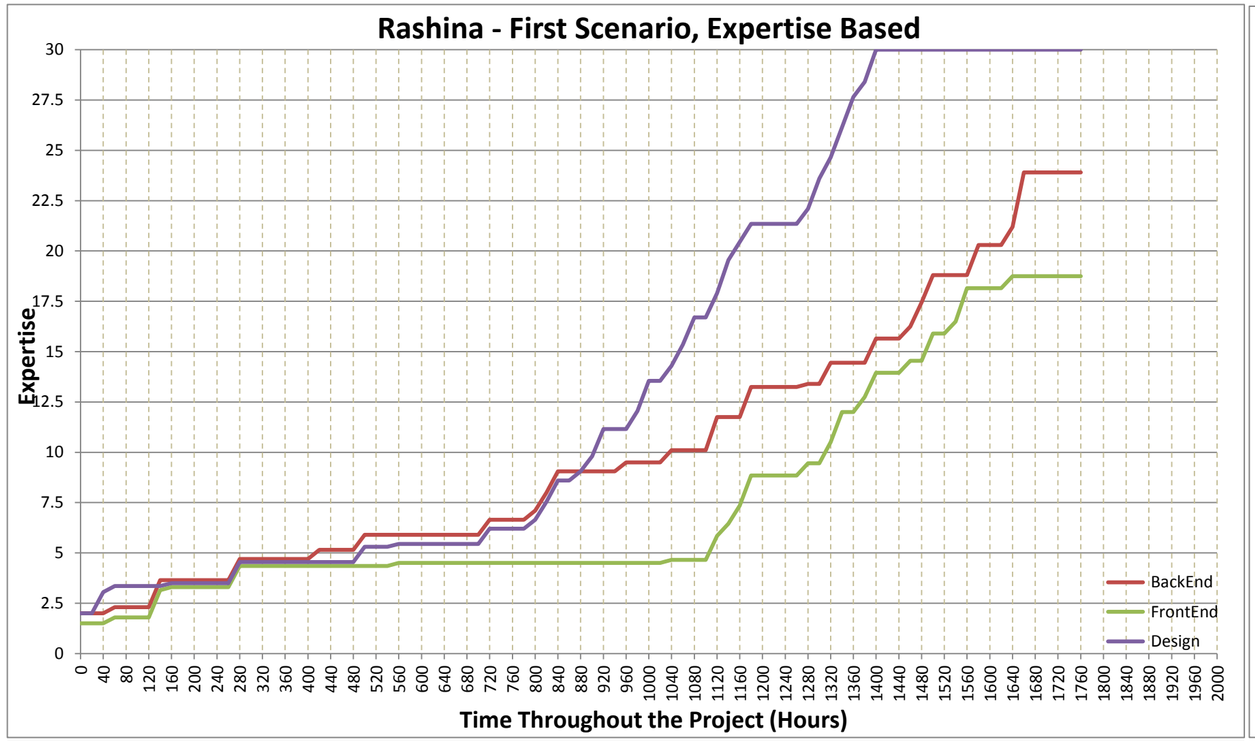


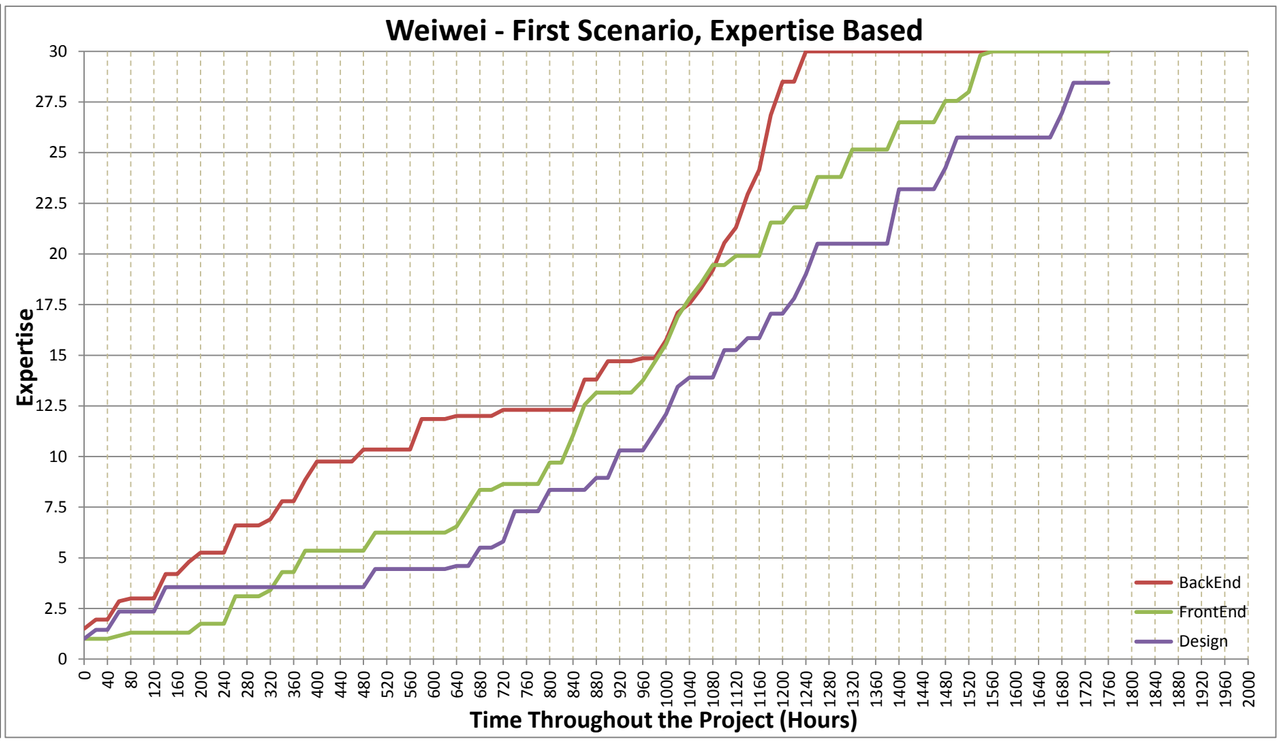

Mostafa - First Scenario, Expertise Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design

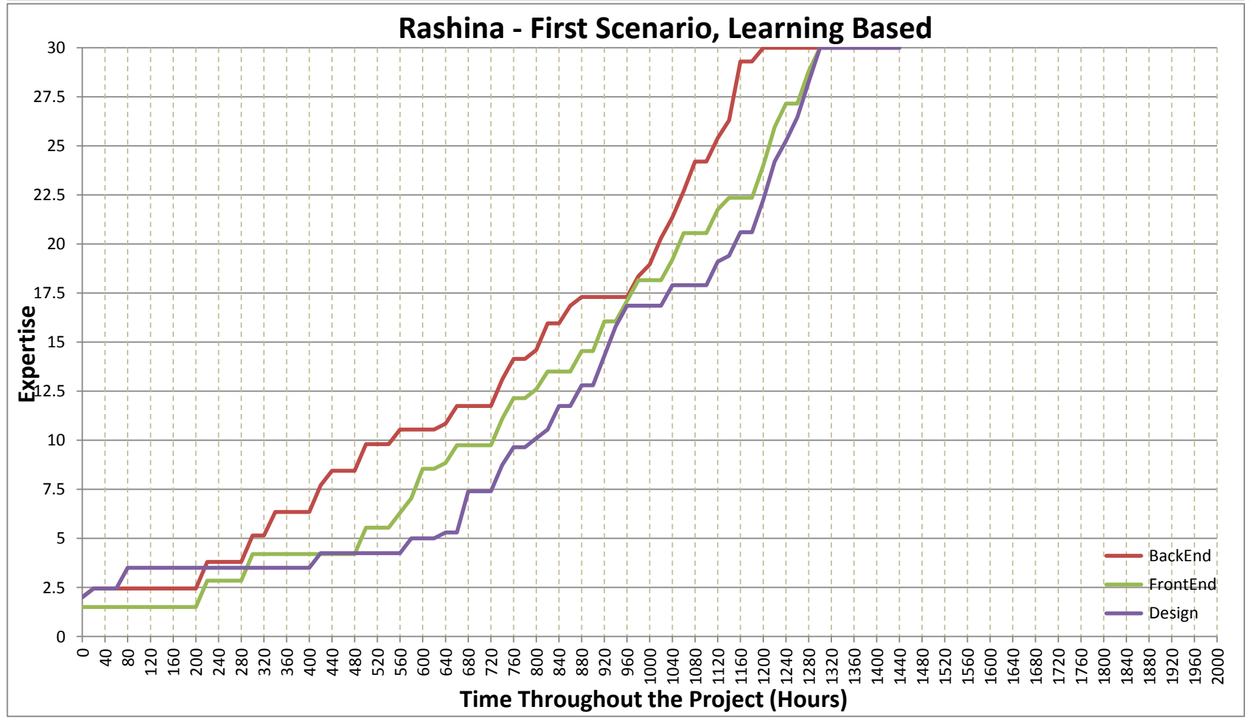

Mohan - First Scenario, Expertise Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design

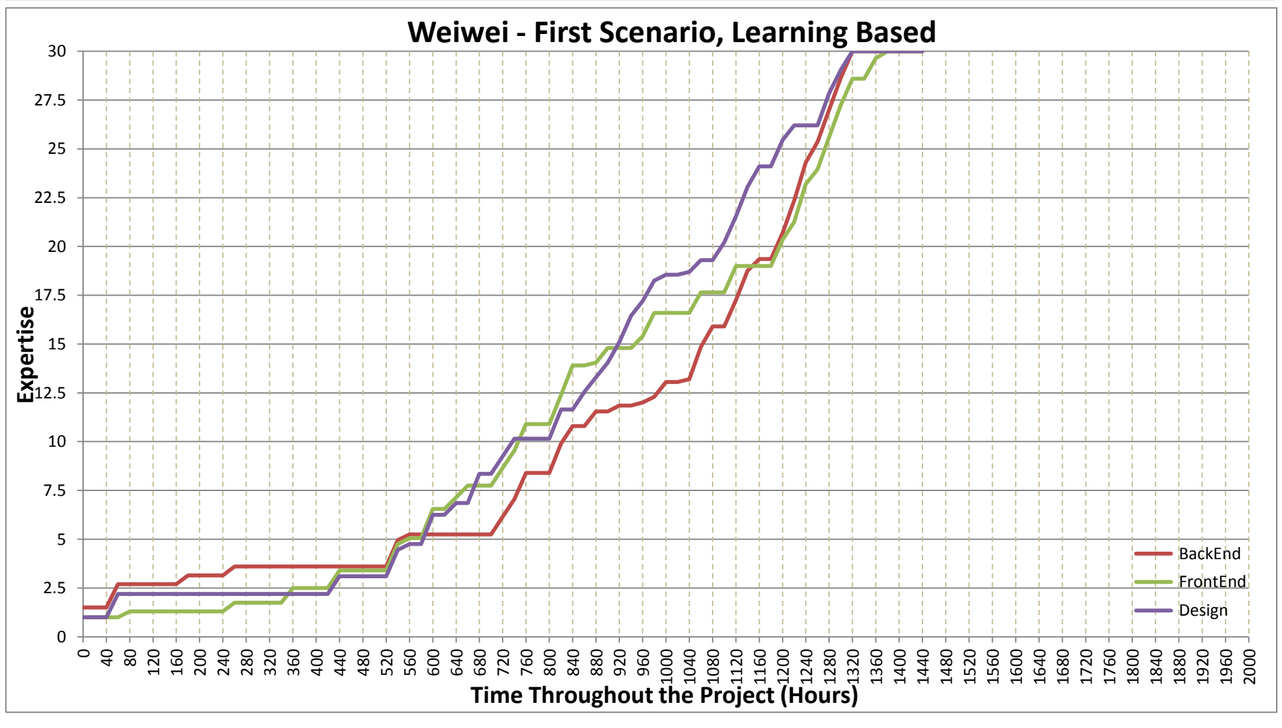

Mostafa - First Scenario, Learning Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design

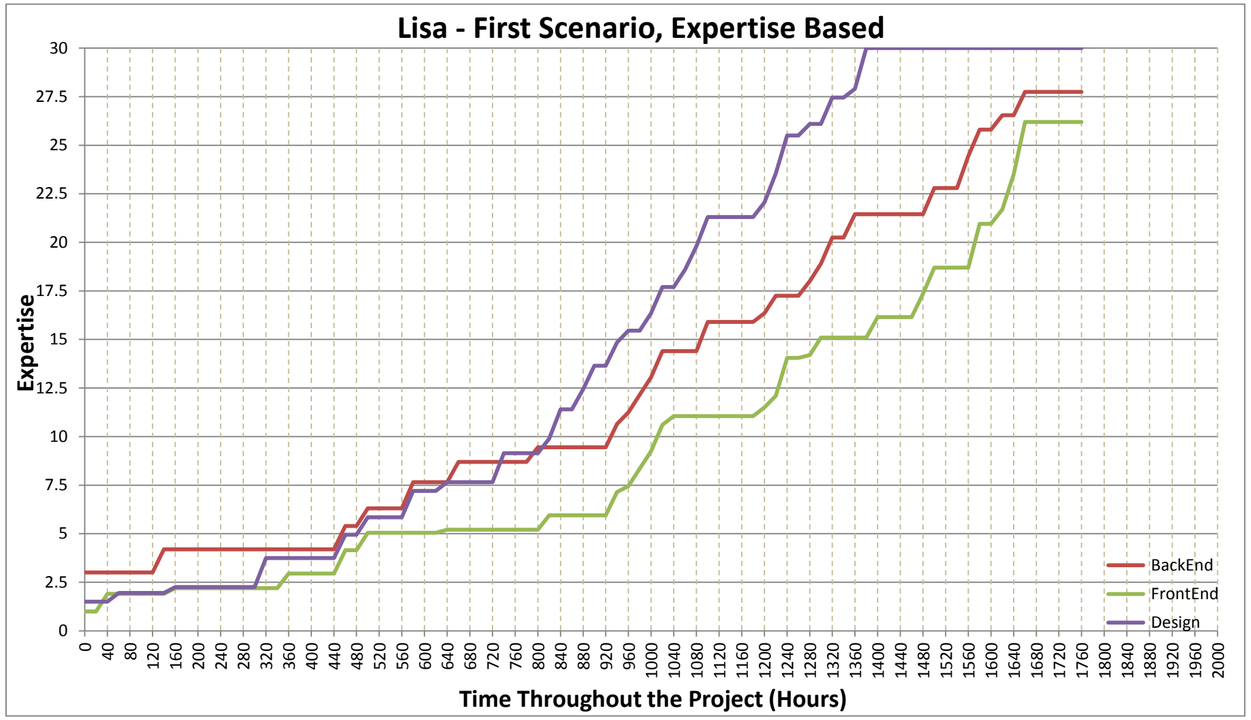

Mohan - First Scenario, Learning Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design

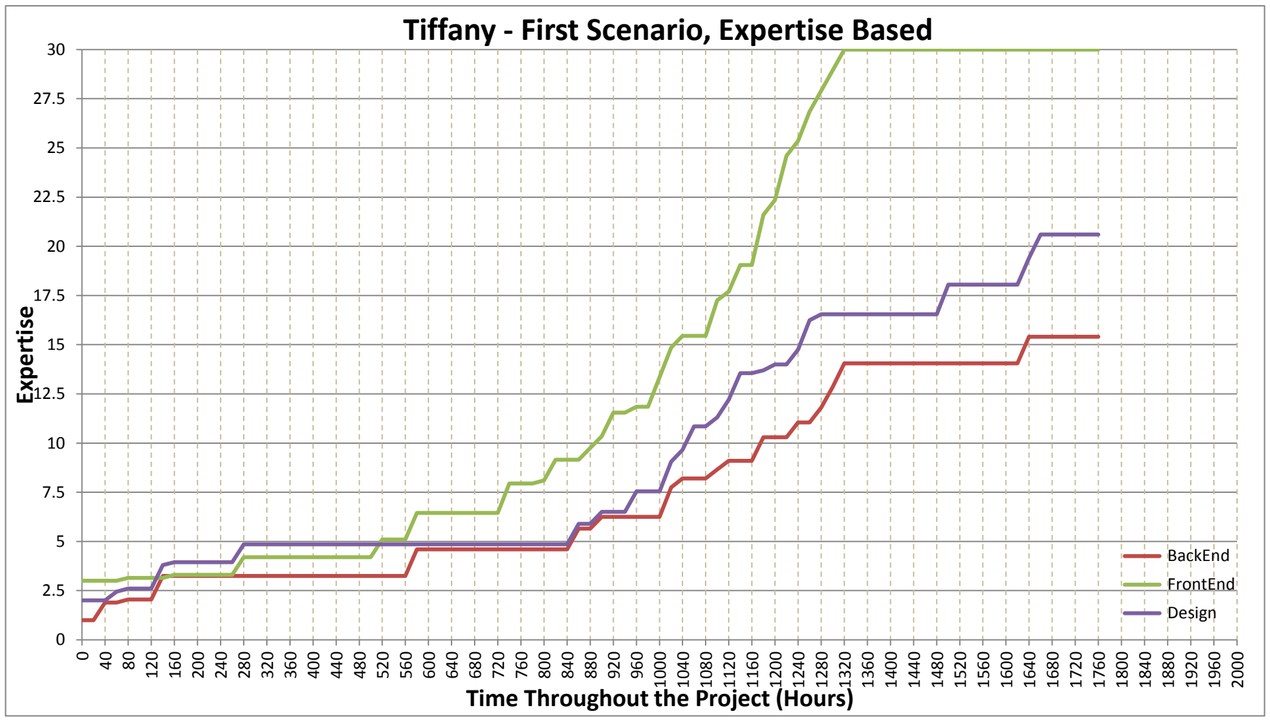

Rashina - First Scenario, Expertise Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design

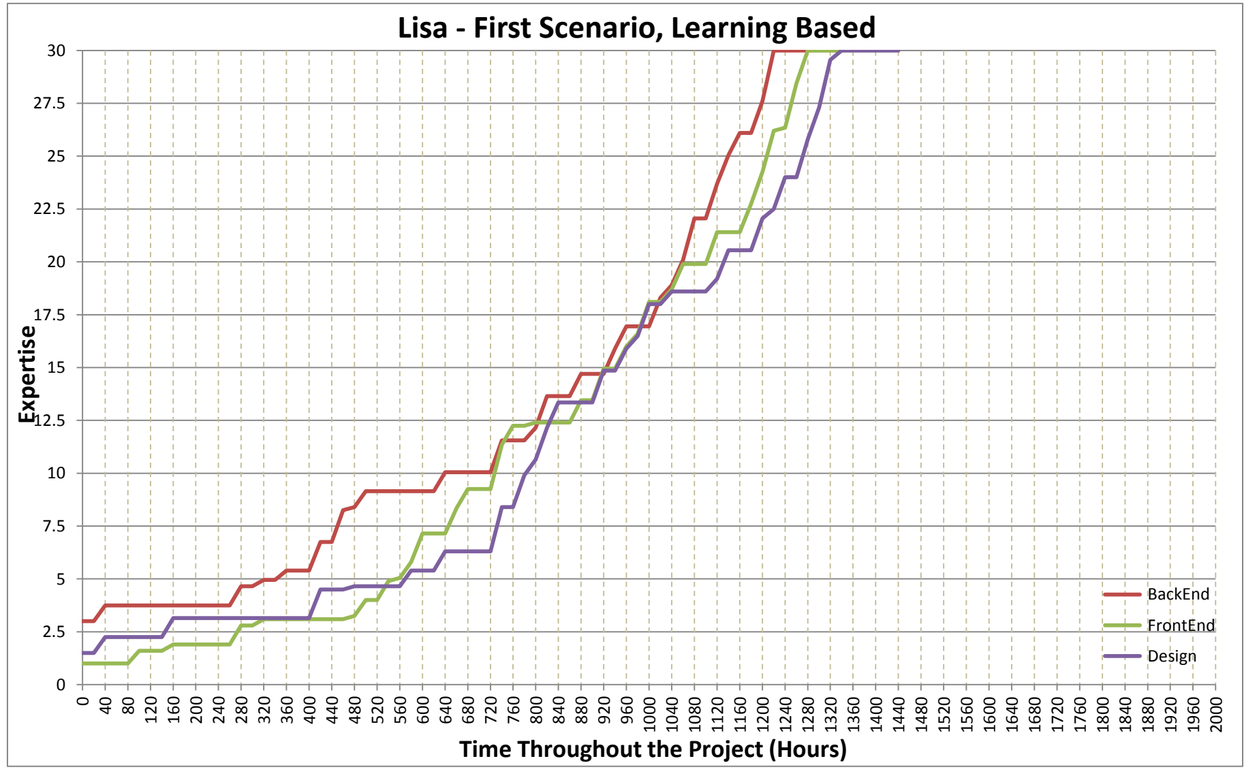

Weiwei - First Scenario, Expertise Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design

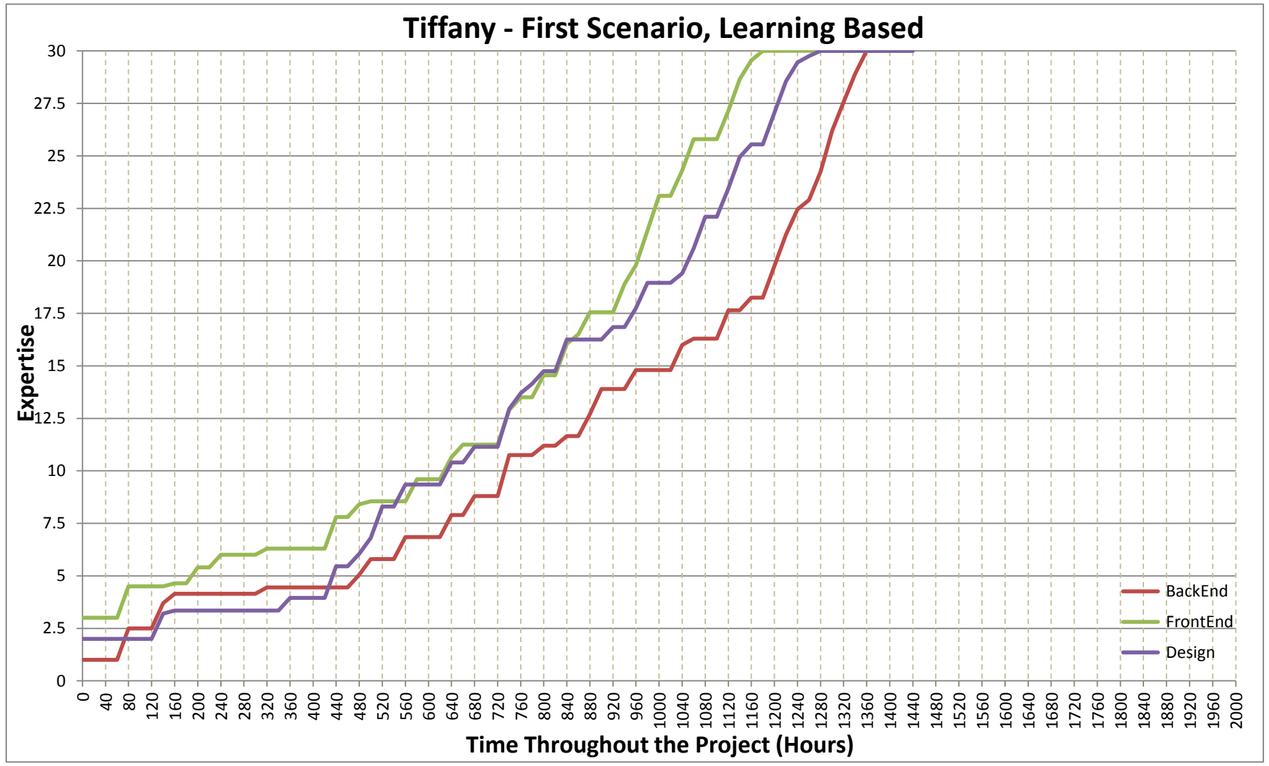

Rashina - First Scenario, Learning Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design


Weiwei - First Scenario, Learning Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design

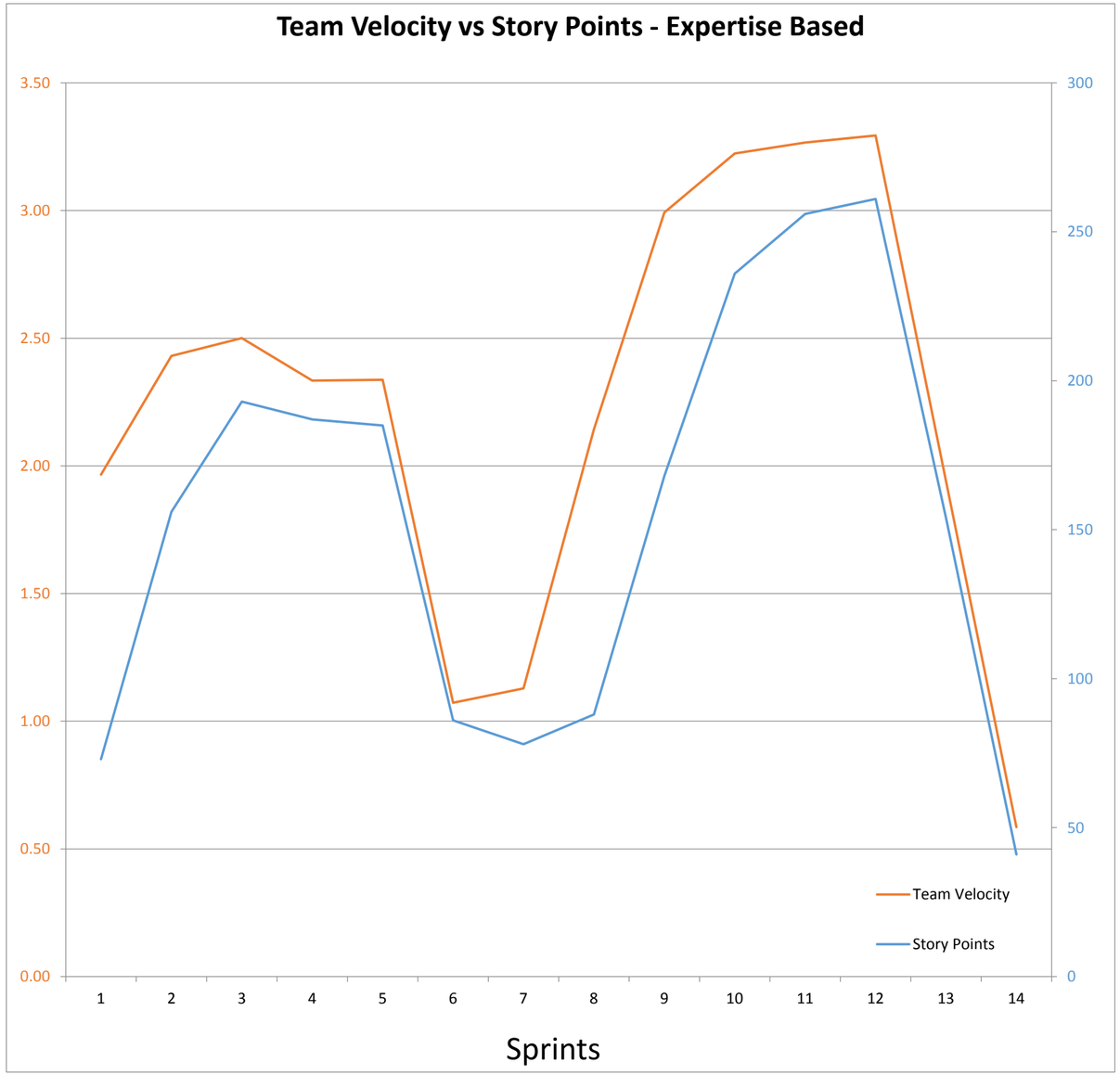

Lisa - First Scenario, Expertise Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design

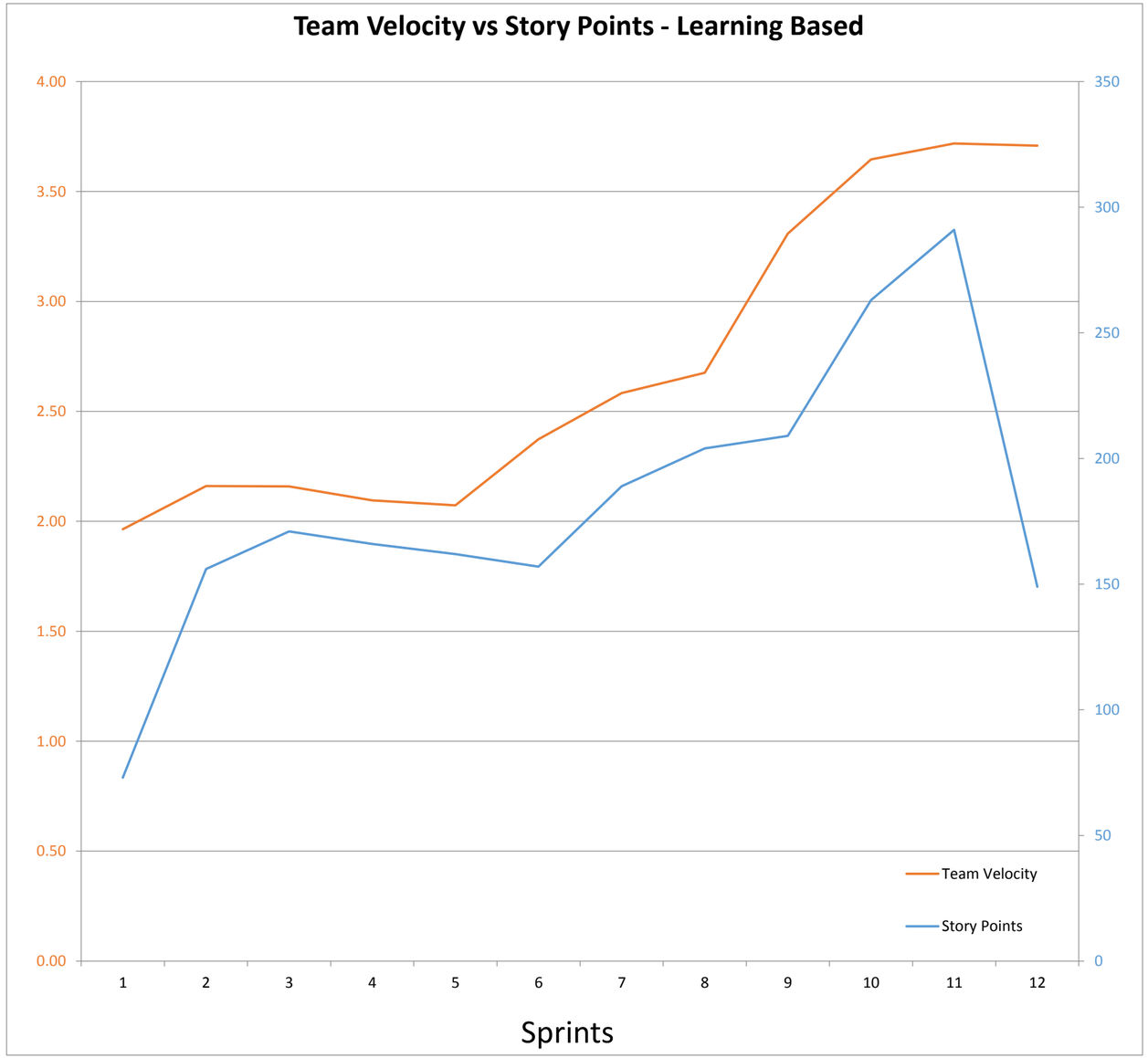

Tiffany - First Scenario, Expertise Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design

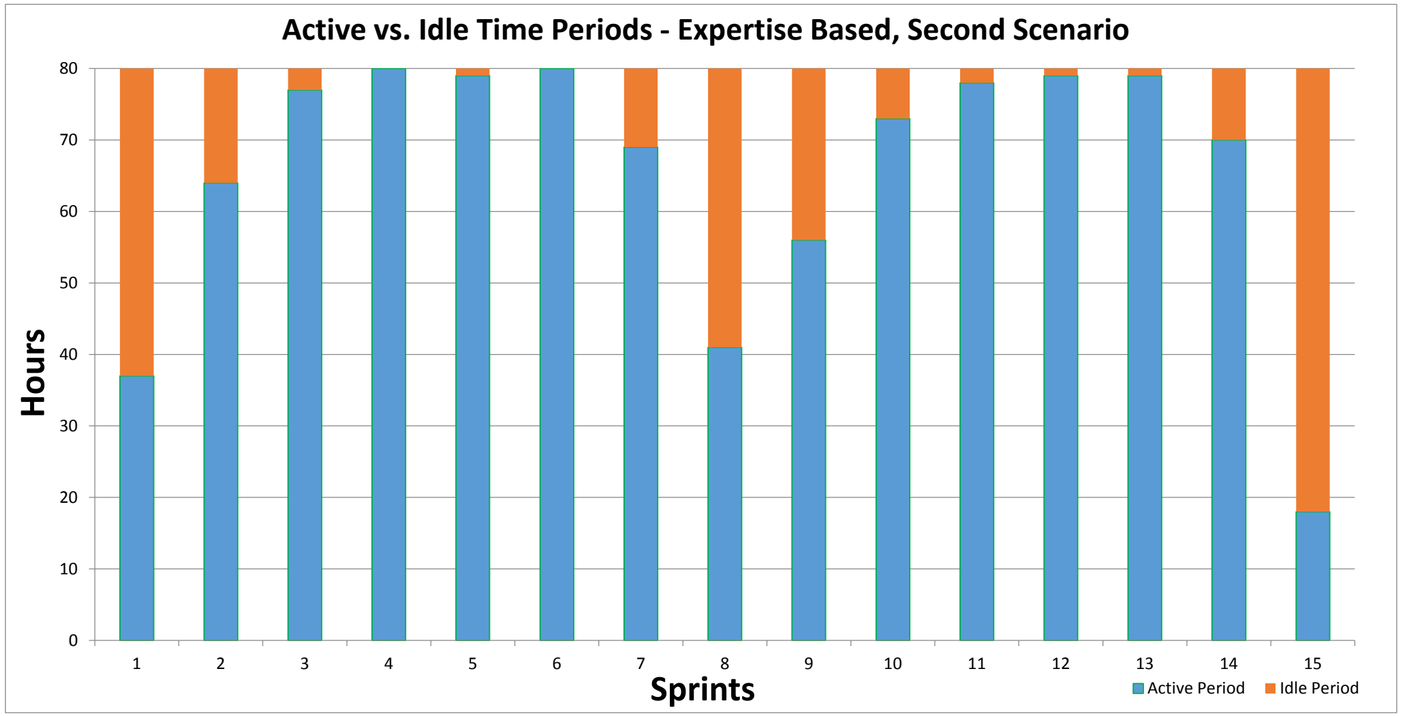

Lisa - First Scenario, Learning Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design


Tiffany - First Scenario, Learning Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design

Second Scenario – Two skills have three employees high and three employees low, other skill has all employees at medium level

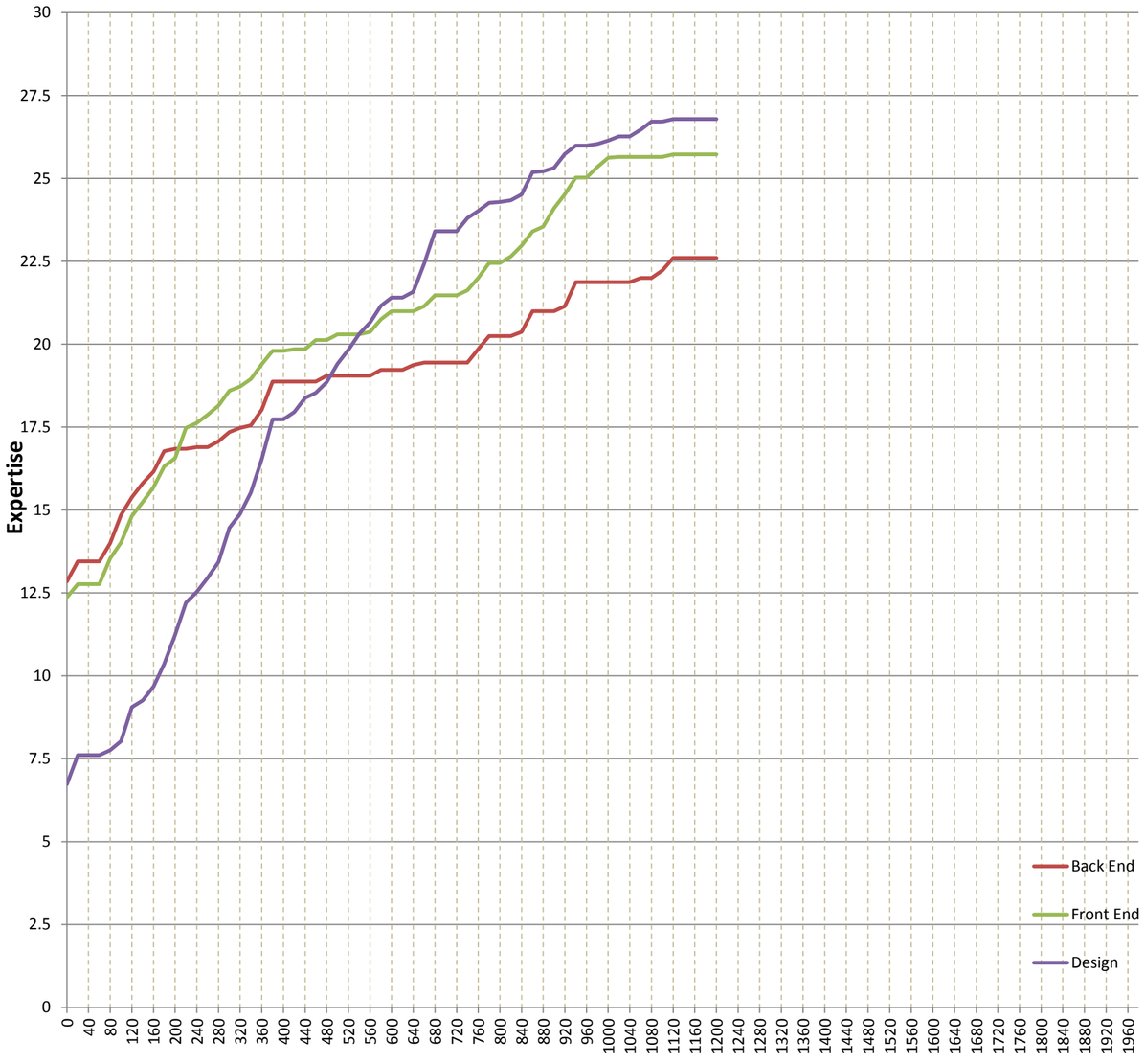




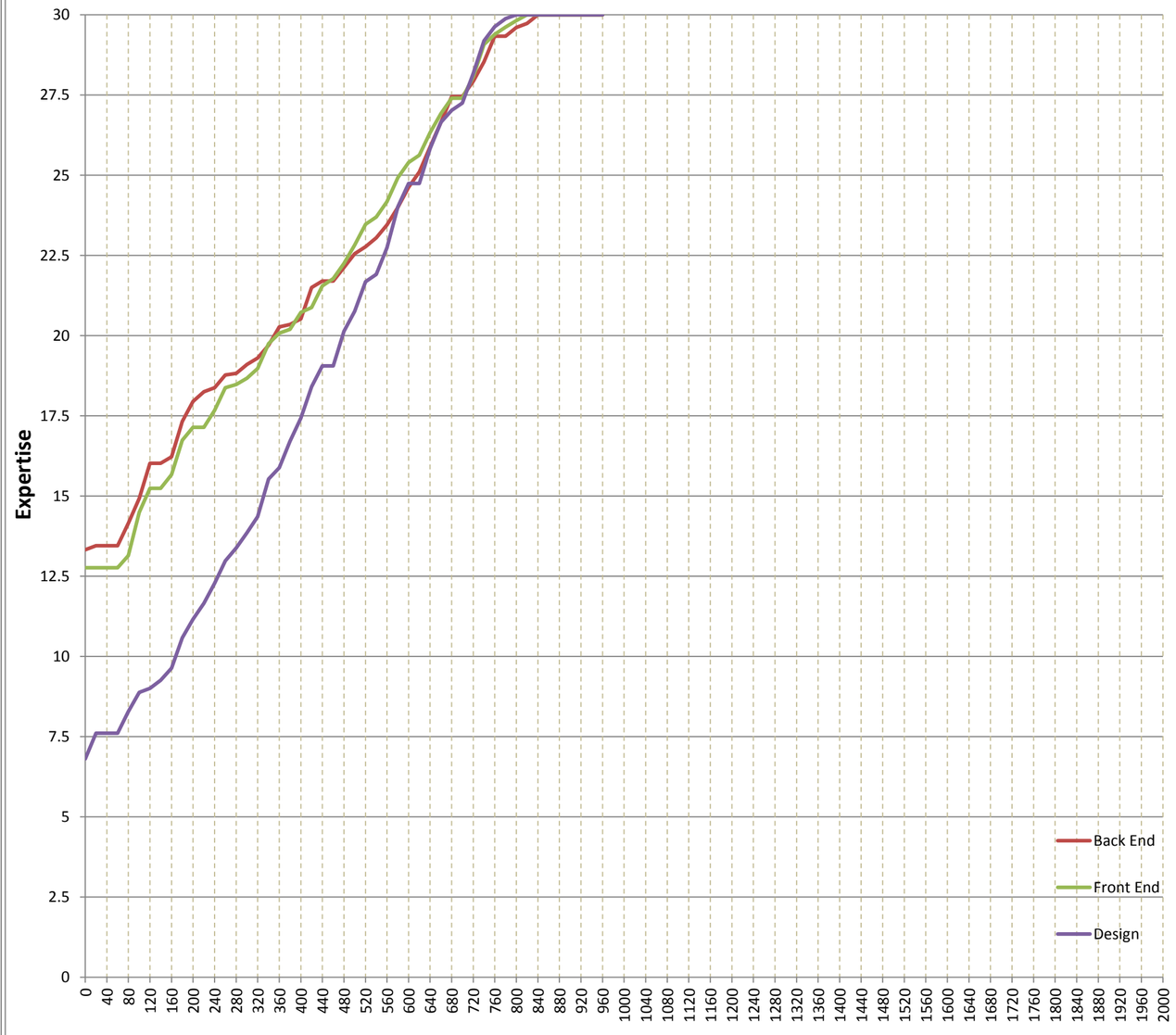

Active vs. Idle Time Periods - Expertise Based, Second Scenario
Hours
0
10
20
30
40
50
60
70
80
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
Sprints
Active Period
Idle Period

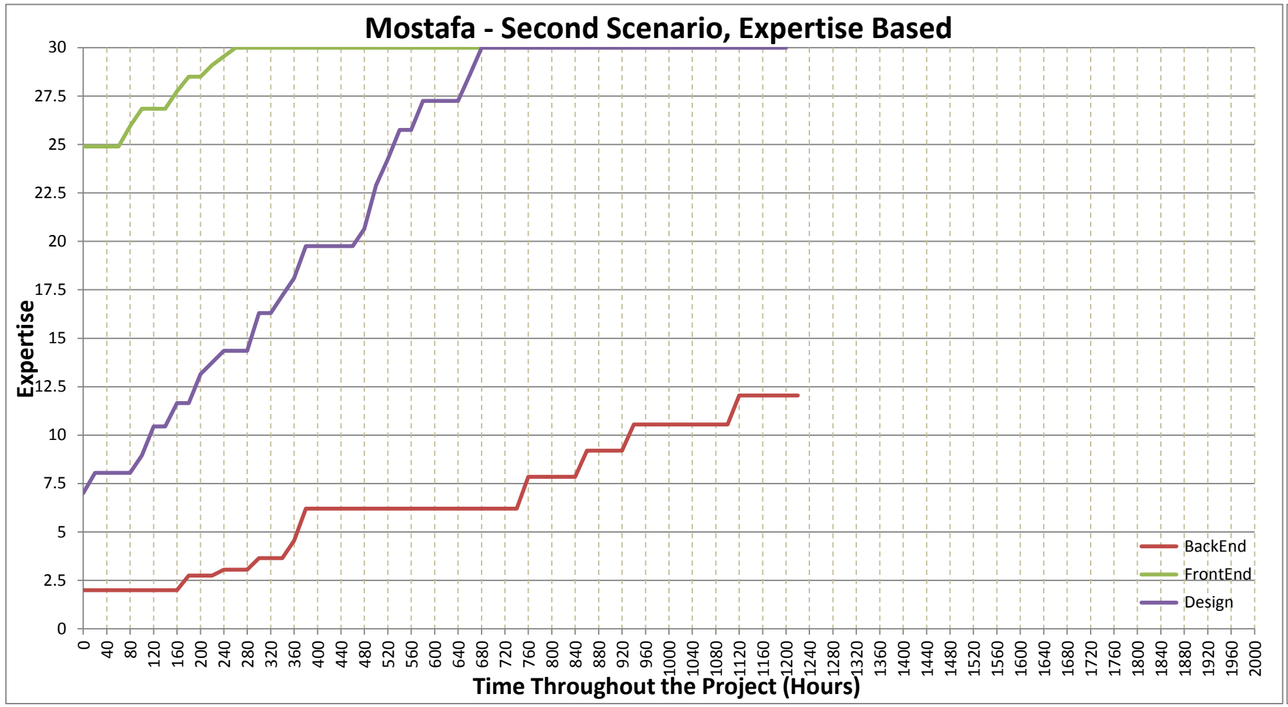
Active vs. Idle Time Periods - Learning Based, Second Scenario
Hours
0
10
20
30
40
50
60
70
80
1
2
3
4
5
6
7
8
9
10
11
12
Sprints
Active Period
Idle Period

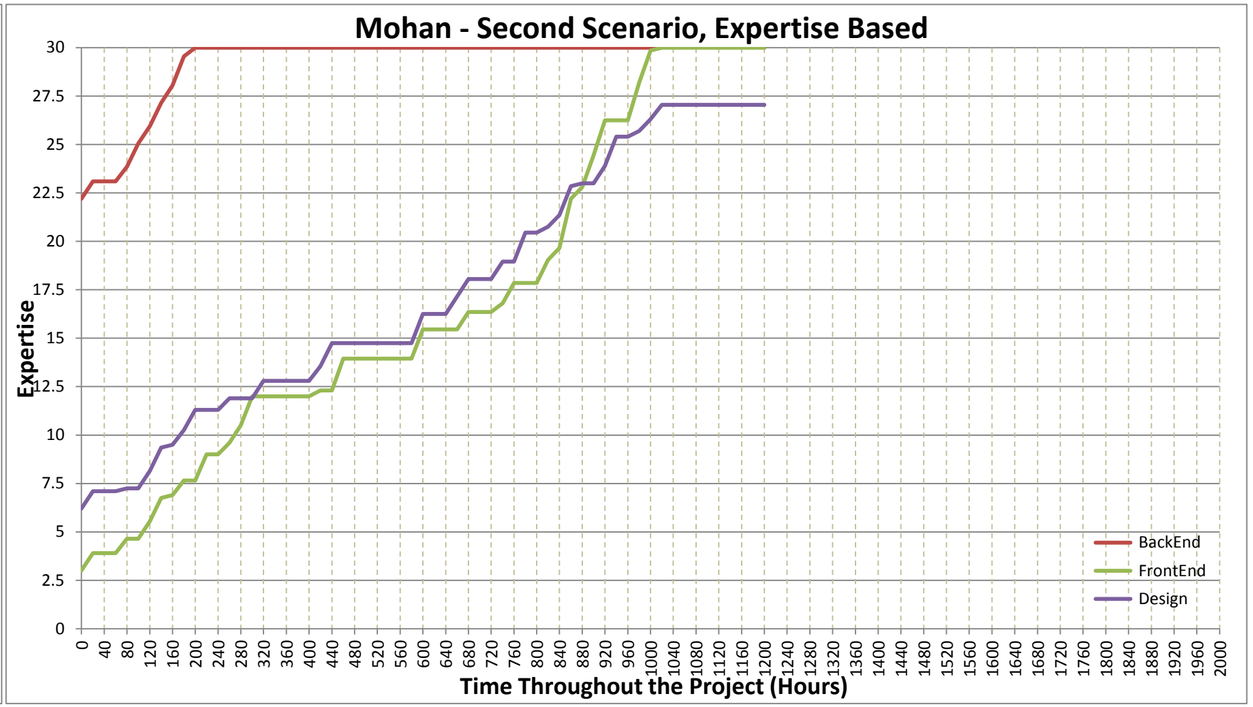
Team Average - Second Scenario, Expertise Based

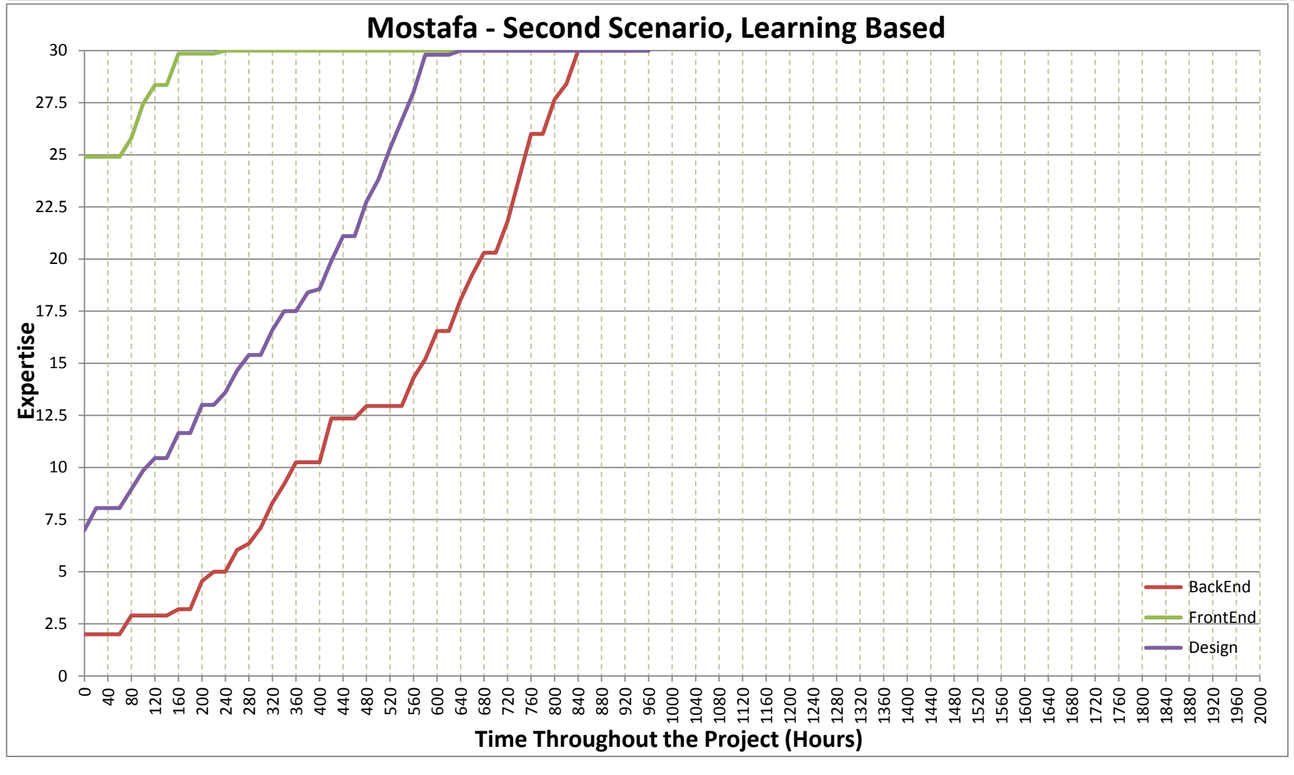


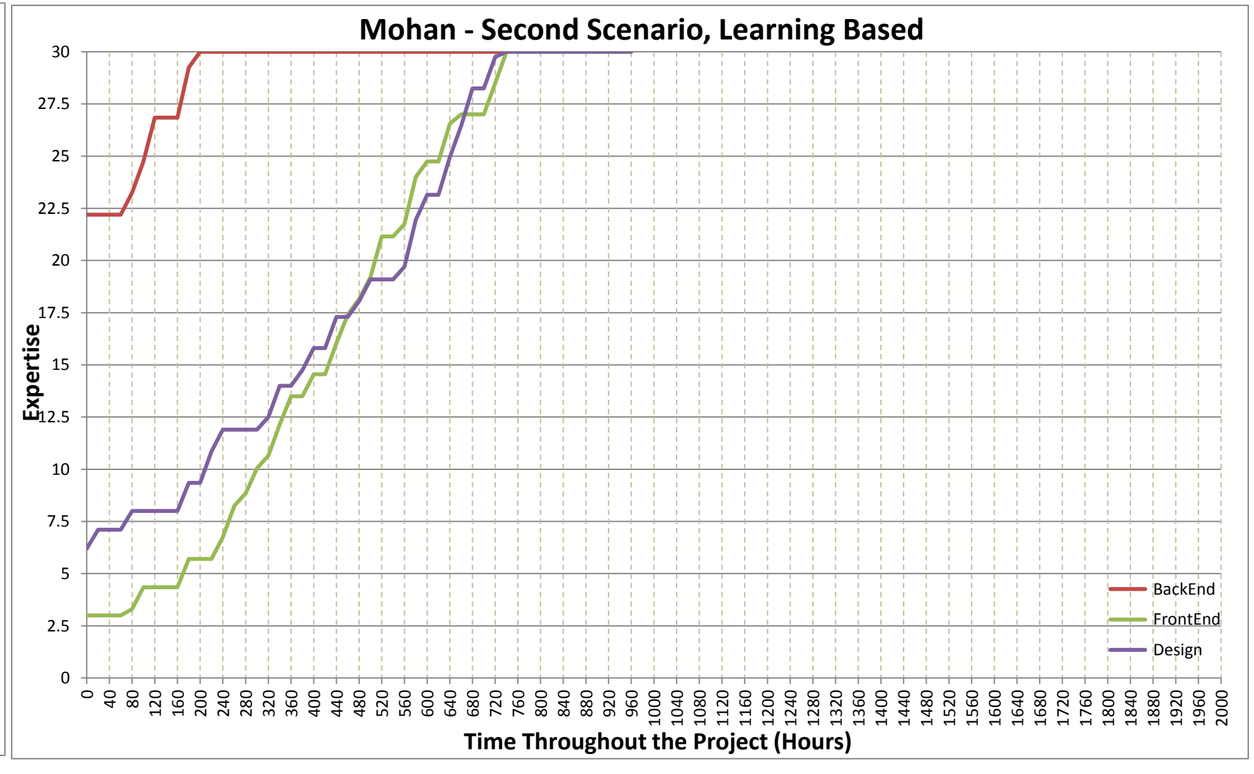
Team Average - Second Scenario, Learning Based

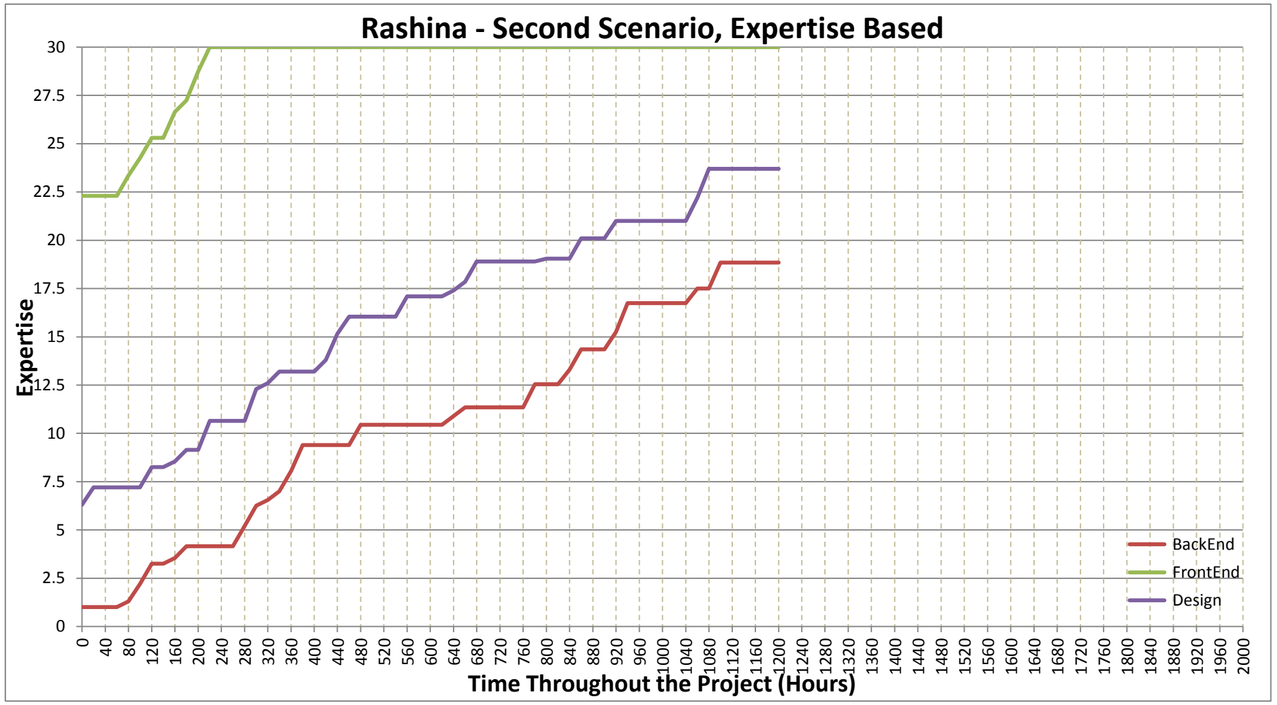


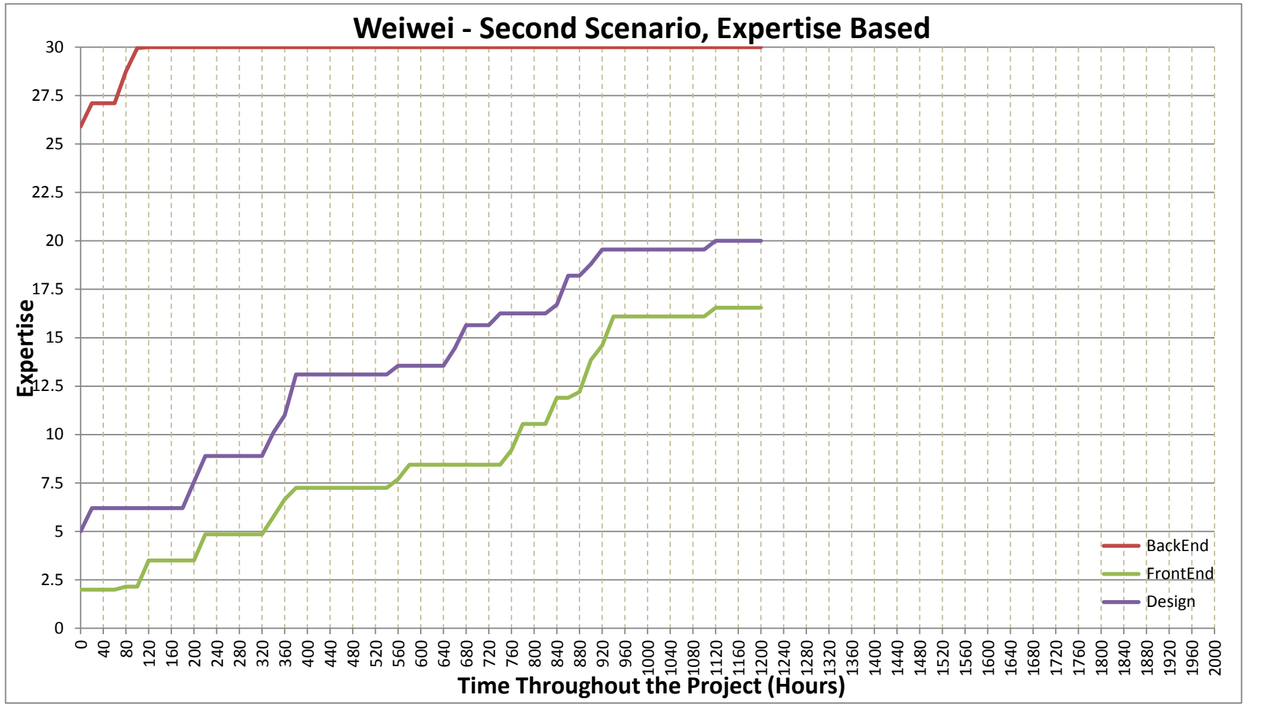

Mostafa - Second Scenario, Expertise Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design

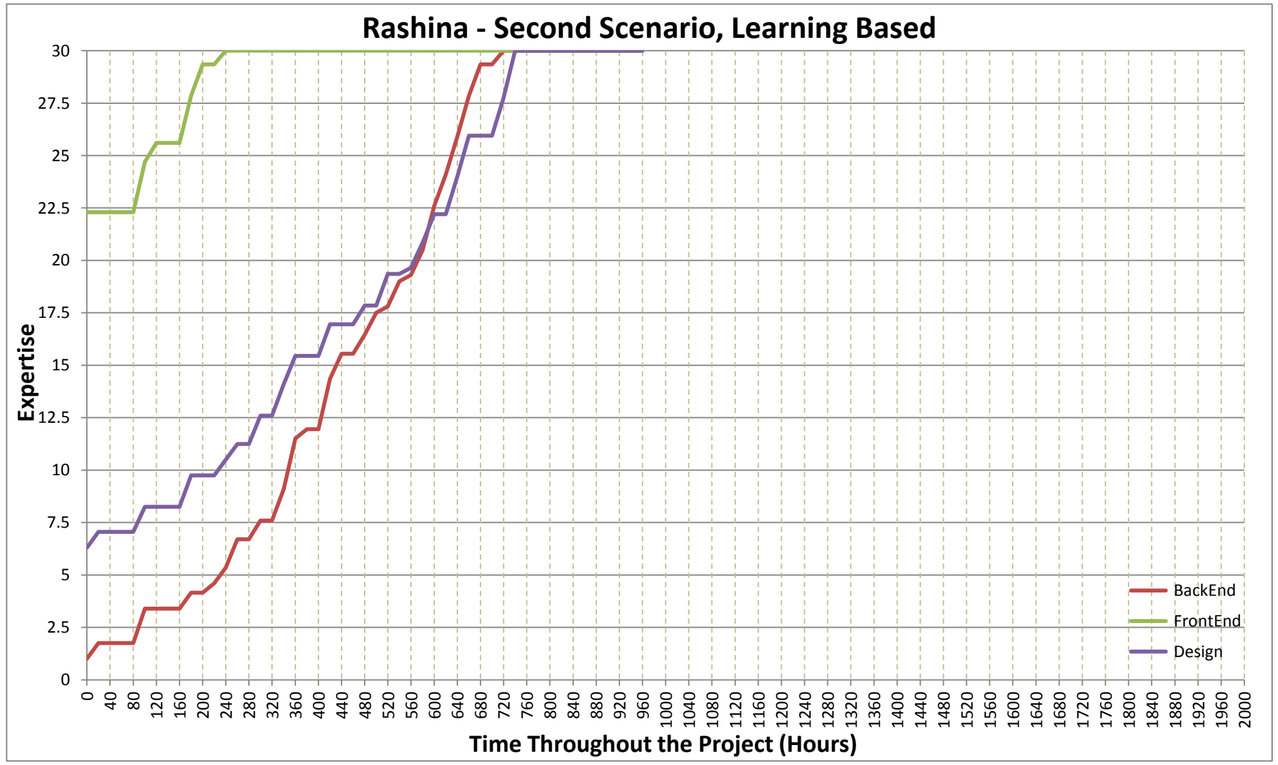

Mohan - Second Scenario, Expertise Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design

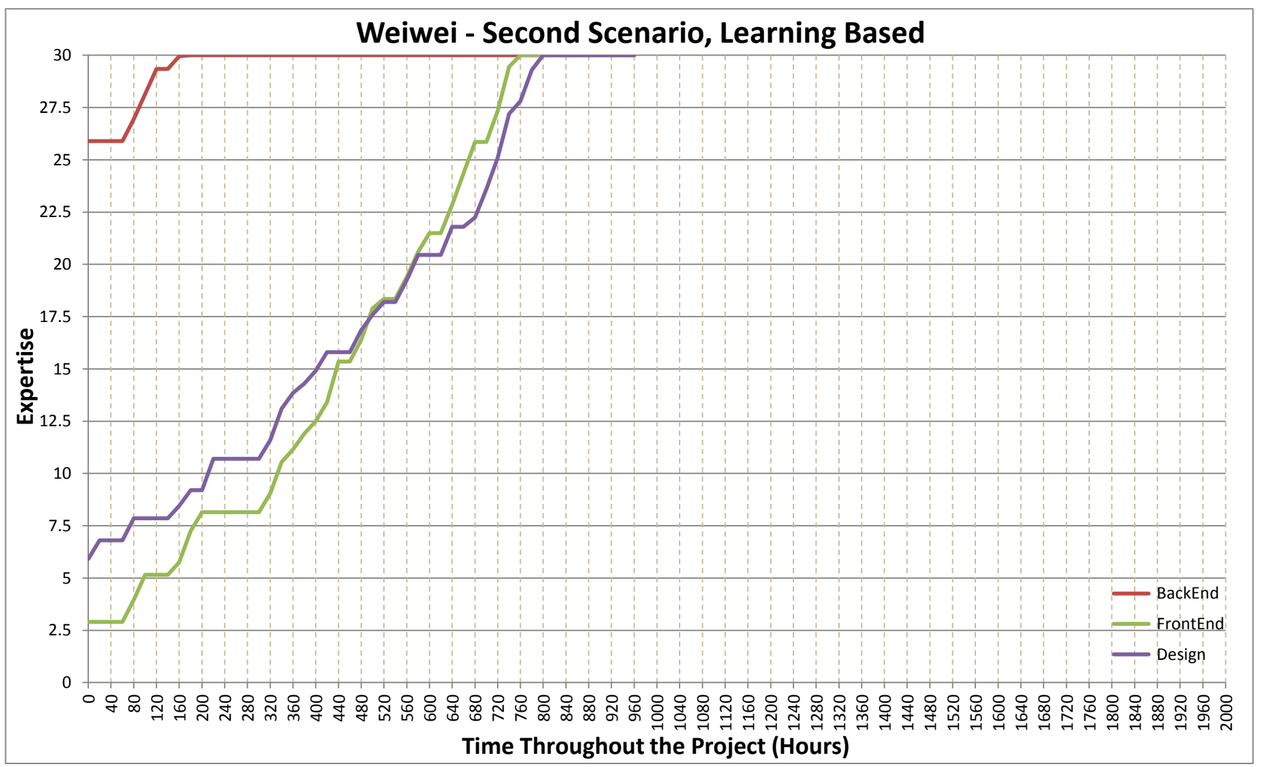

Mostafa - Second Scenario, Learning Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design

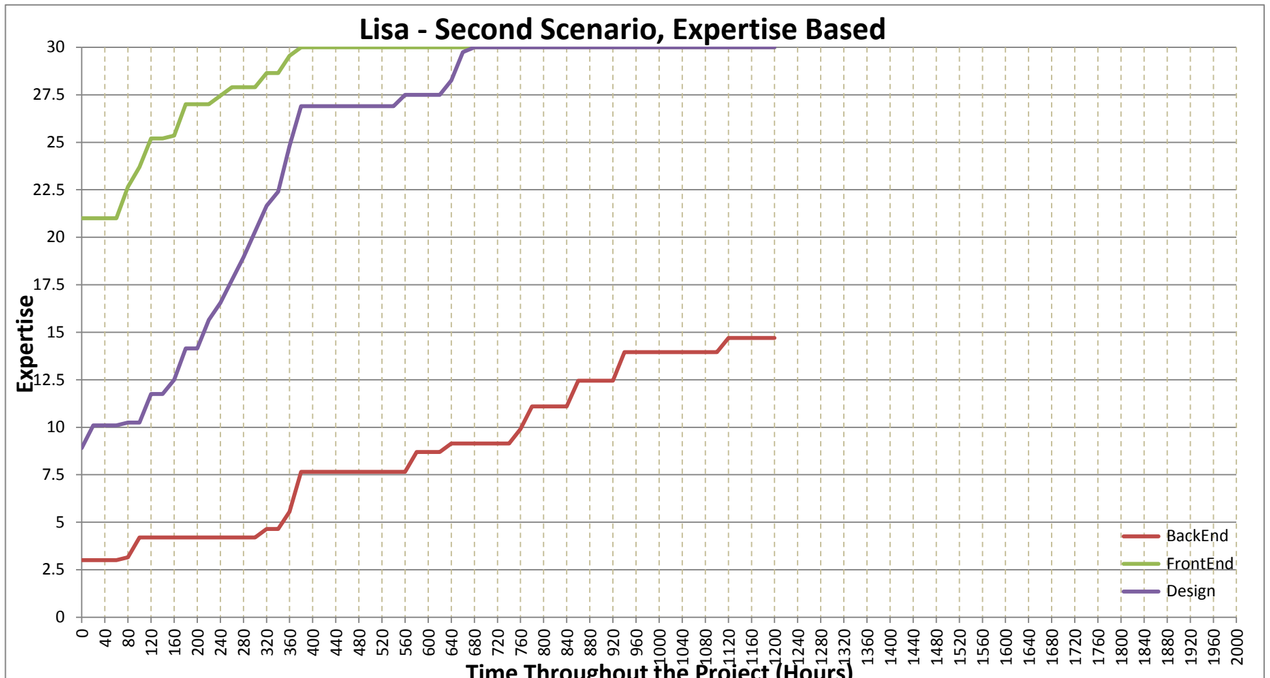

Mohan - Second Scenario, Learning Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design

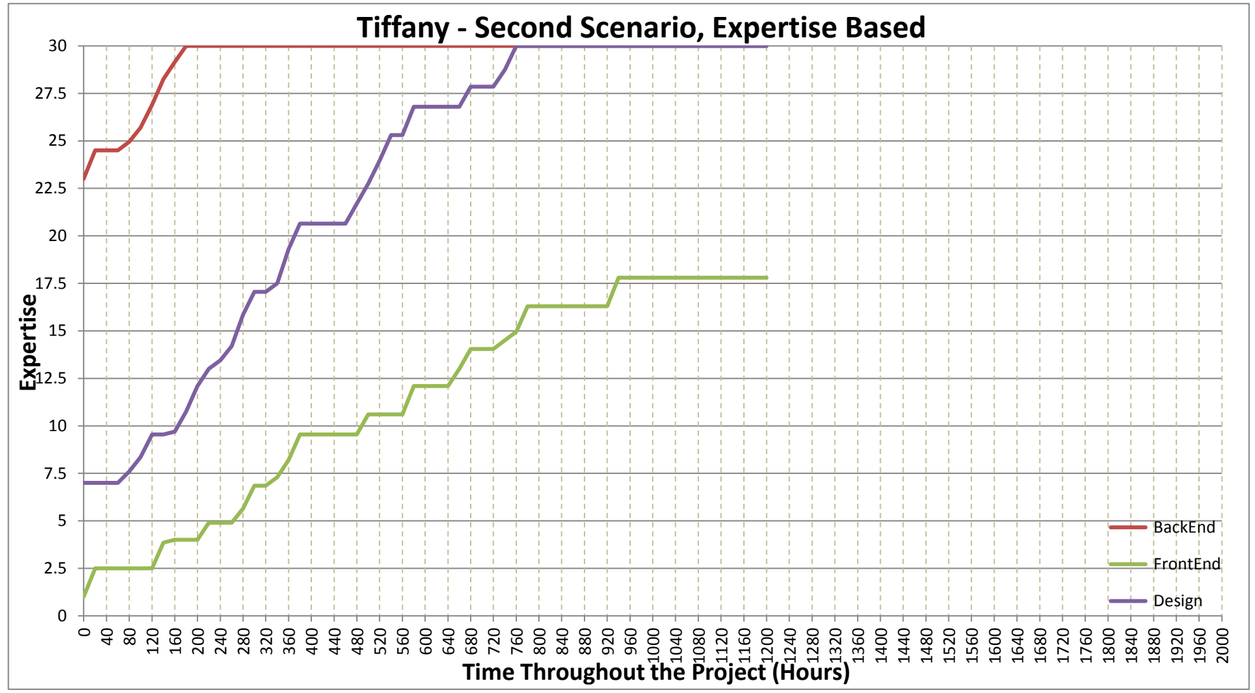

Rashina - Second Scenario, Expertise Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design

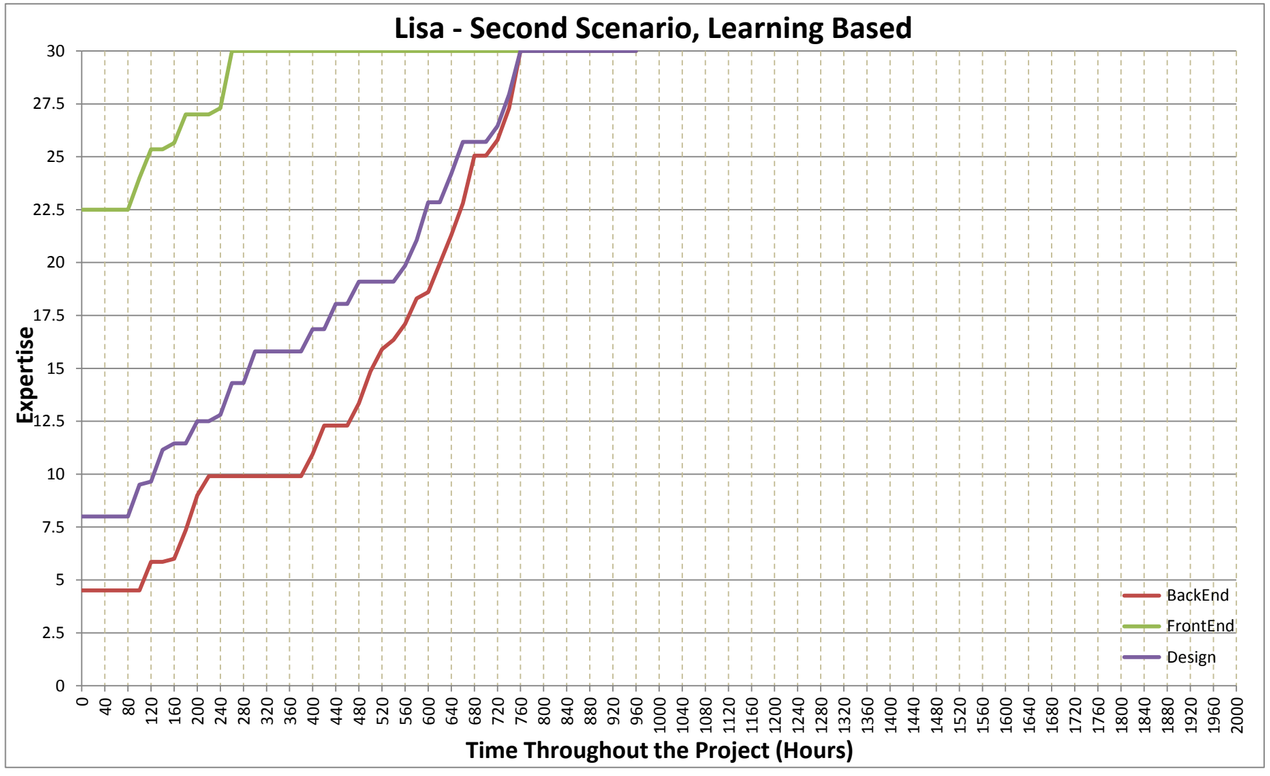

Weiwei - Second Scenario, Expertise Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design

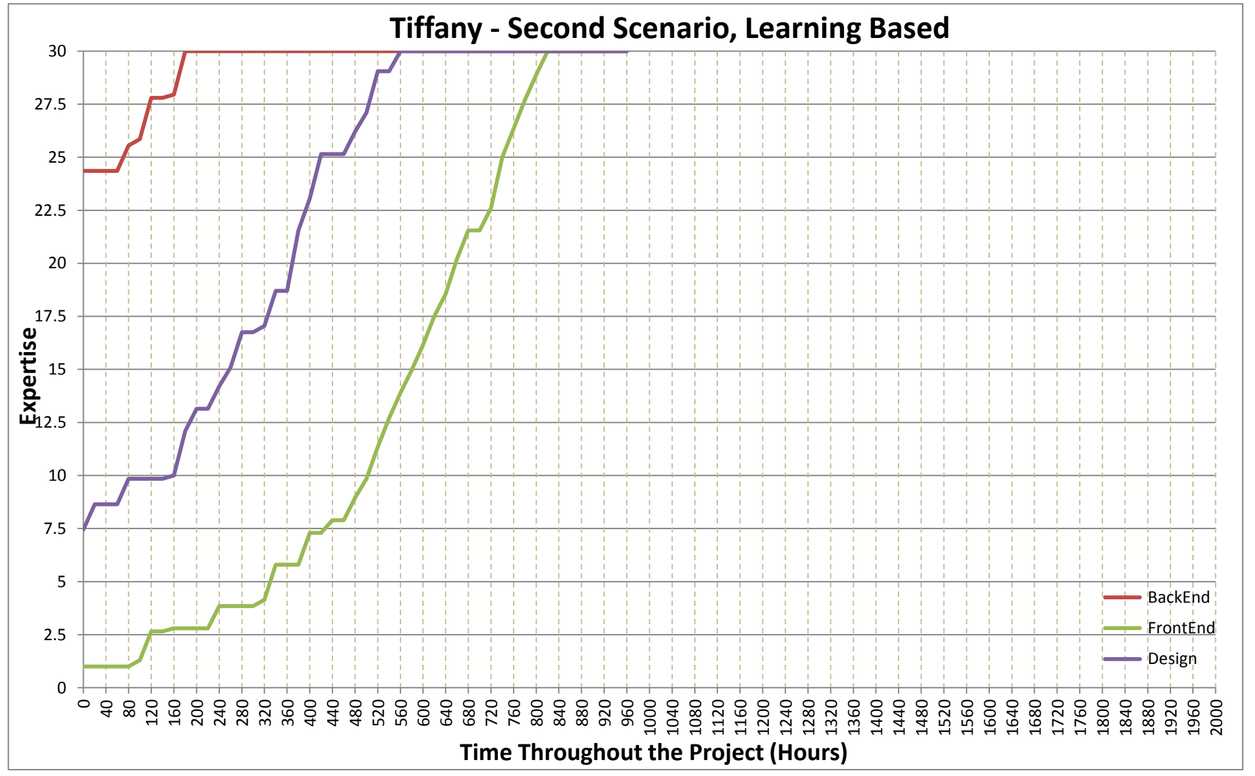

Rashina - Second Scenario, Learning Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design


Weiwei - Second Scenario, Learning Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design

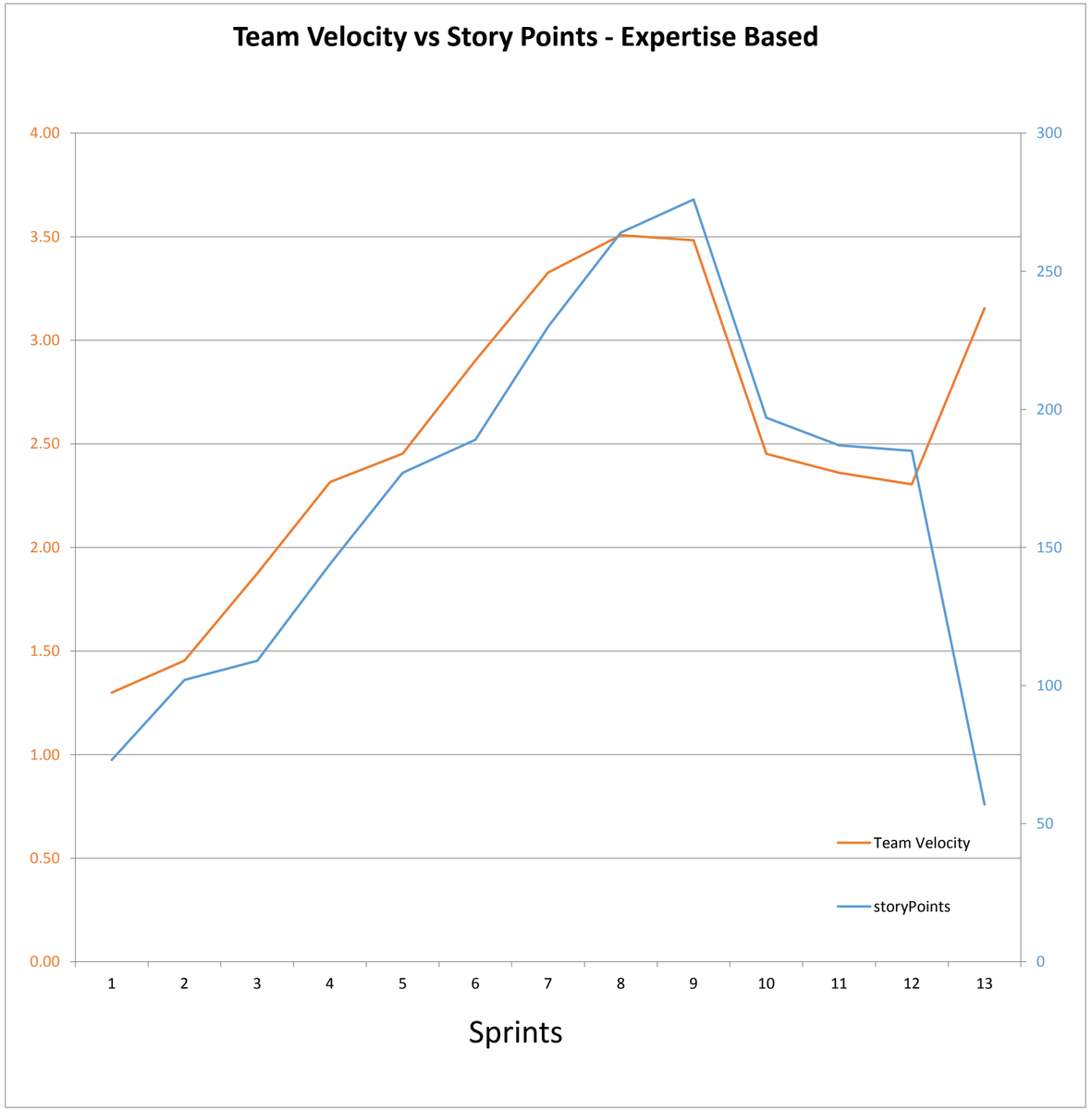

Lisa - Second Scenario, Expertise Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design

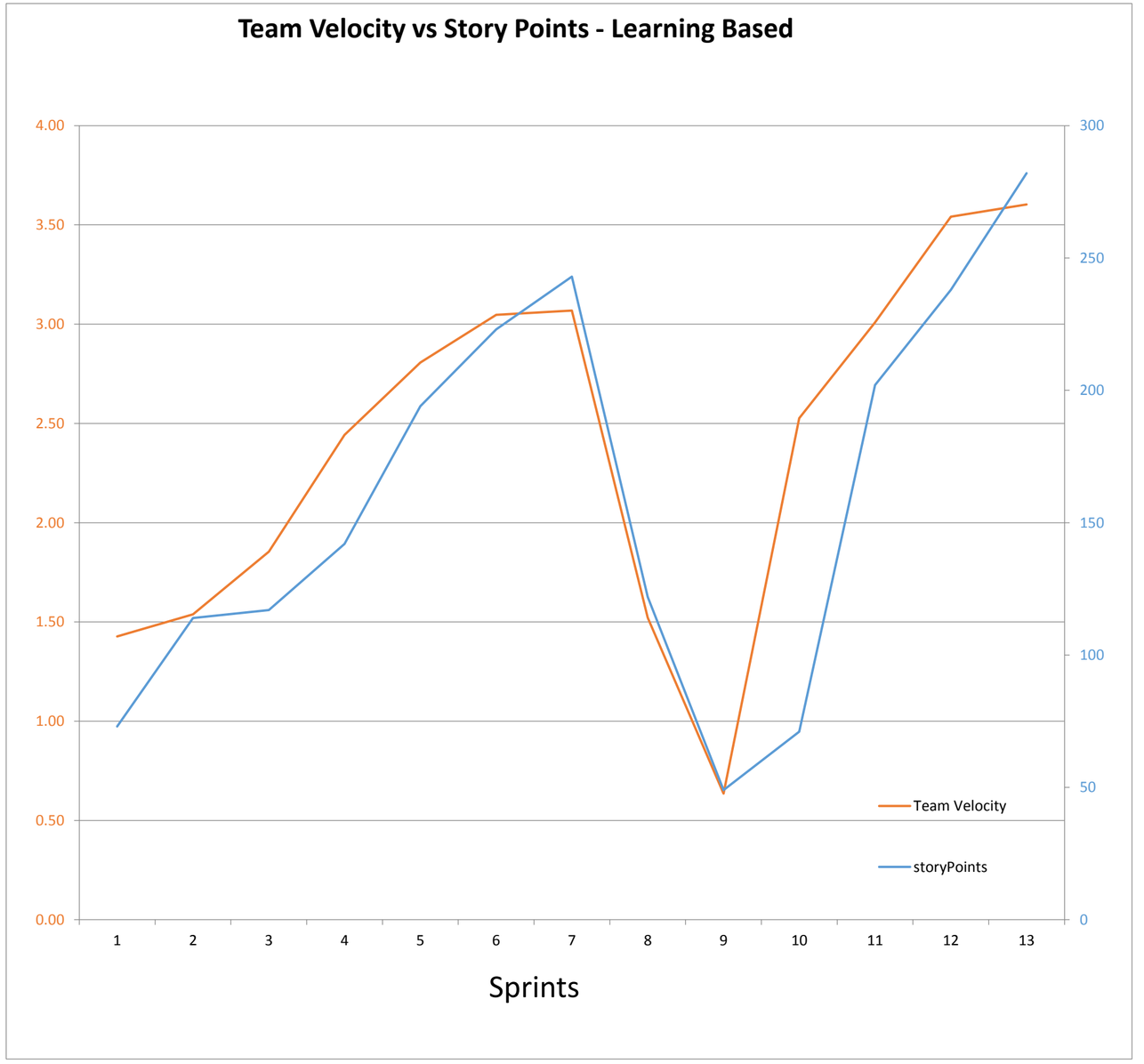

Tiffany - Second Scenario, Expertise Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design

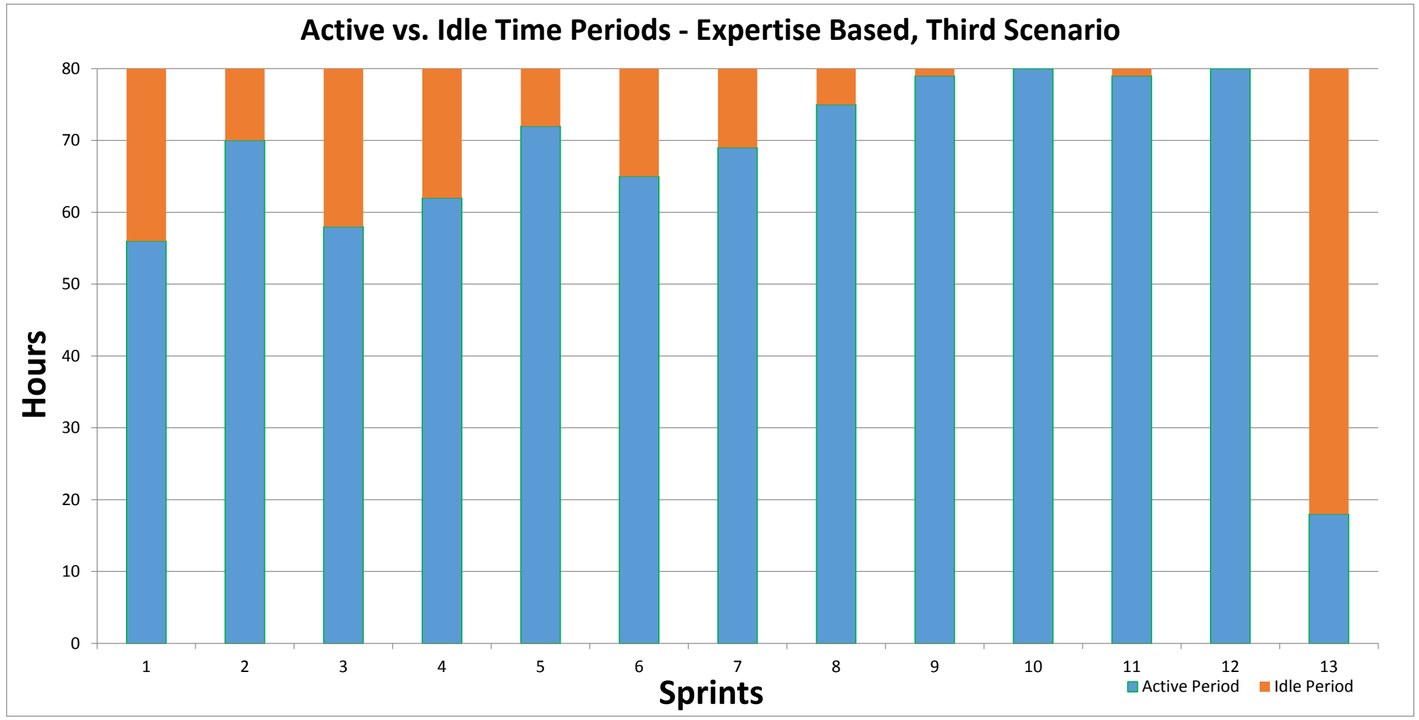

Lisa - Second Scenario, Learning Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design

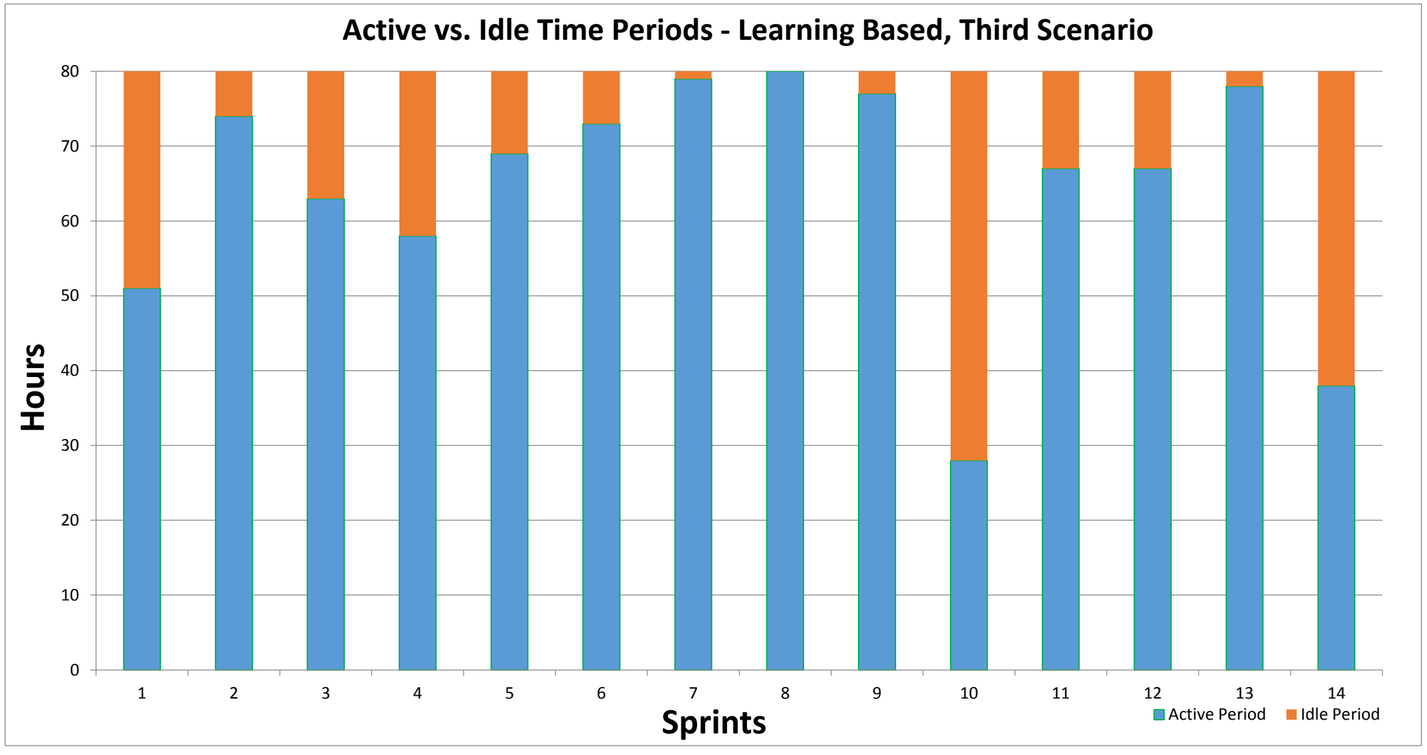

Tiffany - Second Scenario, Learning Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design

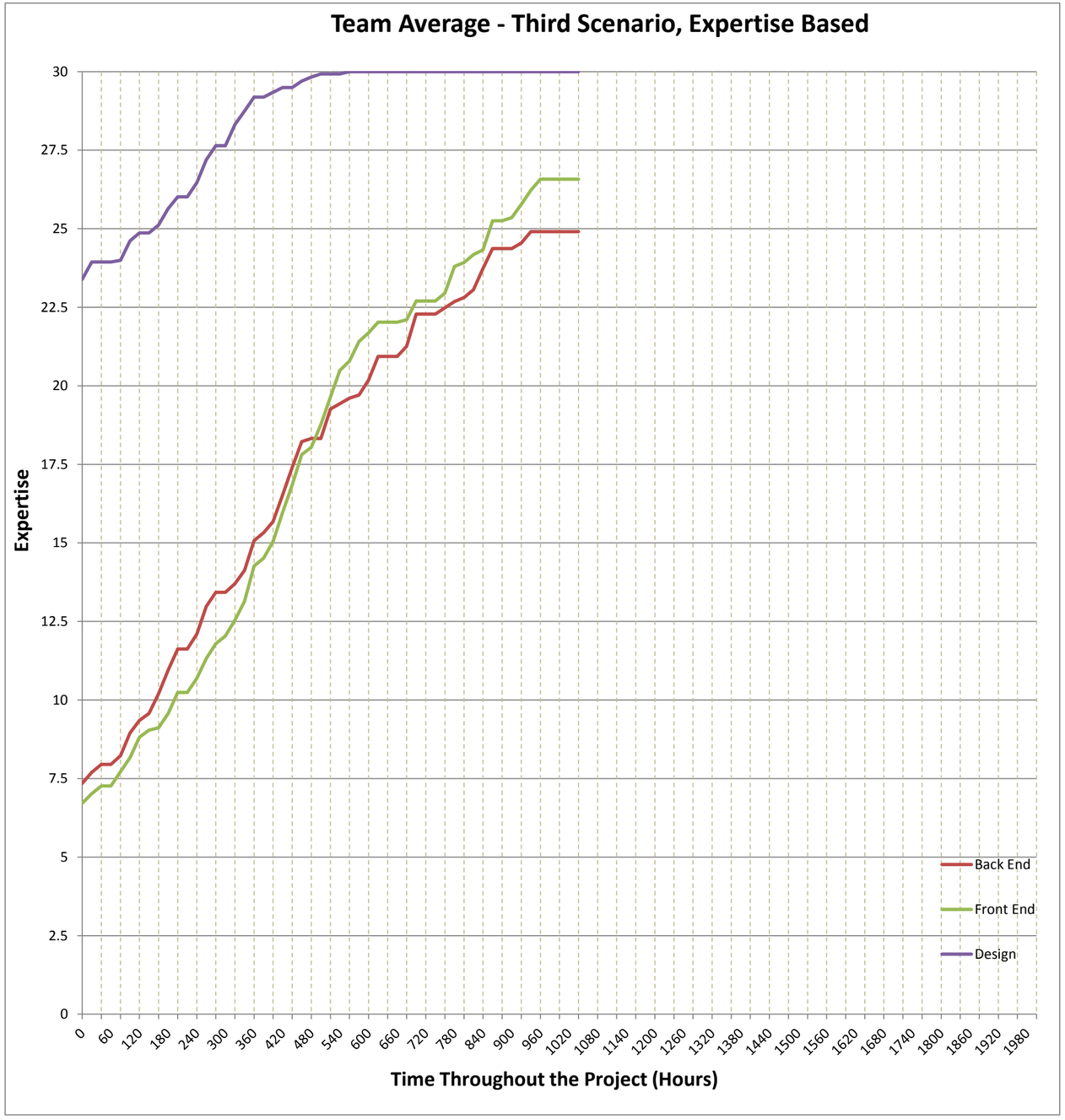
Third Scenario – Two Skills have three employees at medium, and three employees at low expertise, and one skill has all employees with high expertise

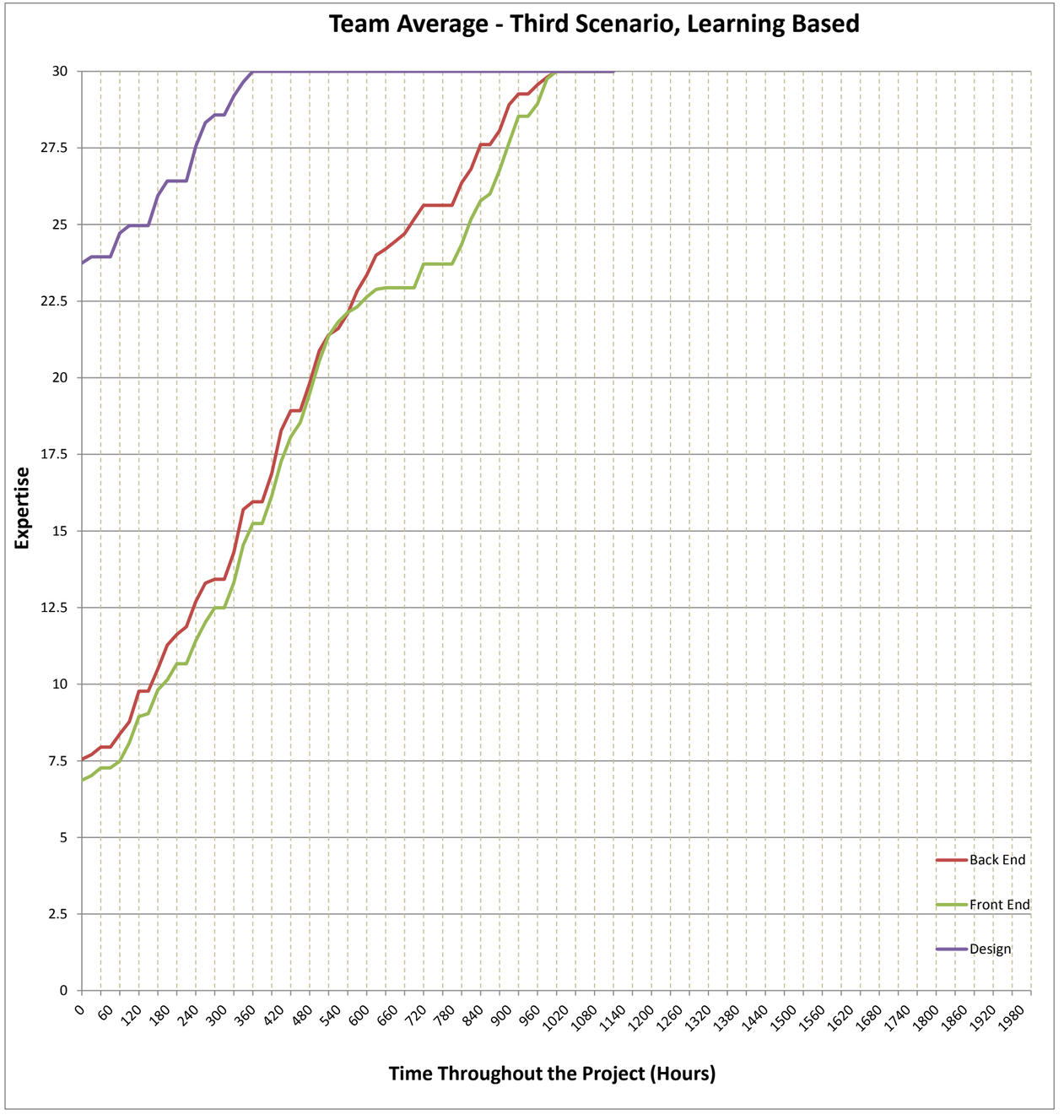


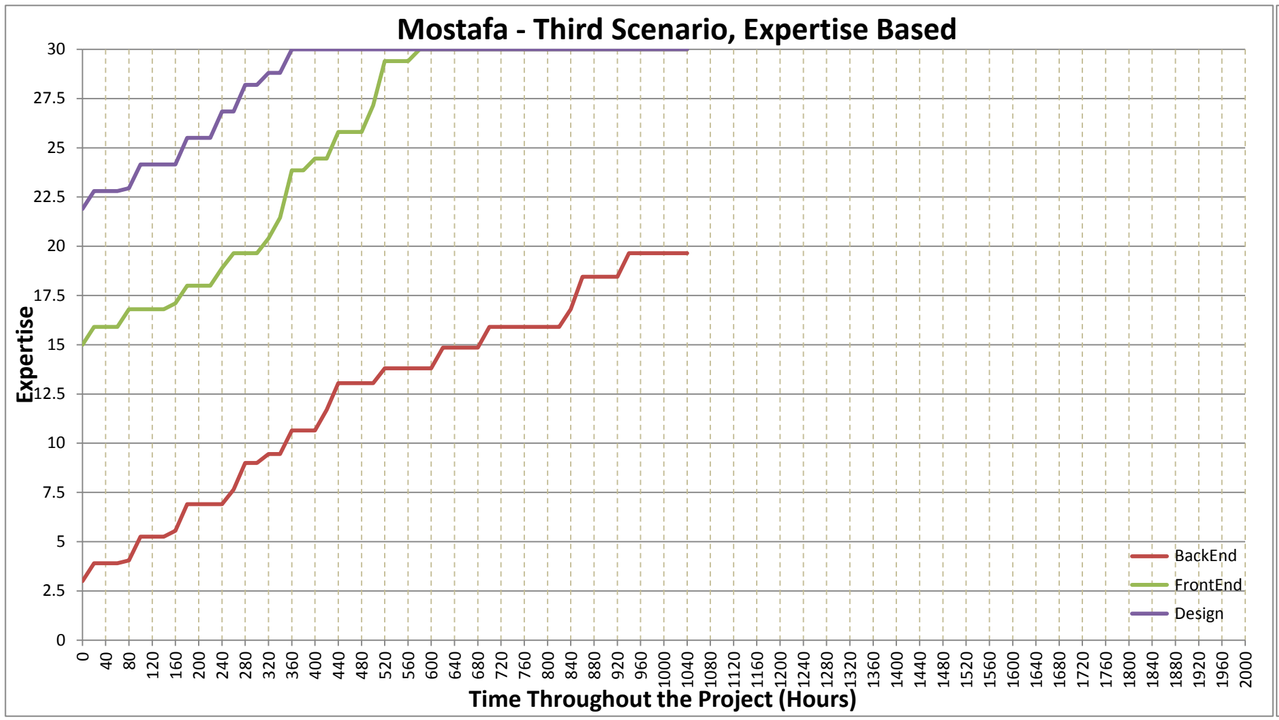


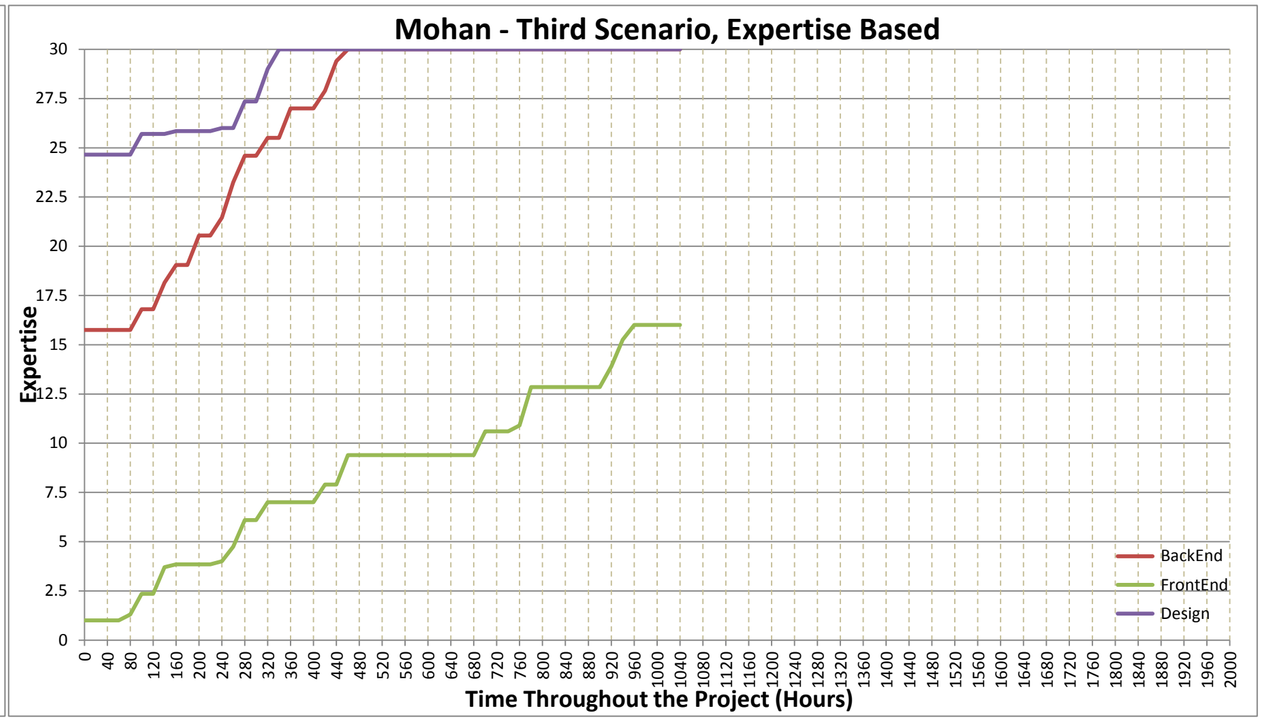

Active vs. Idle Time Periods - Expertise Based, Third Scenario
Hours
0
10
20
30
40
50
60
70
80
1
2
3
4
5
6
7
8
9
10
11
12
13
Sprints
Active Period
Idle Period

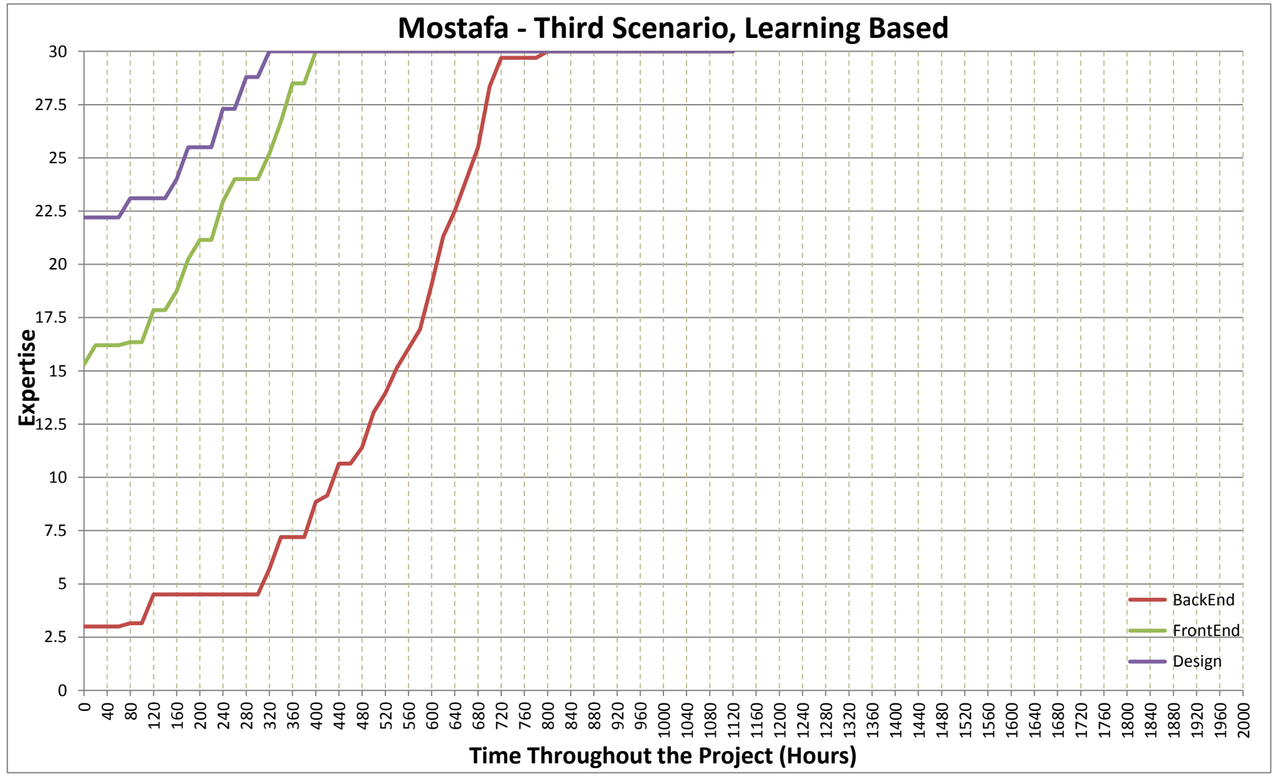

Active vs. Idle Time Periods - Learning Based, Third Scenario
Hours
0
10
20
30
40
50
60
70
80
1
2
3
4
5
6
7
8
9
10
11
12
13
14
Sprints
Active Period
Idle Period

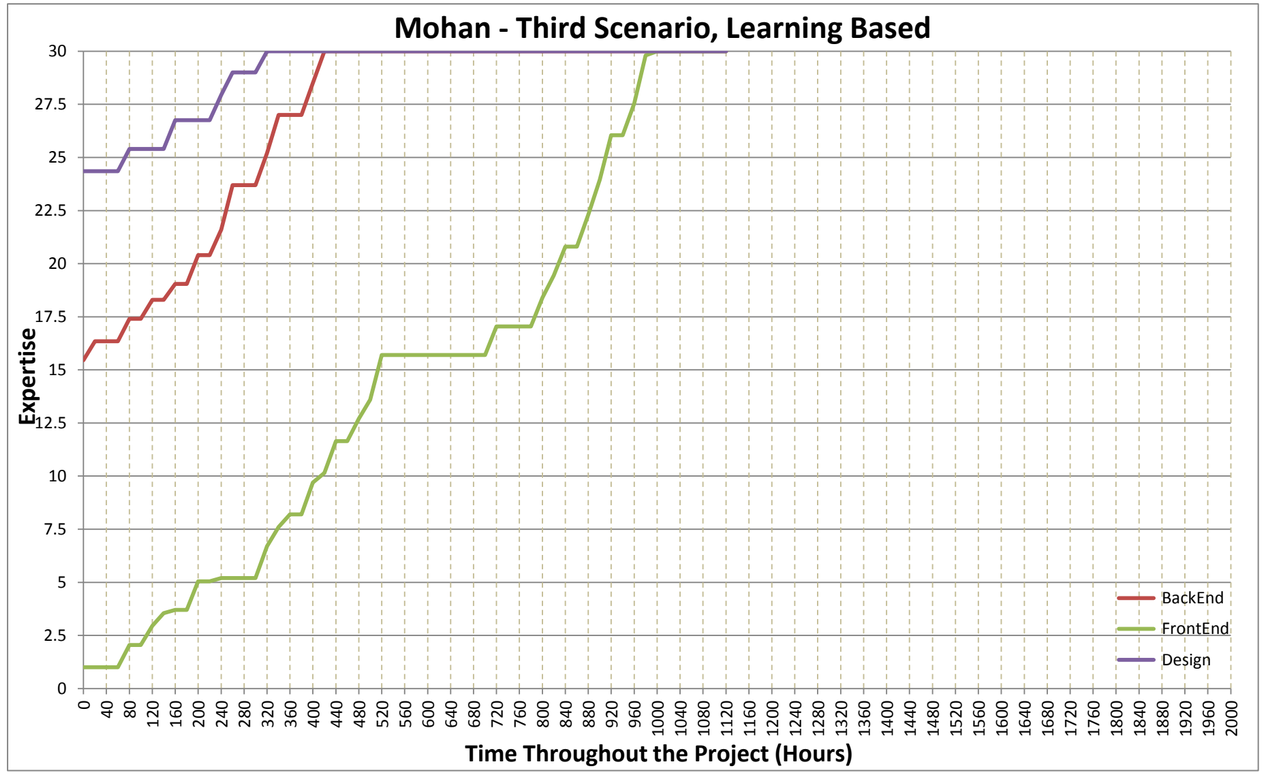

Team Average - Third Scenario, Expertise Based
Expertise
30
27.5
25
22.5
20
17.5
15
12.5
10
7.5
5
2.5
0
0 60 120 180 240 300 360 420 480 540 600 660 720 780 840 900 960 1020 1080 1140 1200 1260 1320 1380 1440 1500 1560 1620 1680 1740 1800 1860 1920 1980
Time Throughout the Project (Hours)
Back End
Front End
Design

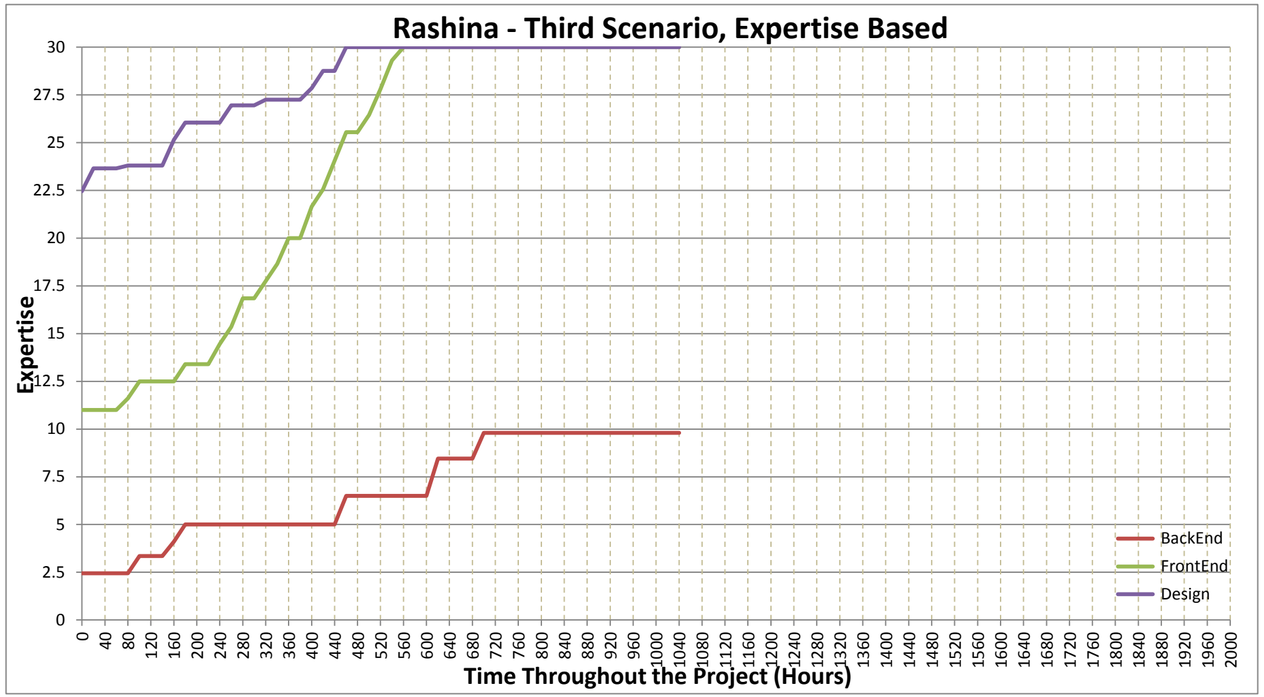

Team Average - Third Scenario, Learning Based
Expertise
30
27.5
25
22.5
20
17.5
15
12.5
10
7.5
5
2.5
0
0 60 120 180 240 300 360 420 480 540 600 660 720 780 840 900 960 1020 1080 1140 1200 1260 1320 1380 1440 1500 1560 1620 1680 1740 1800 1860 1920 1980
Time Throughout the Project (Hours)
Back End
Front End
Design

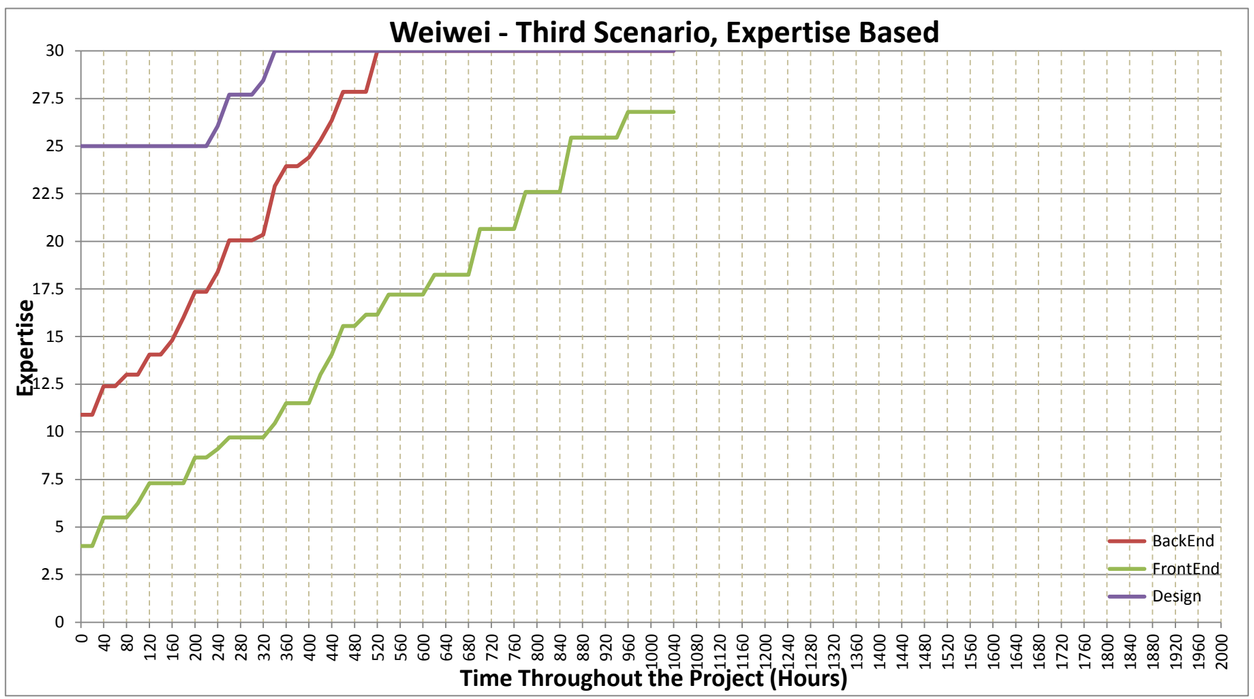

Mostafa - Third Scenario, Expertise Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design

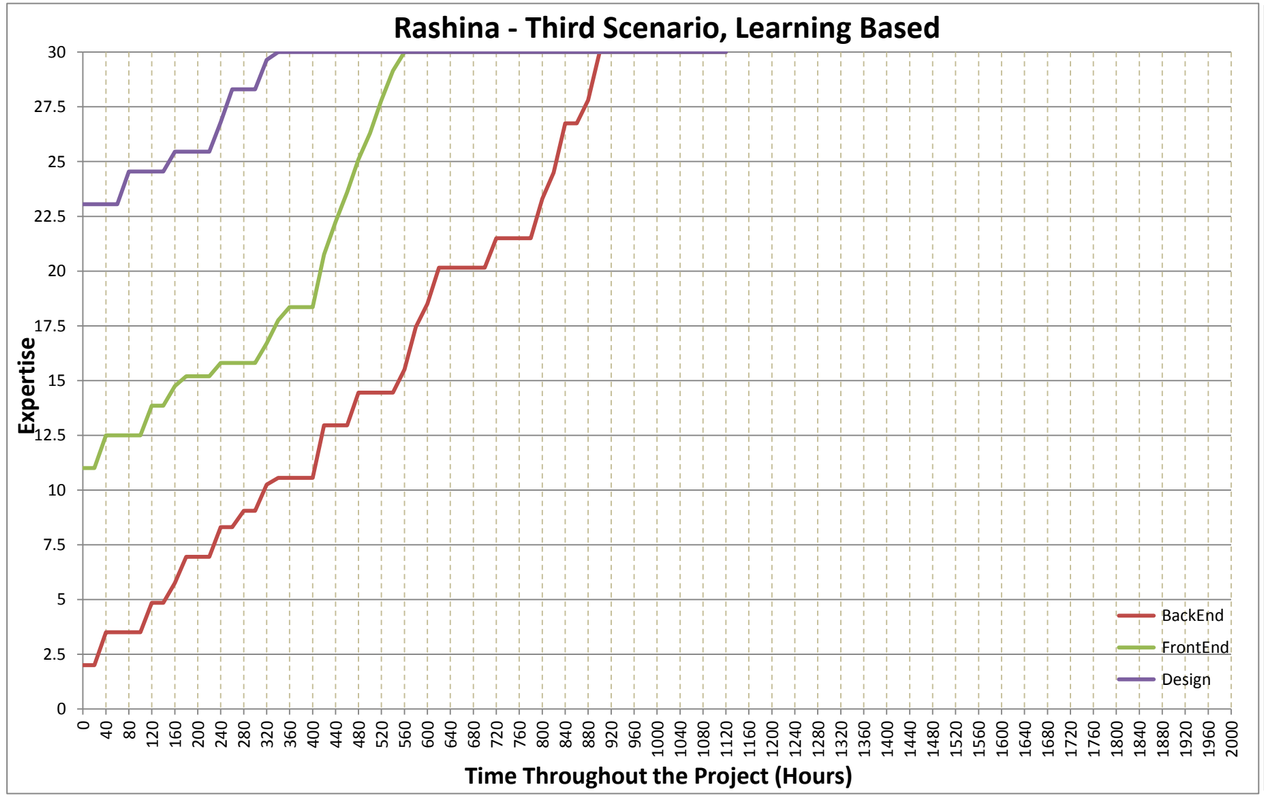

Mohan - Third Scenario, Expertise Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design

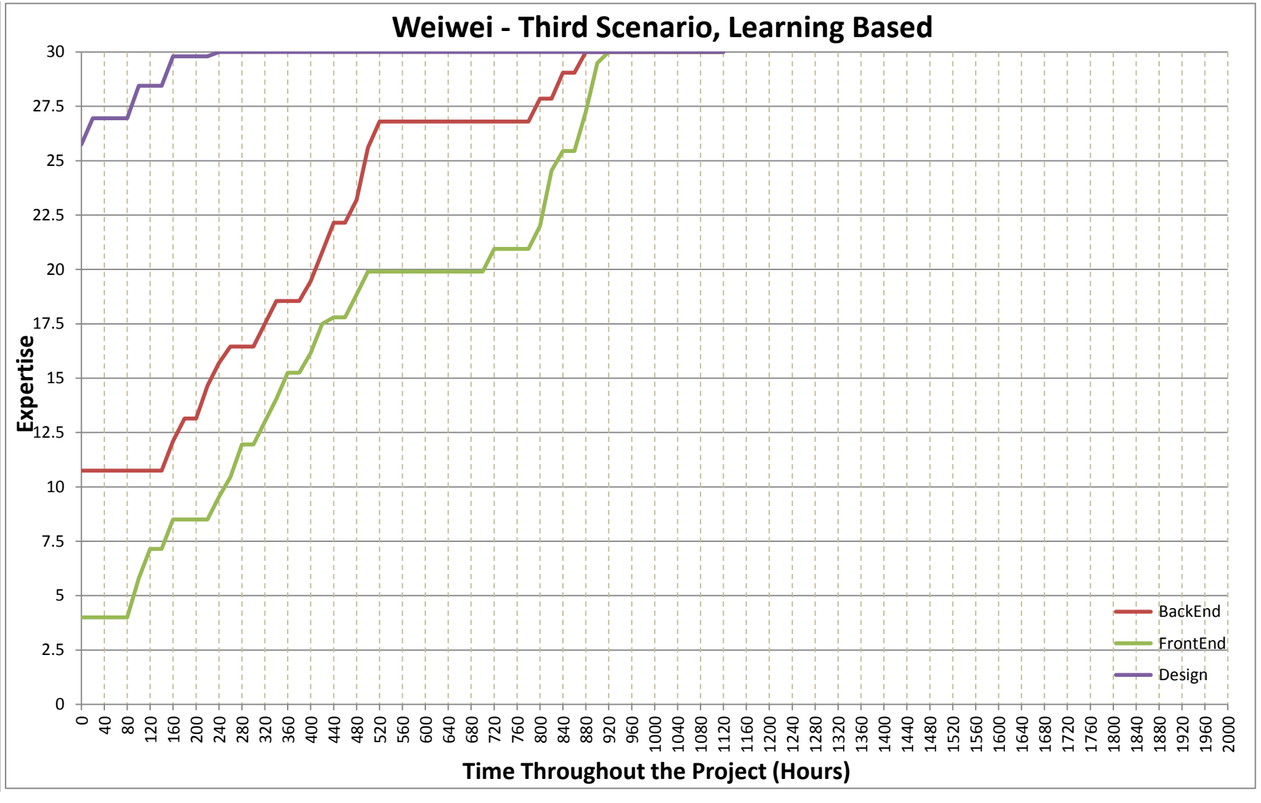

Mostafa - Third Scenario, Learning Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design

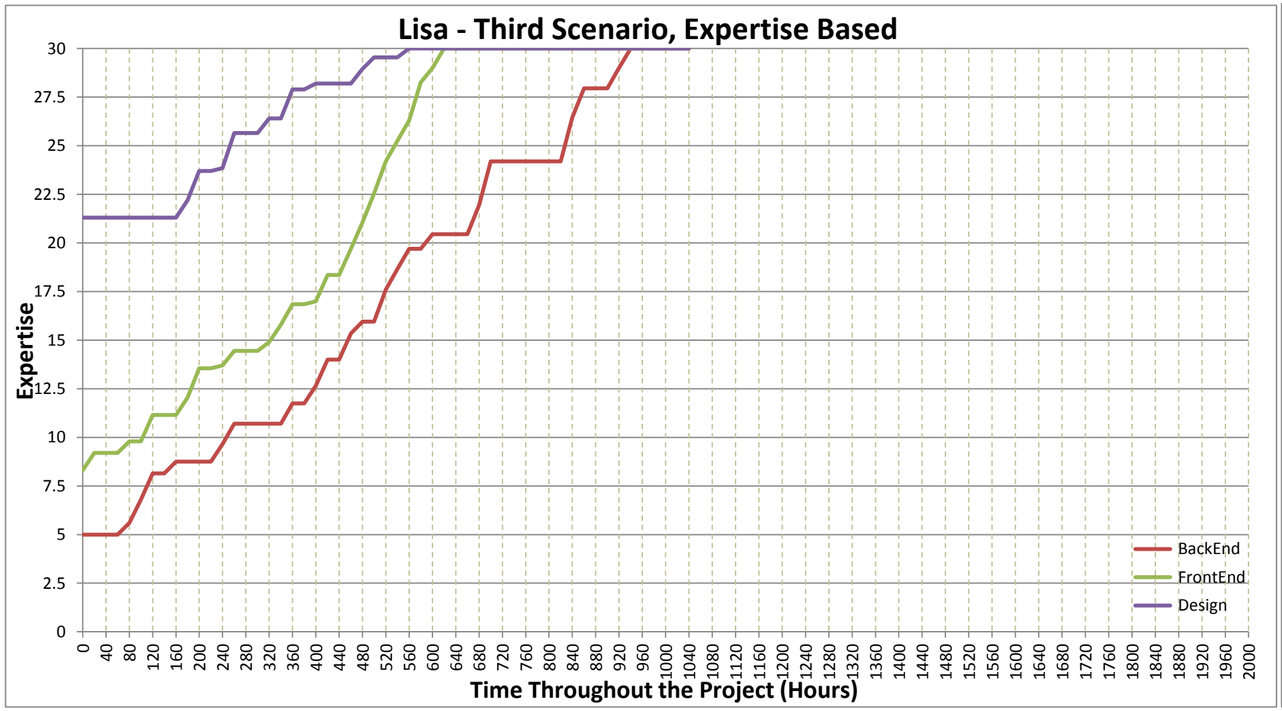

Mohan - Third Scenario, Learning Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design

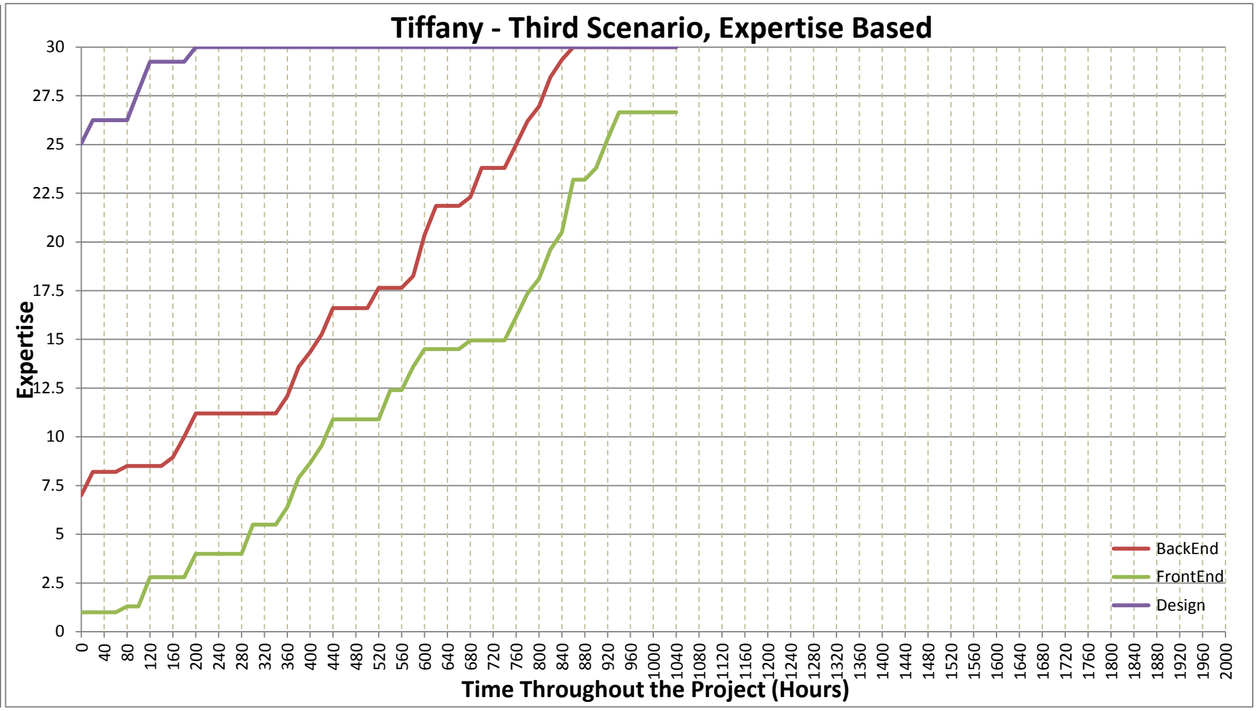

Rashina - Third Scenario, Expertise Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design

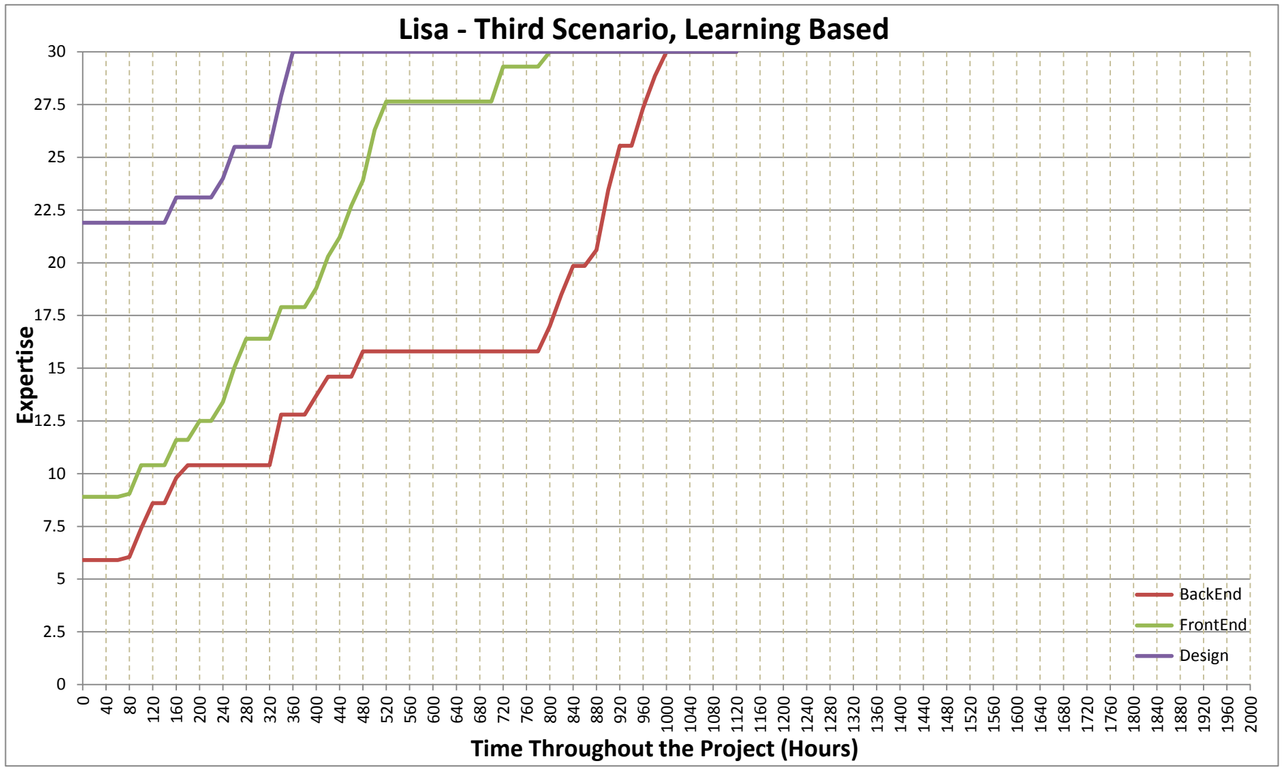

Weiwei - Third Scenario, Expertise Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design

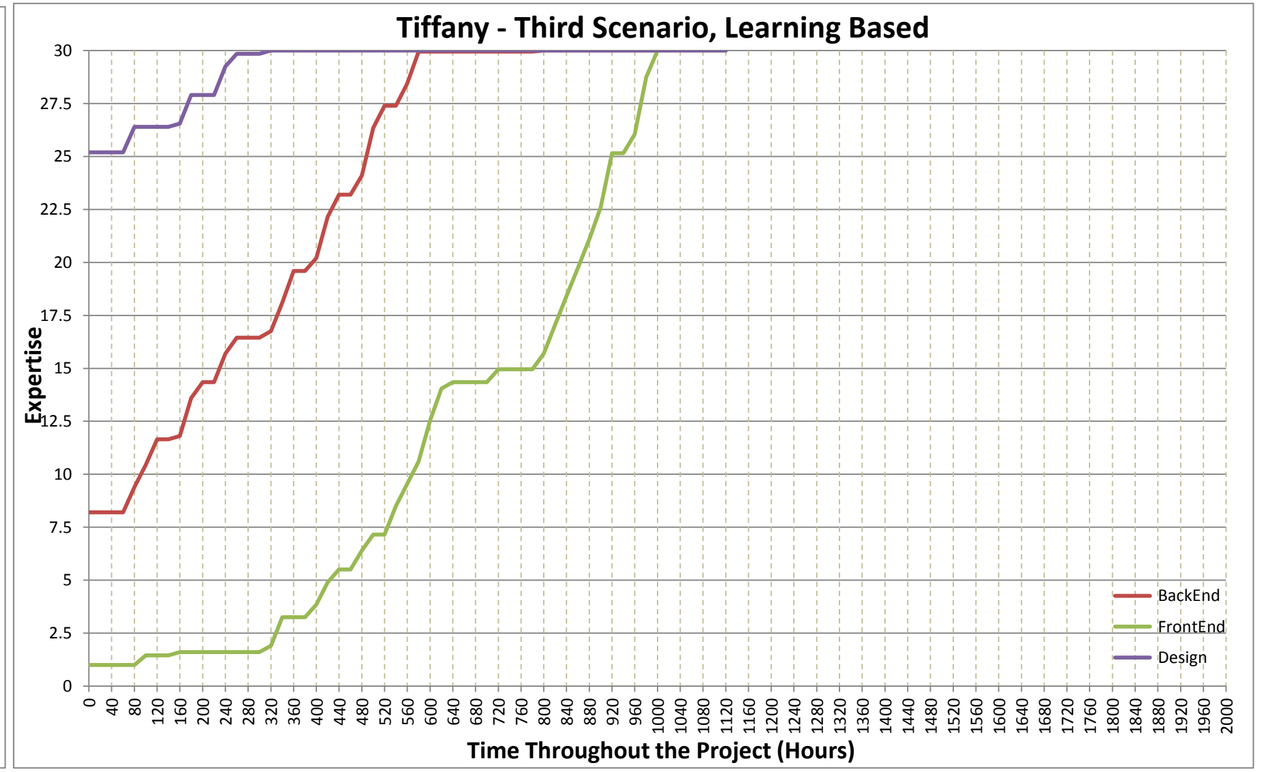

Rashina - Third Scenario, Learning Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design


Weiwei - Third Scenario, Learning Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design

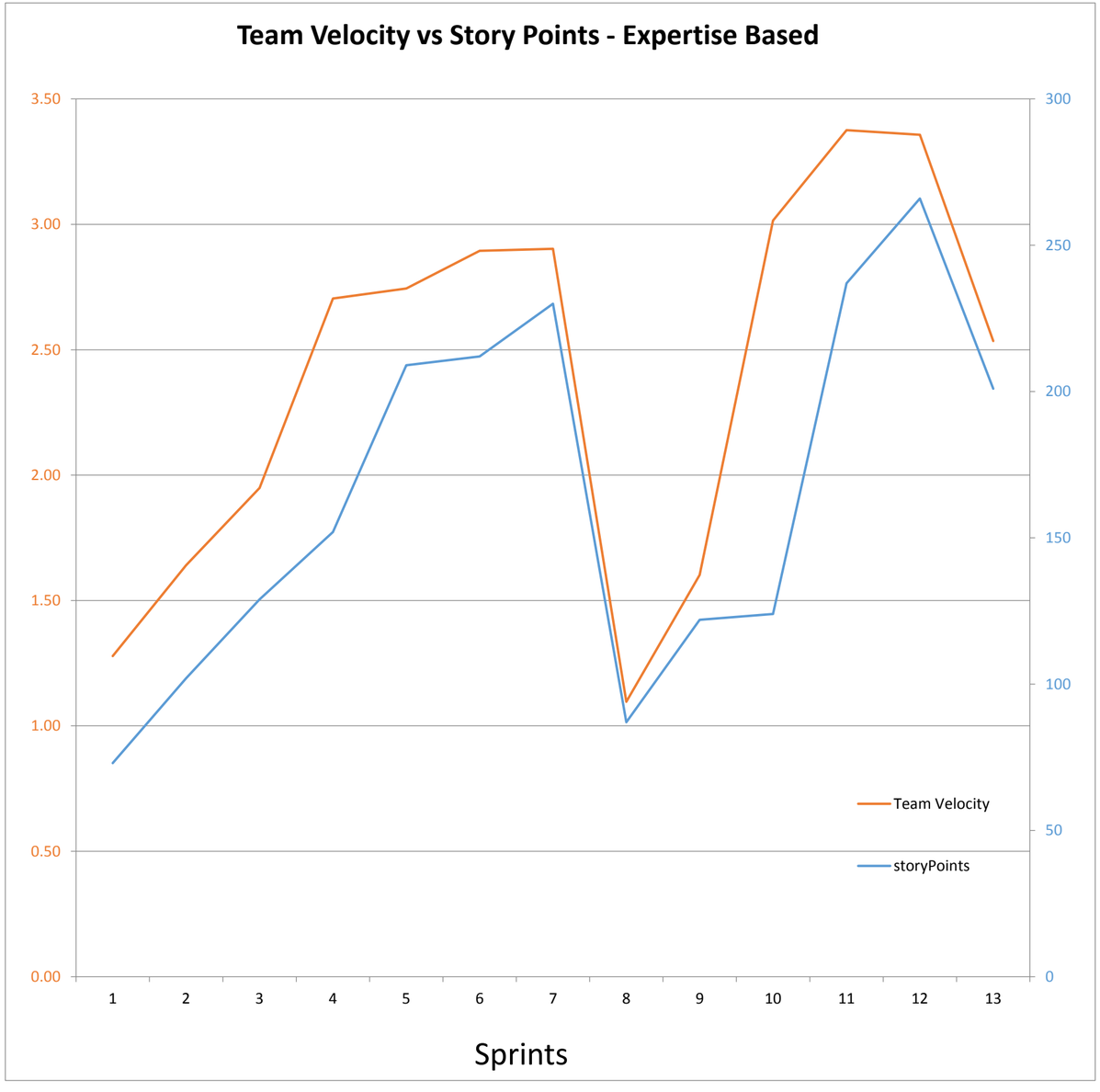

Lisa - Third Scenario, Expertise Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design

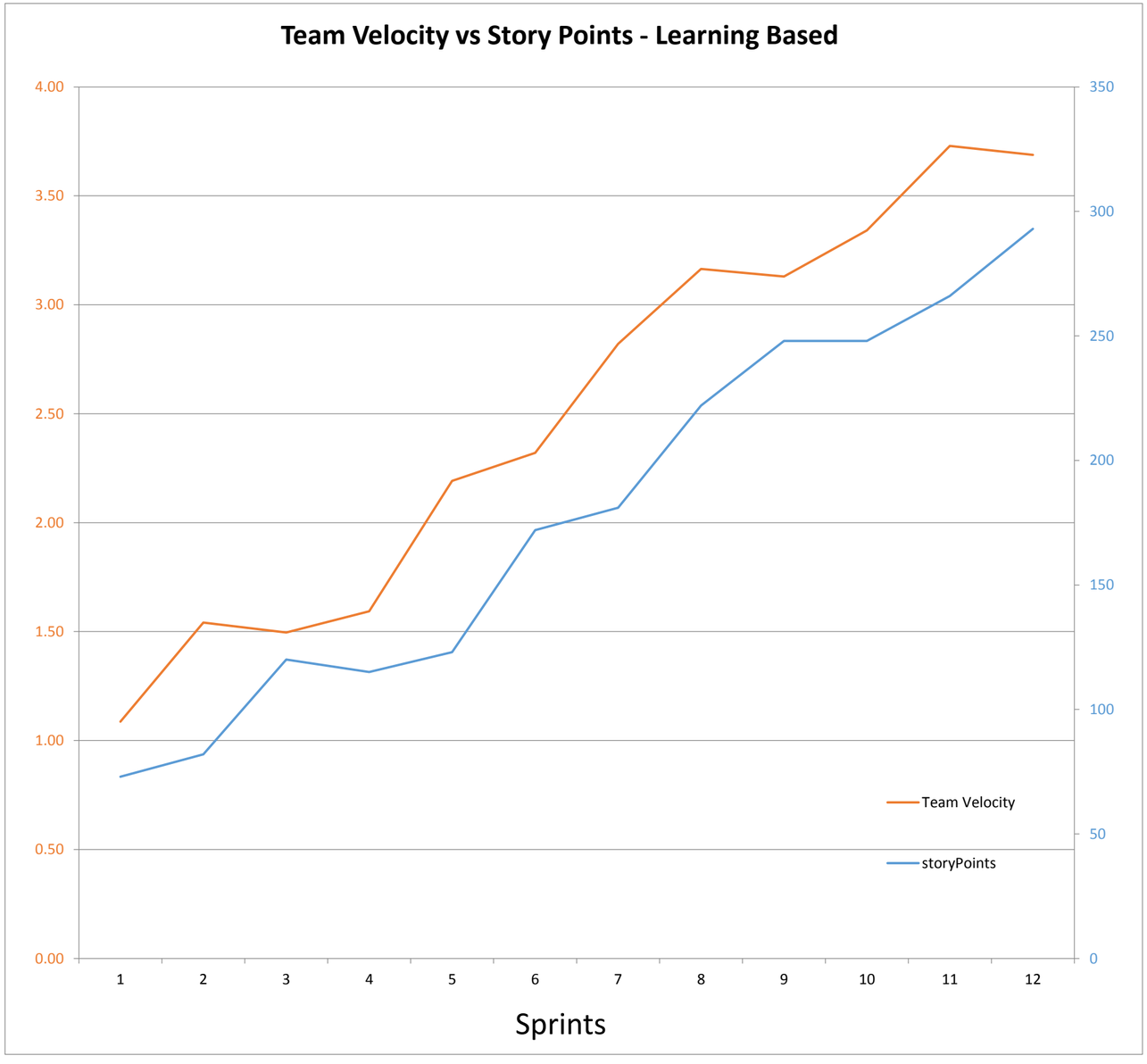

Tiffany - Third Scenario, Expertise Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design

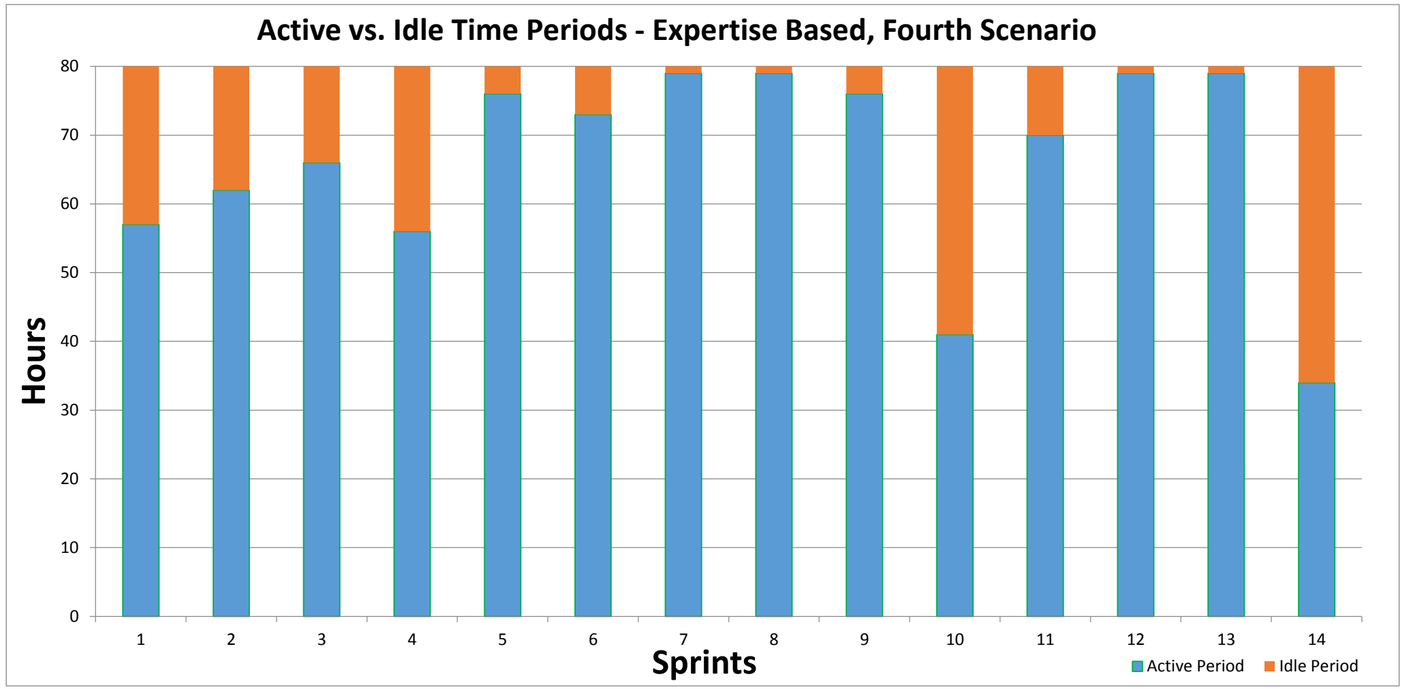

Lisa - Third Scenario, Learning Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design

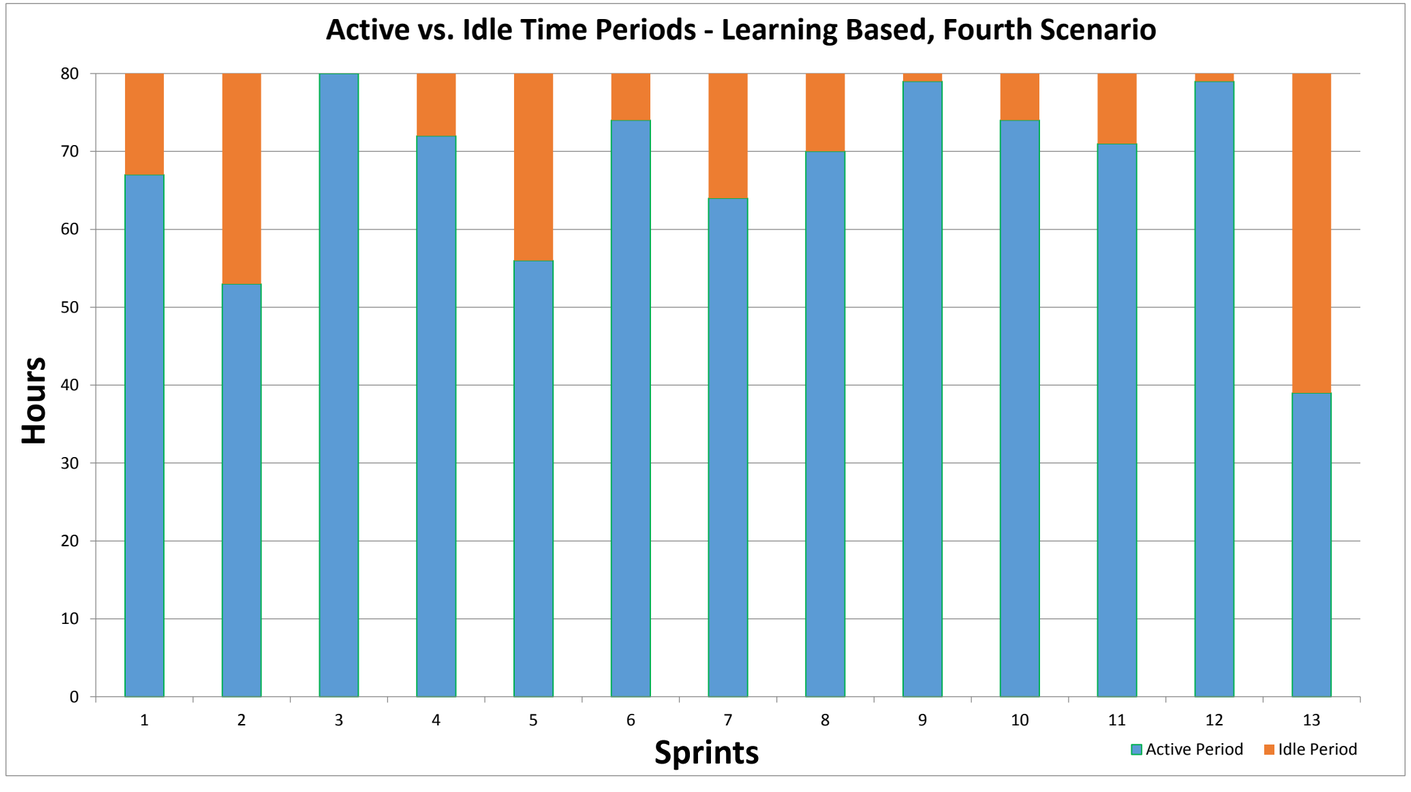

Tiffany - Third Scenario, Learning Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design

Fourth Scenario – Two skill areas have two employees at high expertise and two employees at medium expertise, the other skill area all employees are low expertise

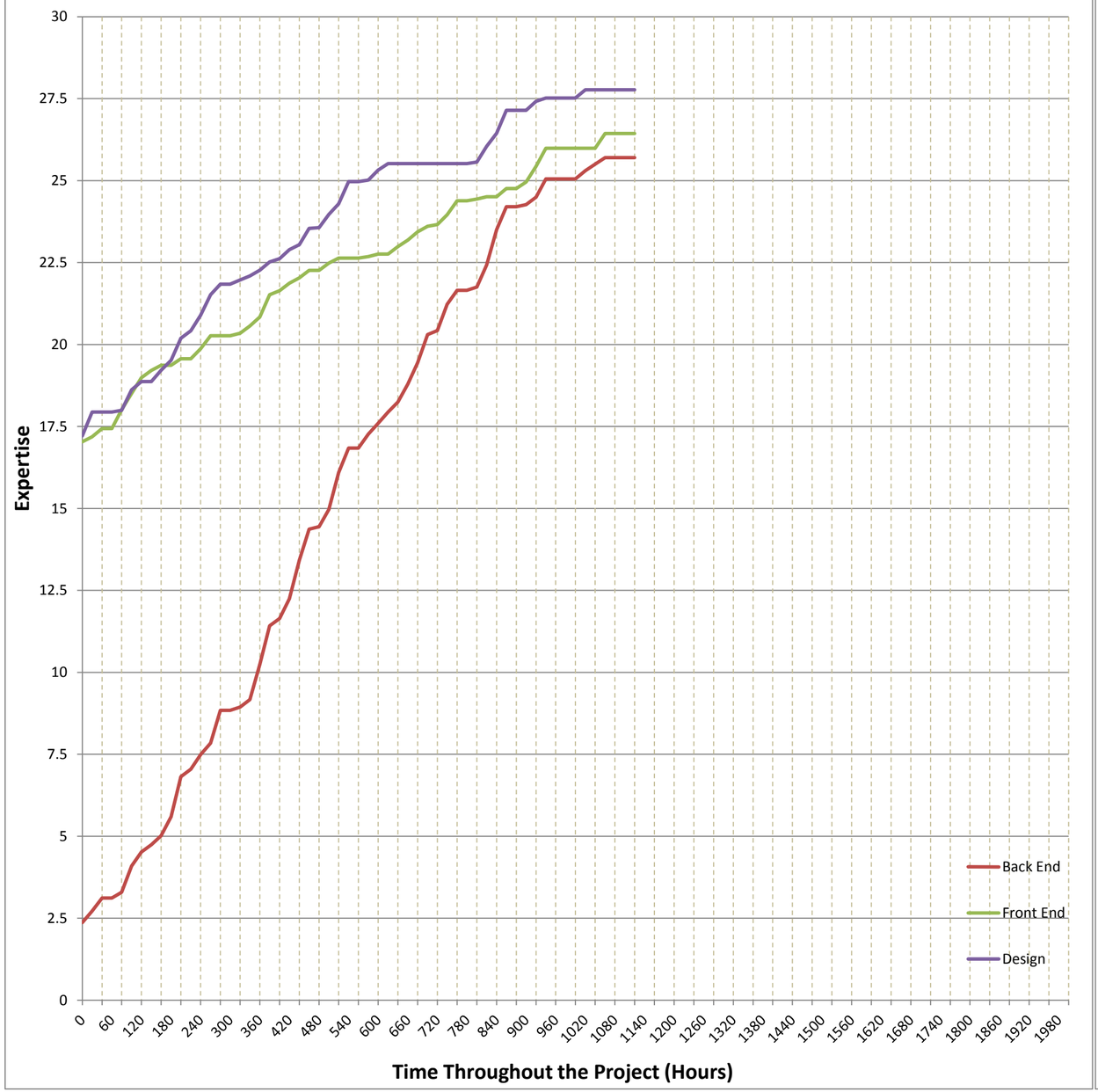




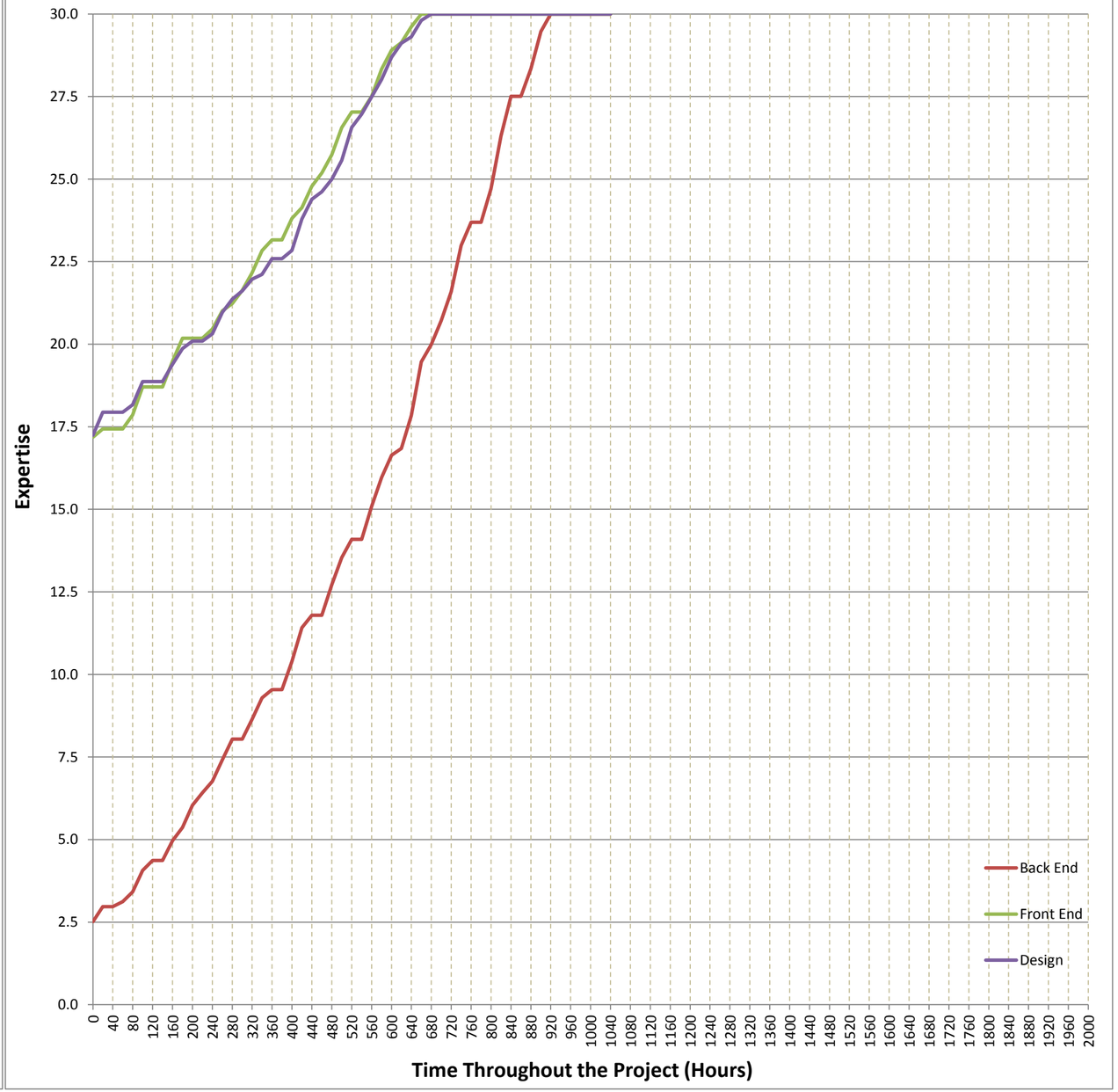

Active vs. Idle Time Periods - Expertise Based, Fourth Scenario
Hours
80
70
60
50
40
30
20
10
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
Sprints
Active Period
Idle Period


Active vs. Idle Time Periods - Learning Based, Fourth Scenario
Hours
80
70
60
50
40
30
20
10
0
1
2
3
4
5
6
7
8
9
10
11
12
13
Sprints
Active Period
Idle Period

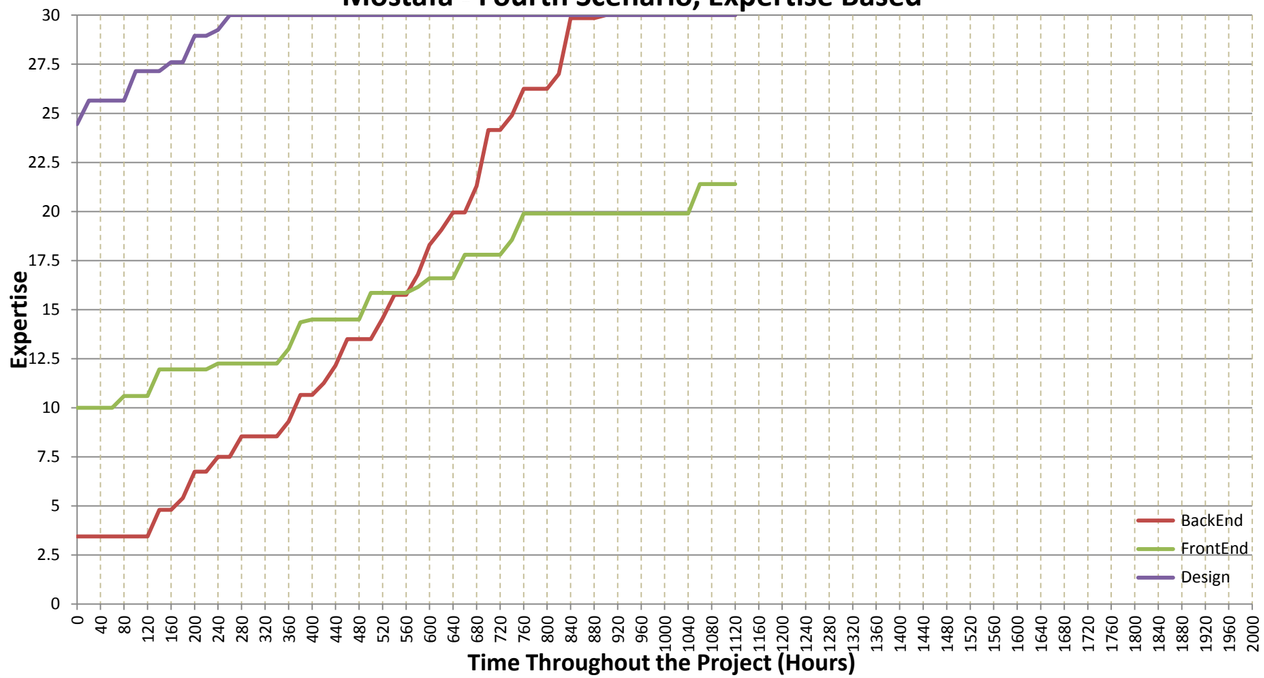
Team Average - Fourth Scenario, Expertise Based



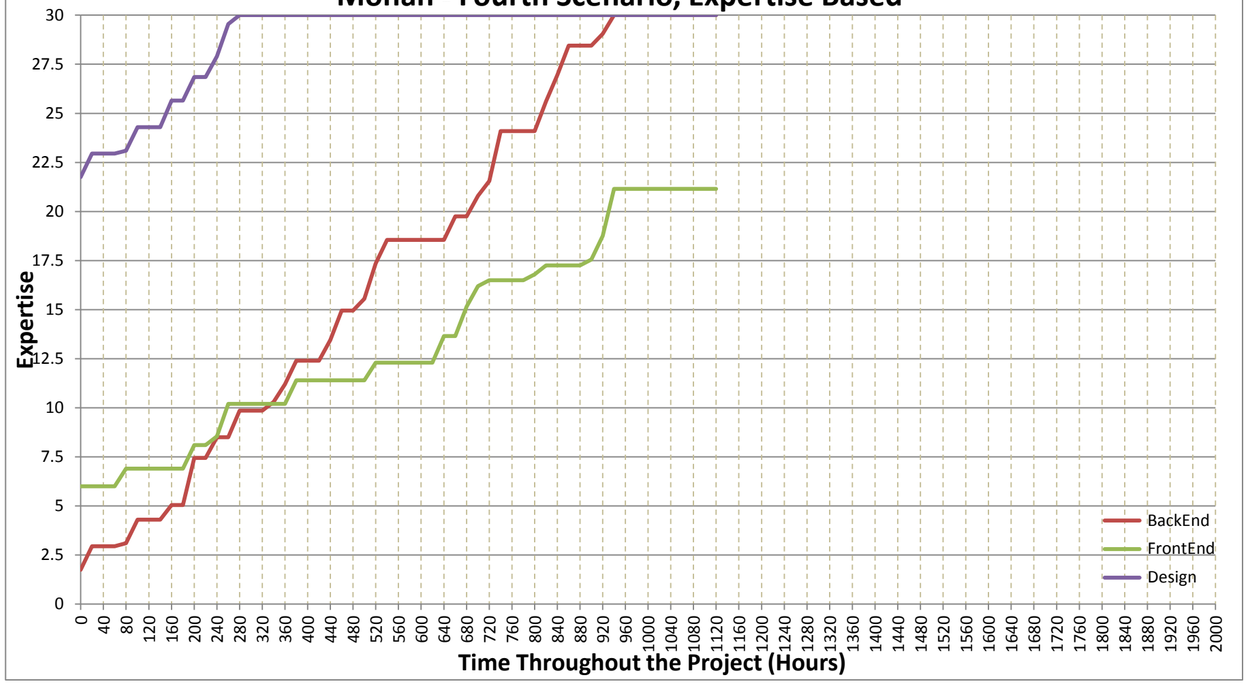
Team Average - Fourth Scenario, Learning Based



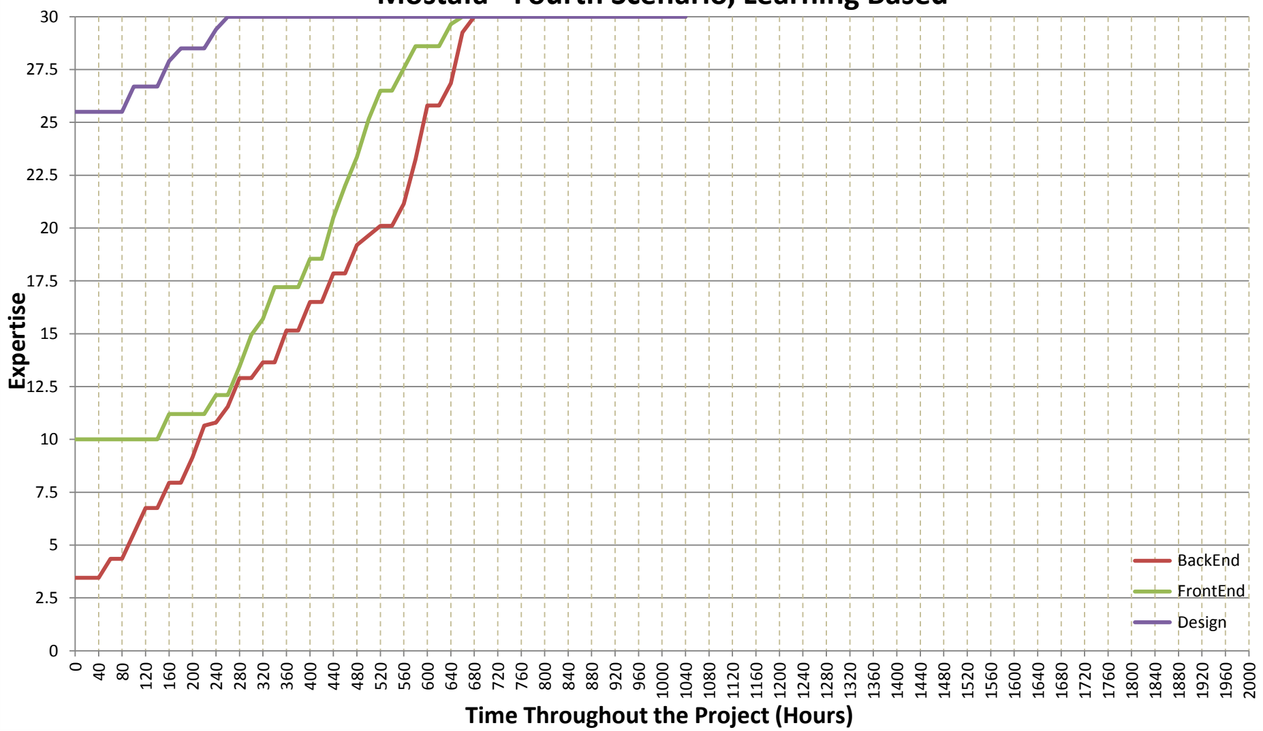
Mostafa - Fourth Scenario, Expertise Based



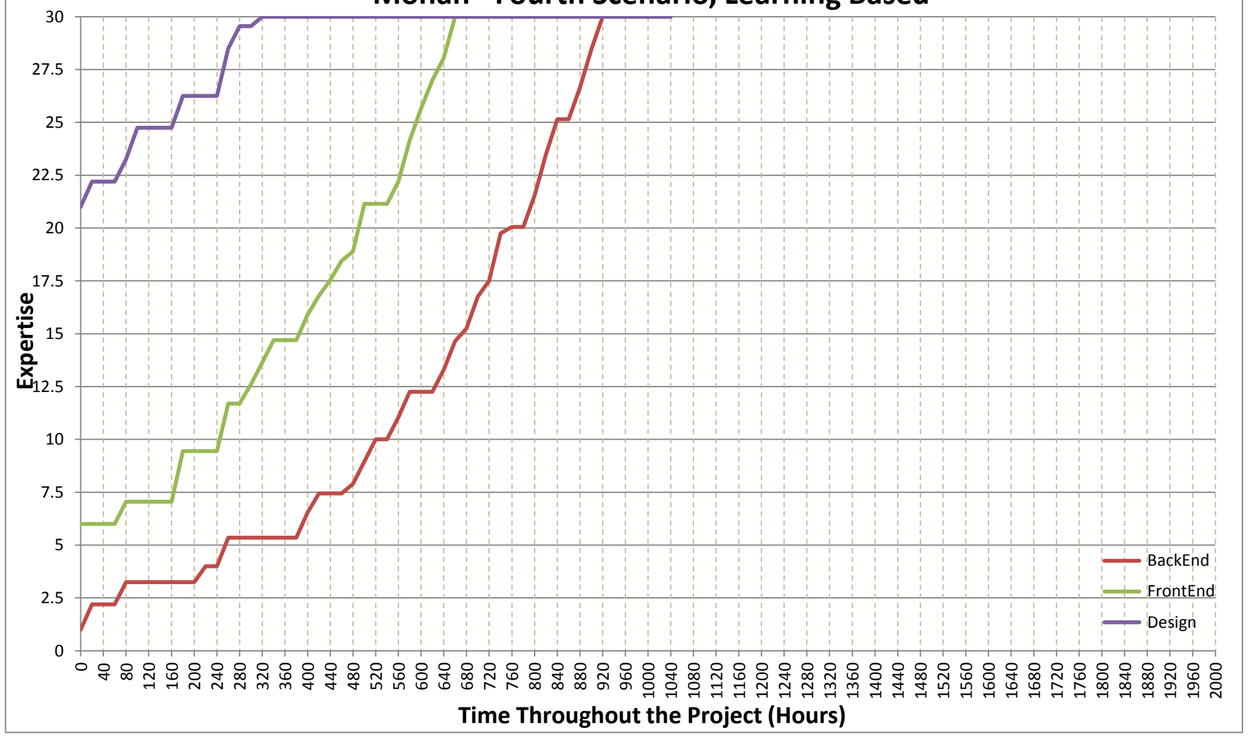
Mohan - Fourth Scenario, Expertise Based

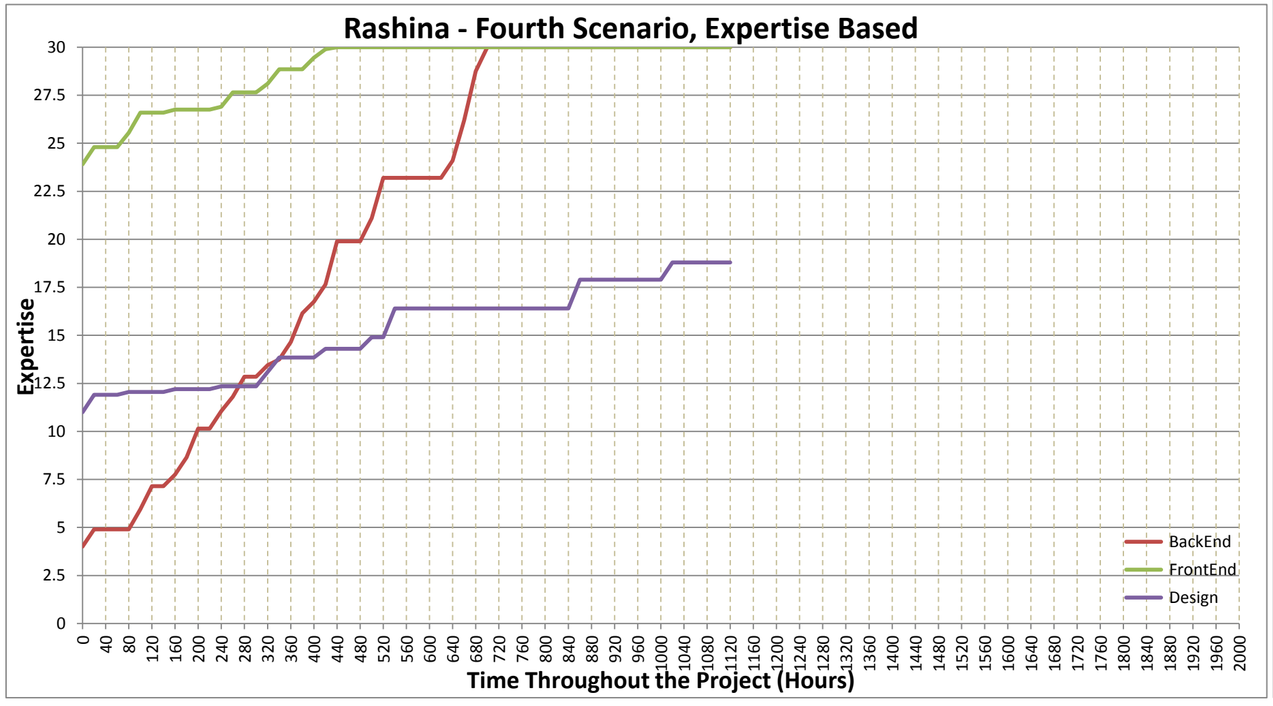


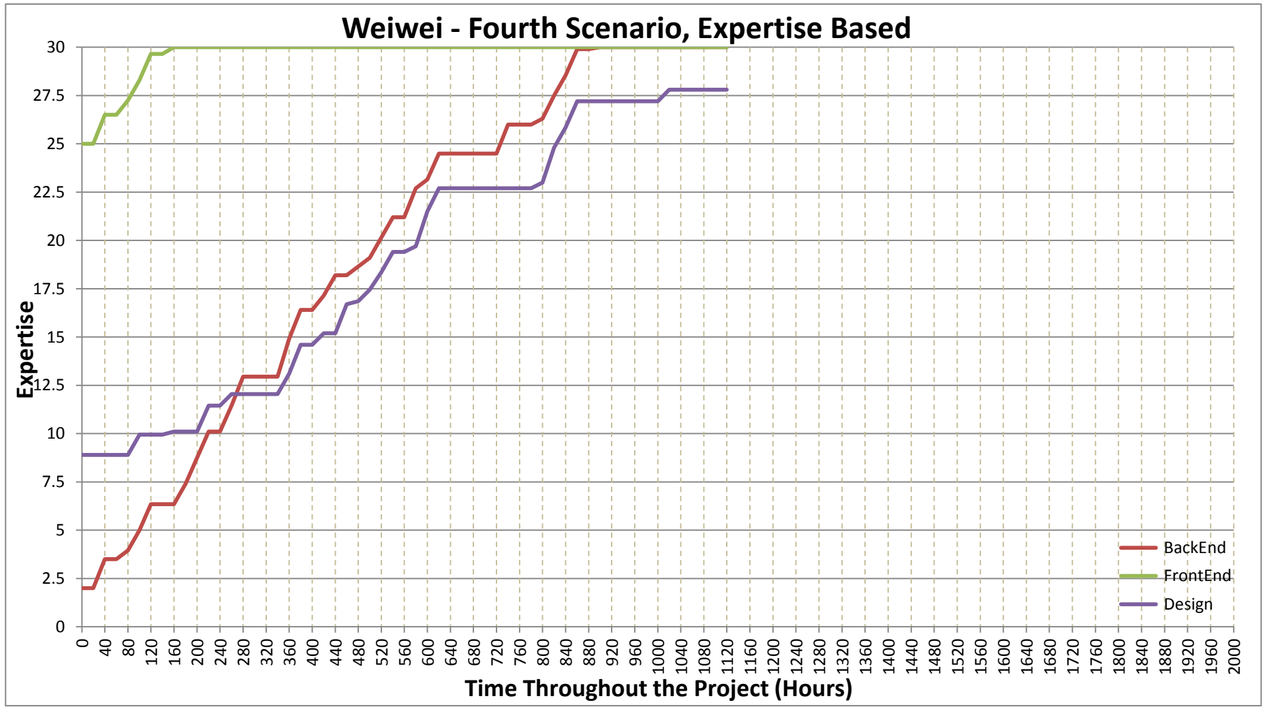
Mostafa - Fourth Scenario, Learning Based

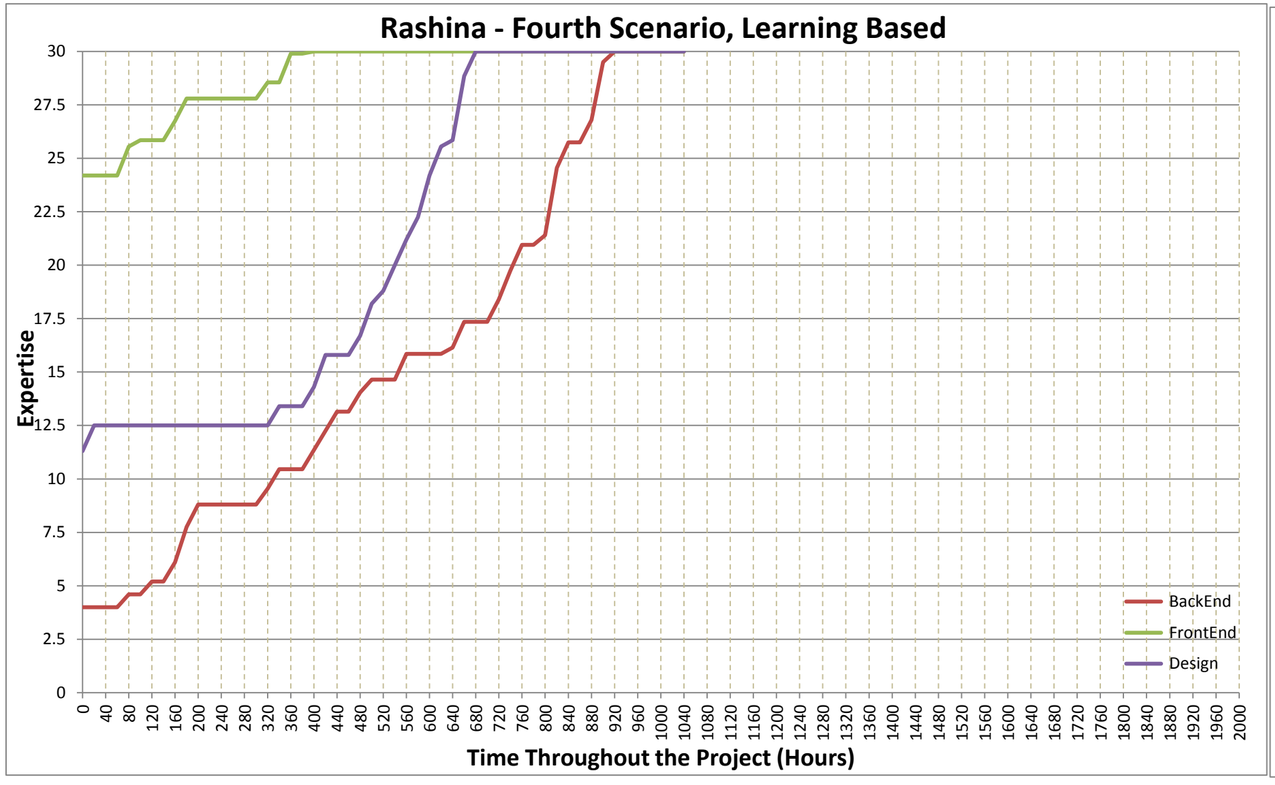


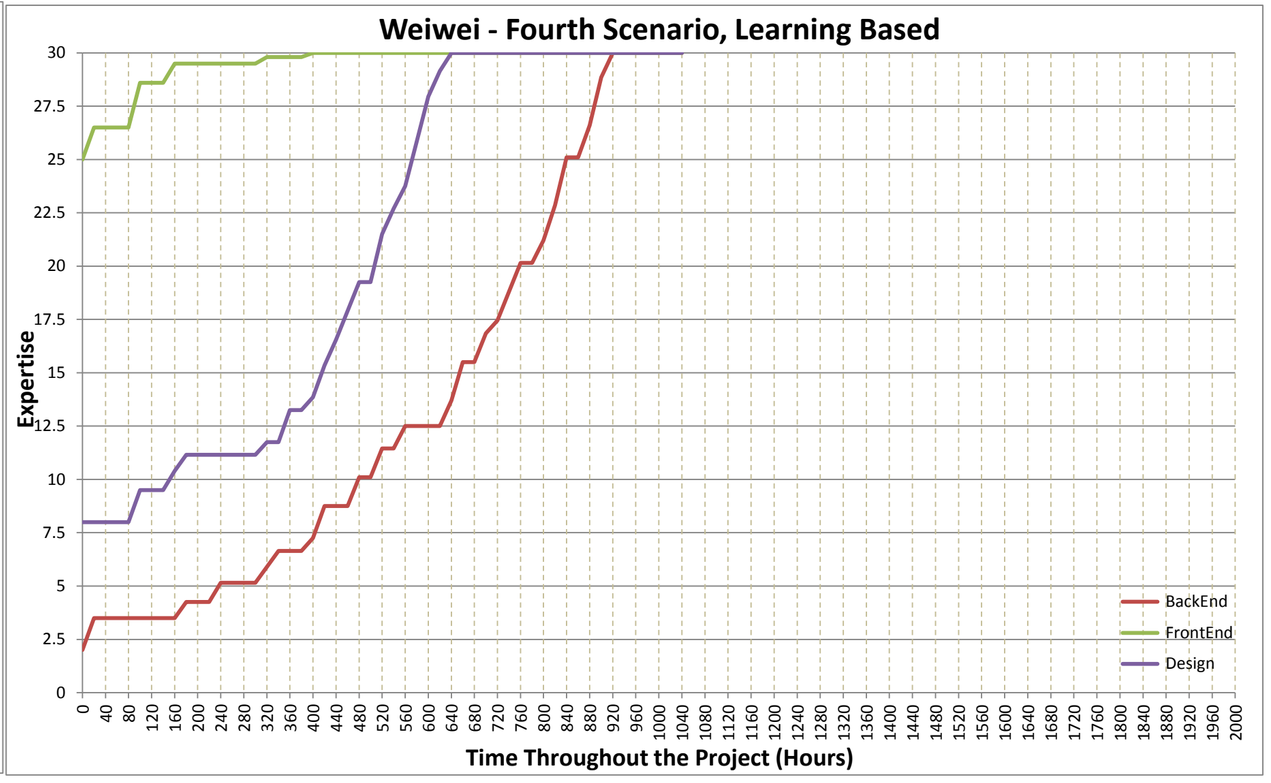
Mohan - Fourth Scenario, Learning Based

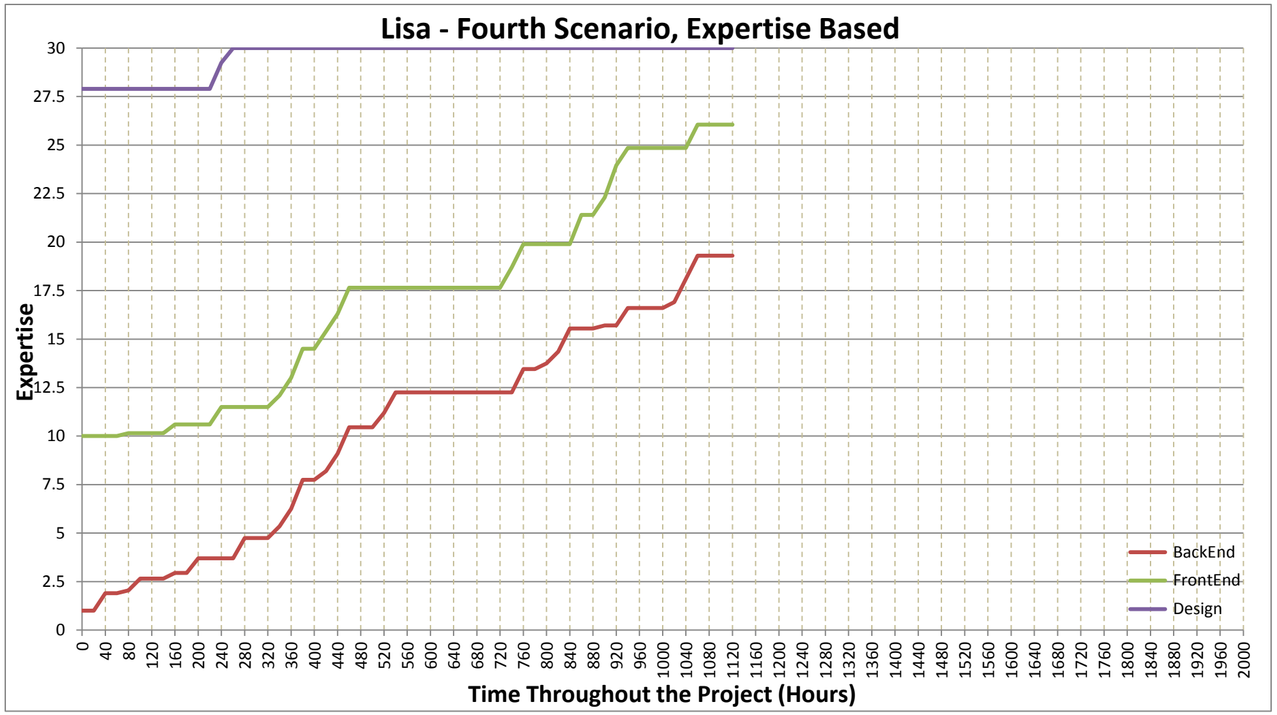


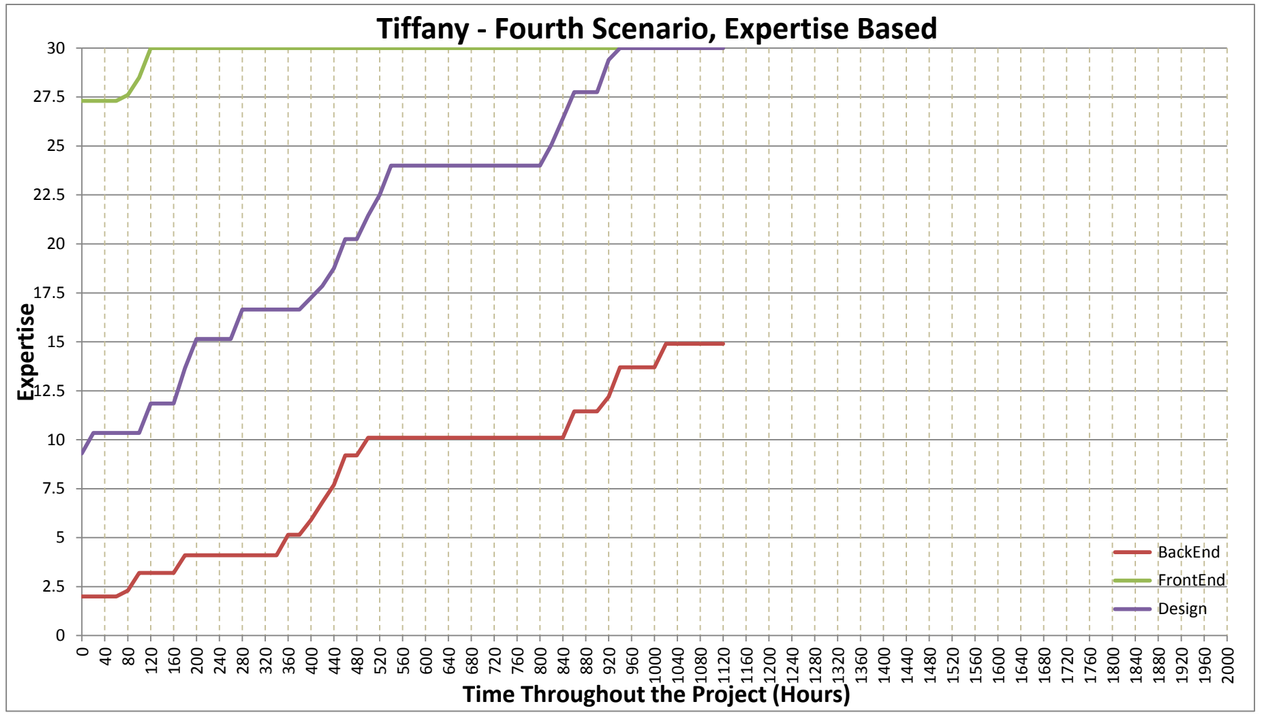

Rashina - Fourth Scenario, Expertise Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design

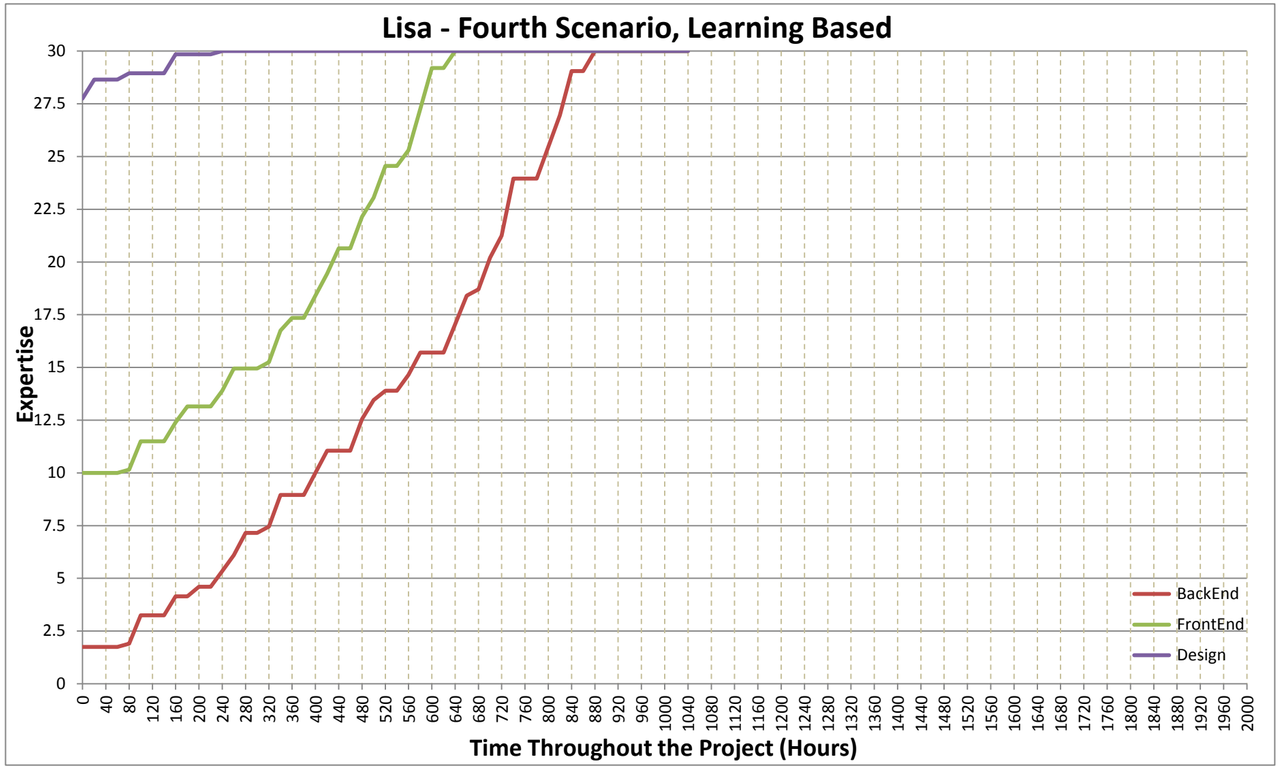

Weiwei - Fourth Scenario, Expertise Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design

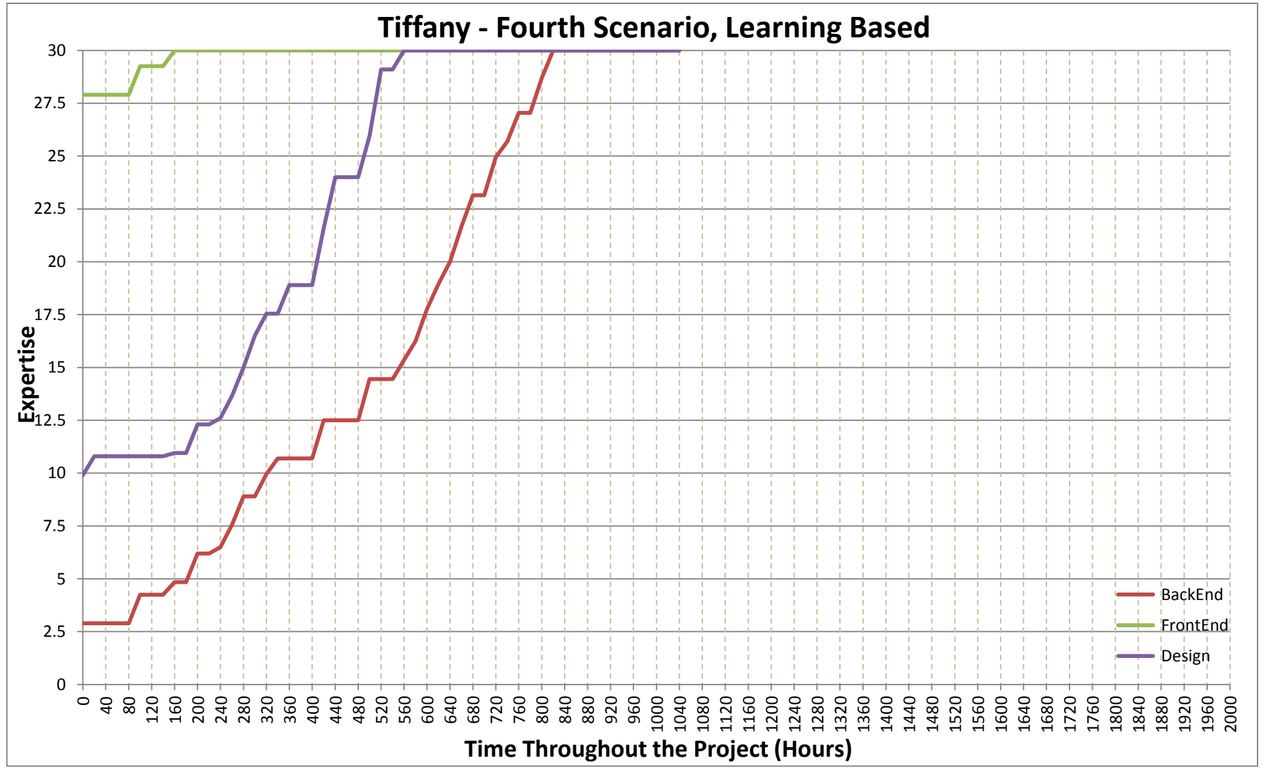

Rashina - Fourth Scenario, Learning Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design


Weiwei - Fourth Scenario, Learning Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design

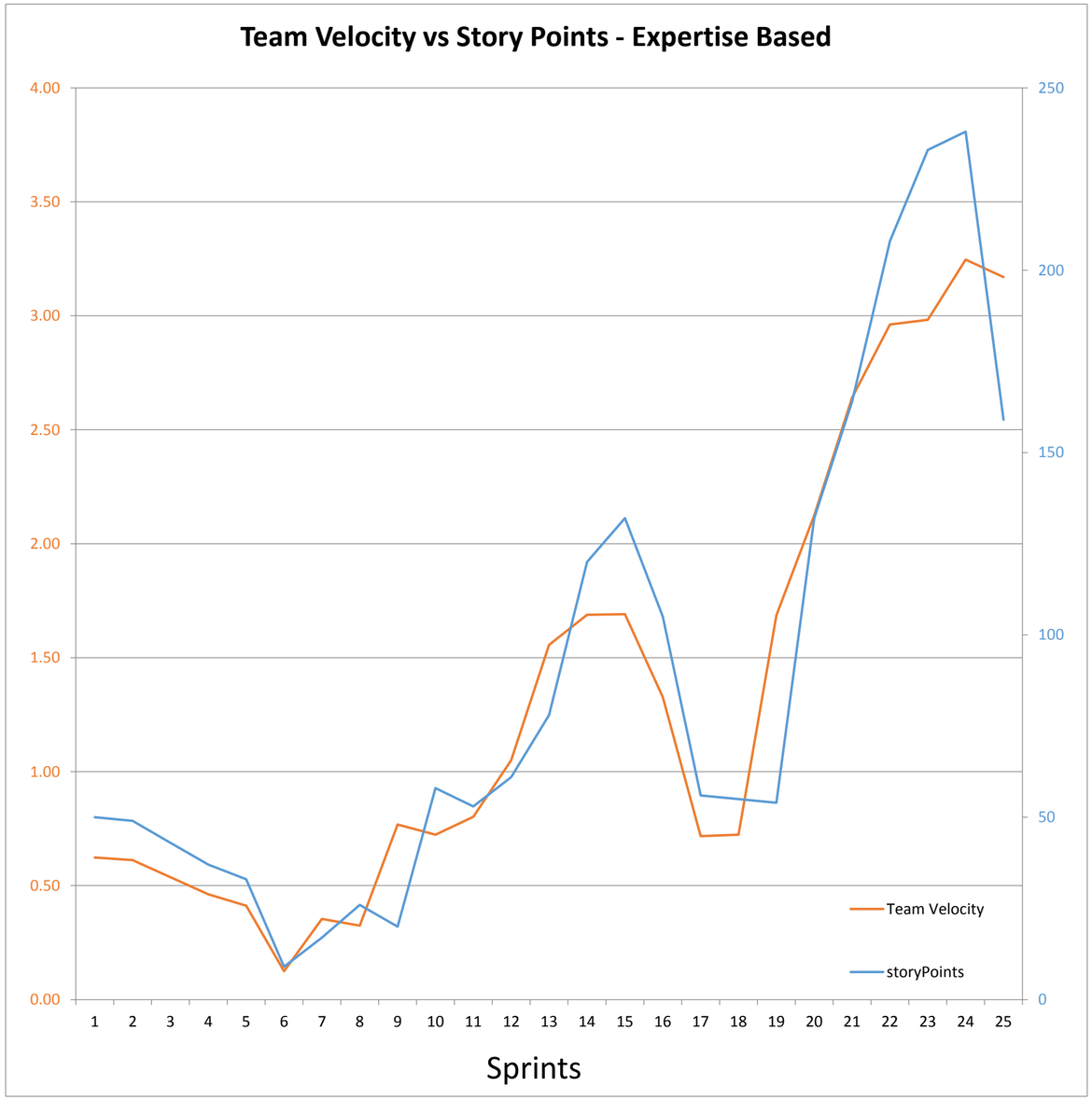

Lisa - Fourth Scenario, Expertise Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design

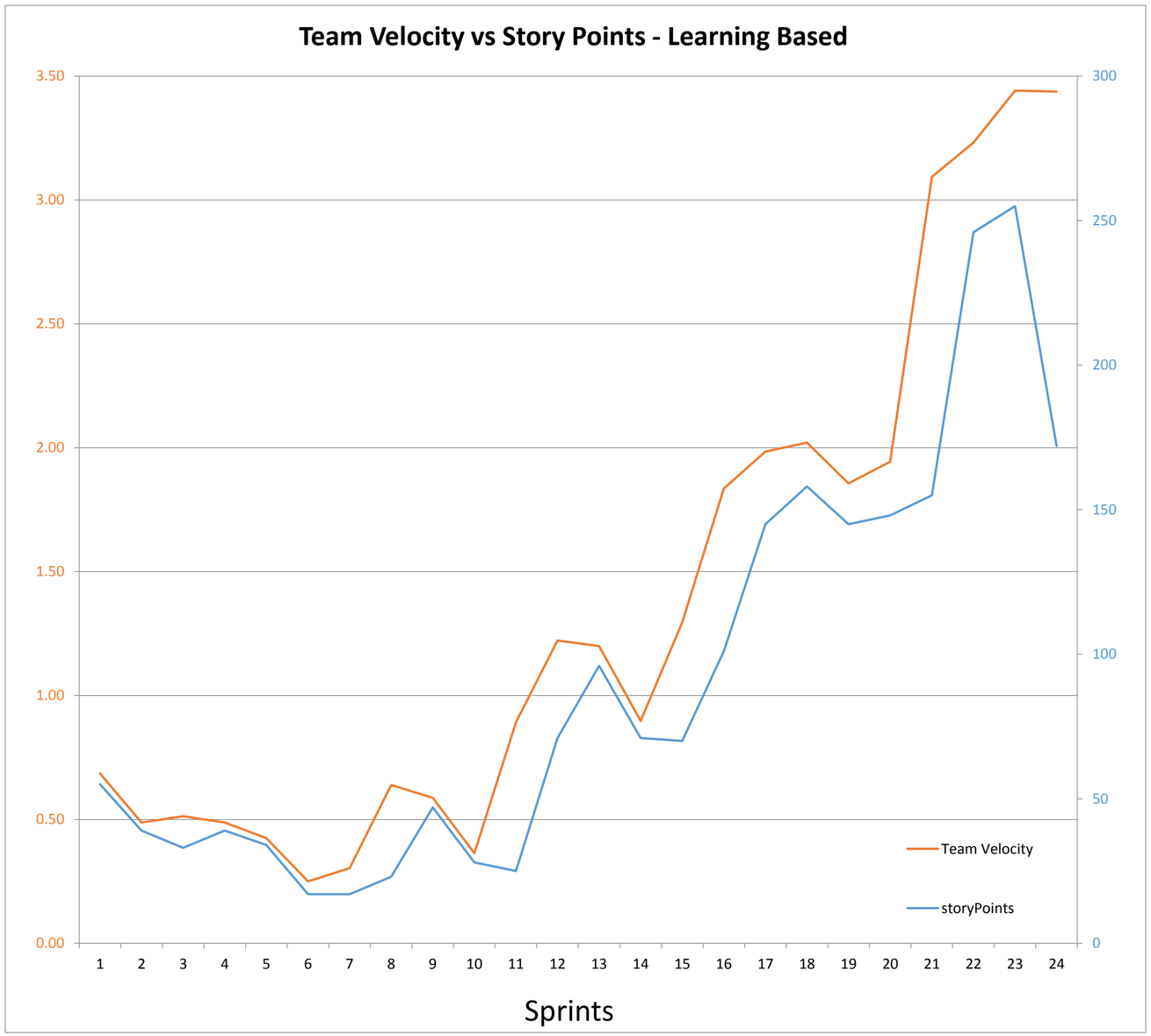

Tiffany - Fourth Scenario, Expertise Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design

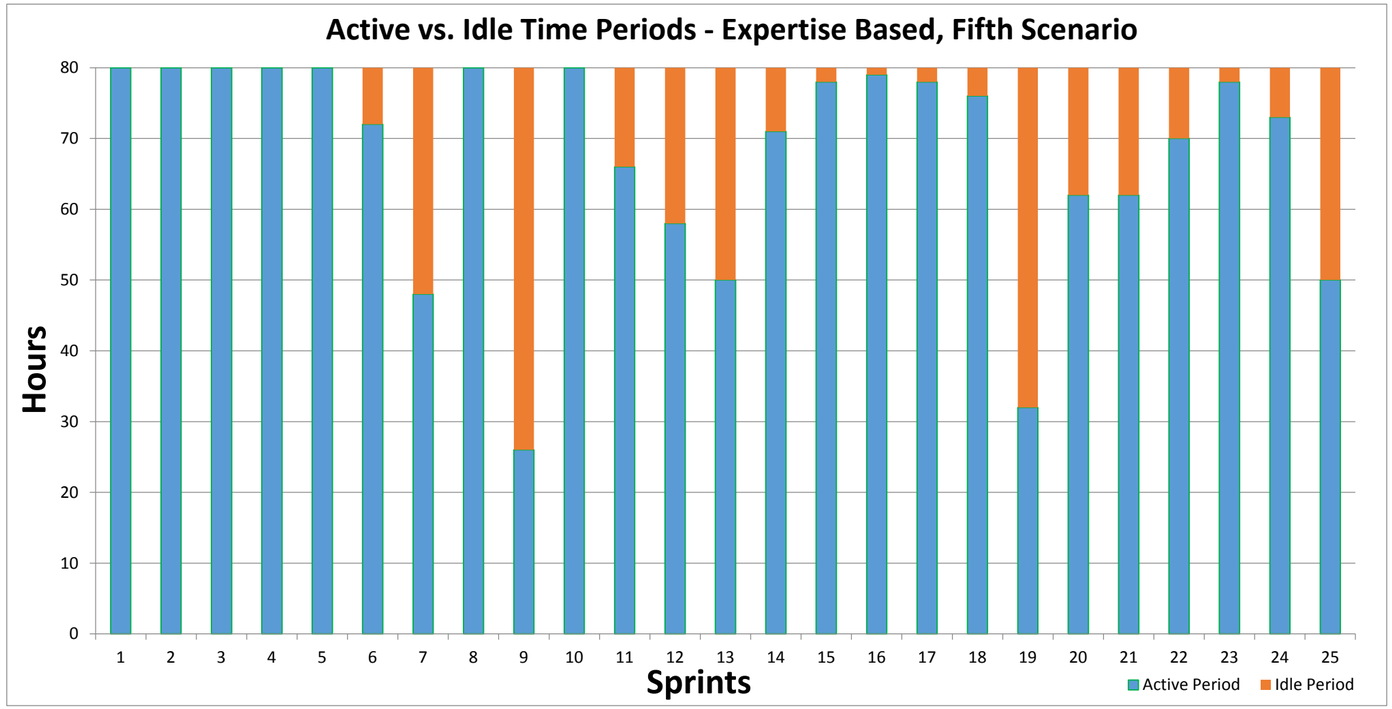

Lisa - Fourth Scenario, Learning Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design

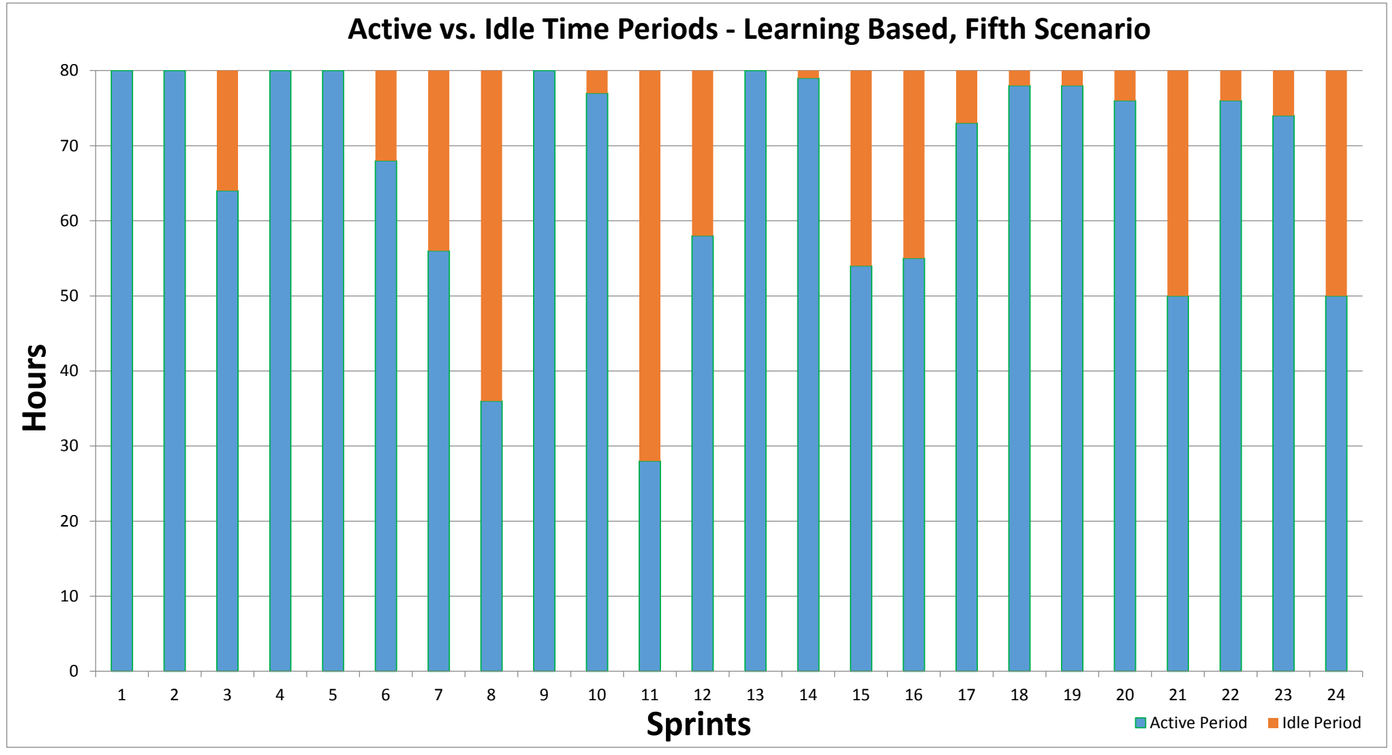

Tiffany - Fourth Scenario, Learning Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design

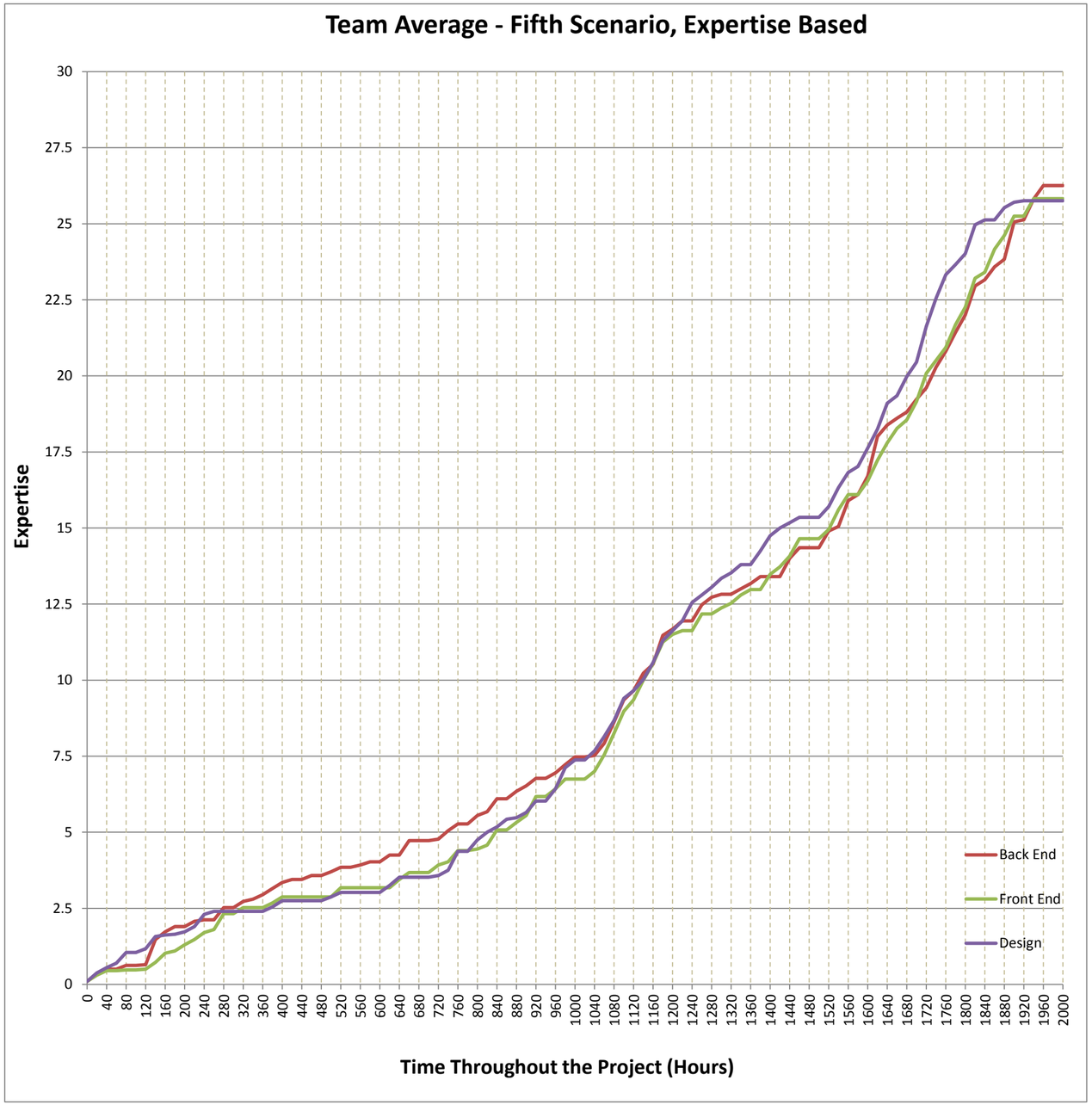
Fifth Scenario – Every employee starts with nearly zero expertise in all skill areas

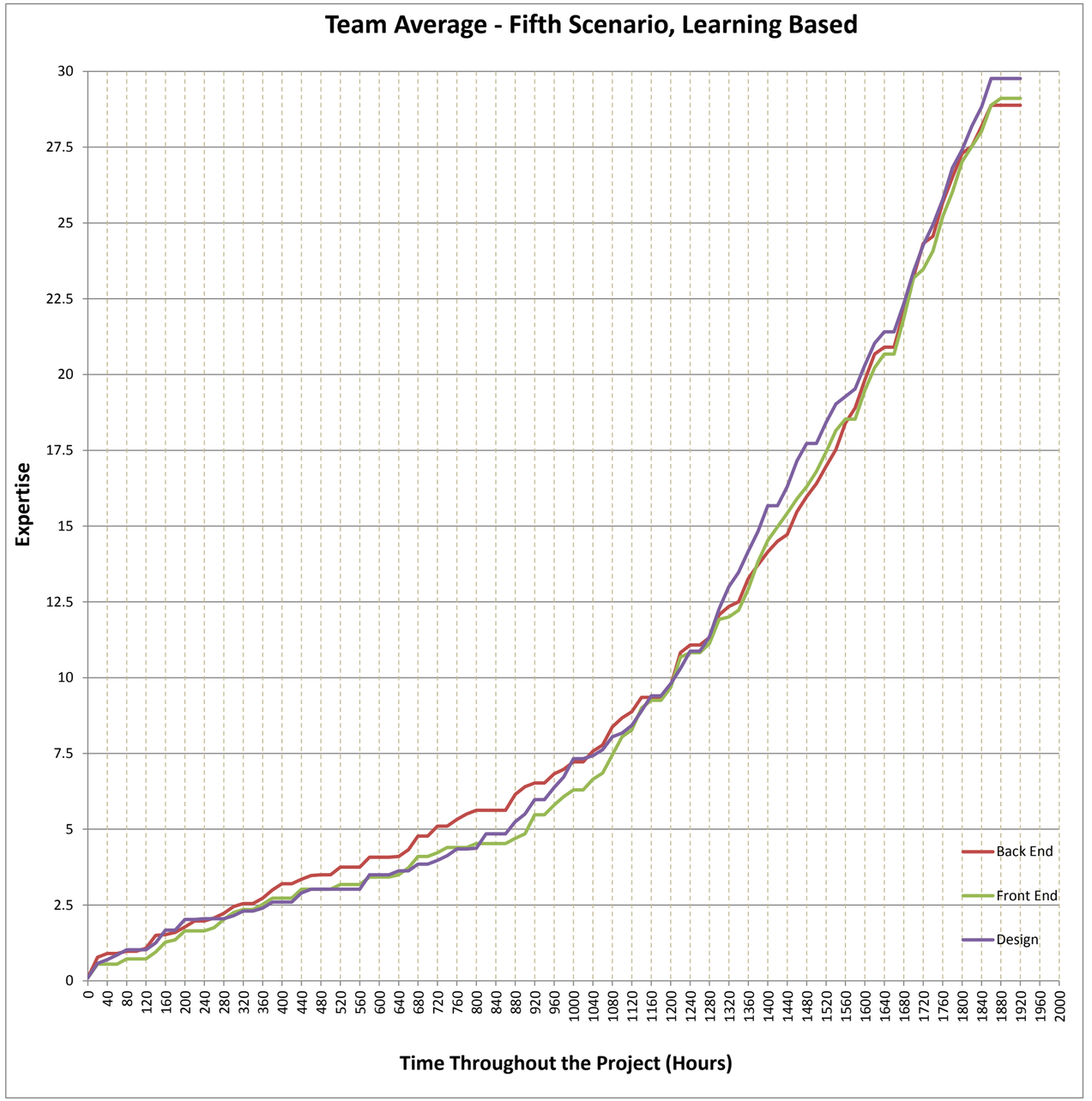





Active vs. Idle Time Periods - Expertise Based, Fifth Scenario
Hours
0
10
20
30
40
50
60
70
80
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
Sprints
Active Period
Idle Period


Active vs. Idle Time Periods - Learning Based, Fifth Scenario
Hours
0
10
20
30
40
50
60
70
80
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Sprints
Active Period
Idle Period


Team Average - Fifth Scenario, Expertise Based
Expertise
30
27.5
25
22.5
20
17.5
15
12.5
10
7.5
5
2.5
0
0 40 80 120 160 200 240 280 320 360 400 440 480 520 560 600 640 680 720 760 800 840 880 920 960 1000 1040 1080 1120 1160 1200 1240 1280 1320 1360 1400 1440 1480 1520 1560 1600 1640 1680 1720 1760 1800 1840 1880 1920 1960 2000
Time Throughout the Project (Hours)
Back End
Front End
Design


Team Average - Fifth Scenario, Learning Based
Expertise
30
27.5
25
22.5
20
17.5
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12.5
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7.5
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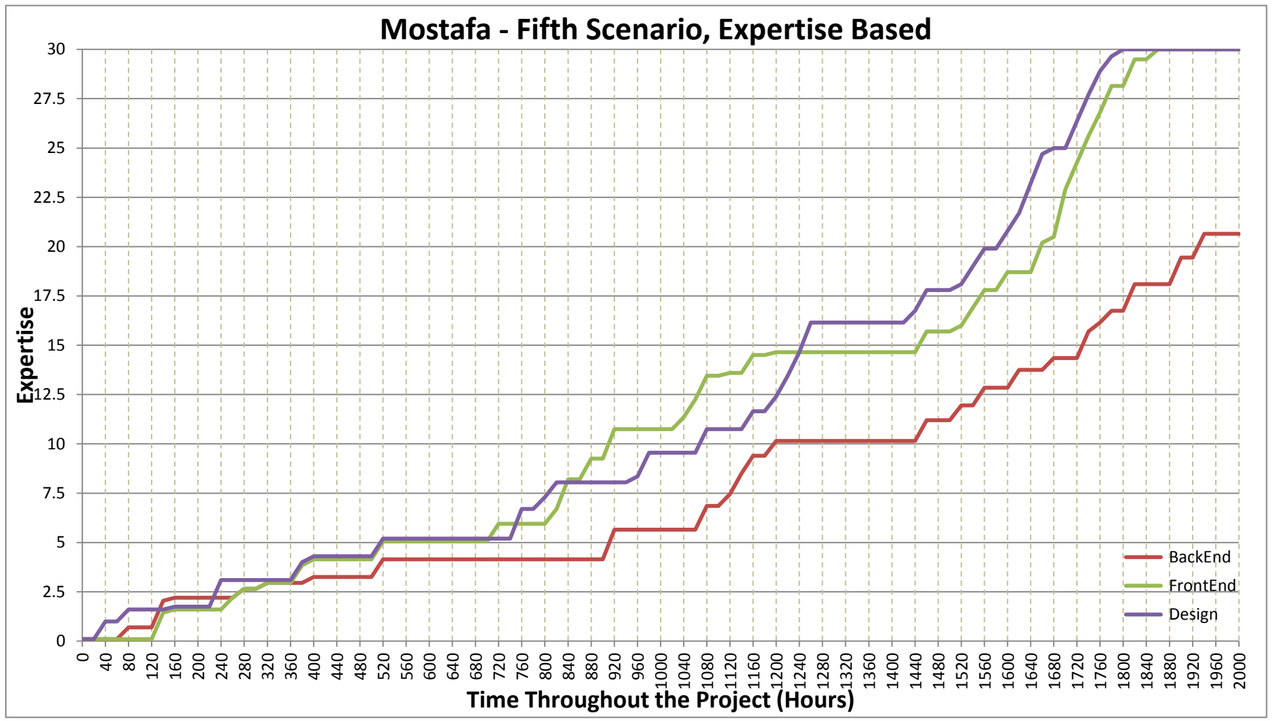
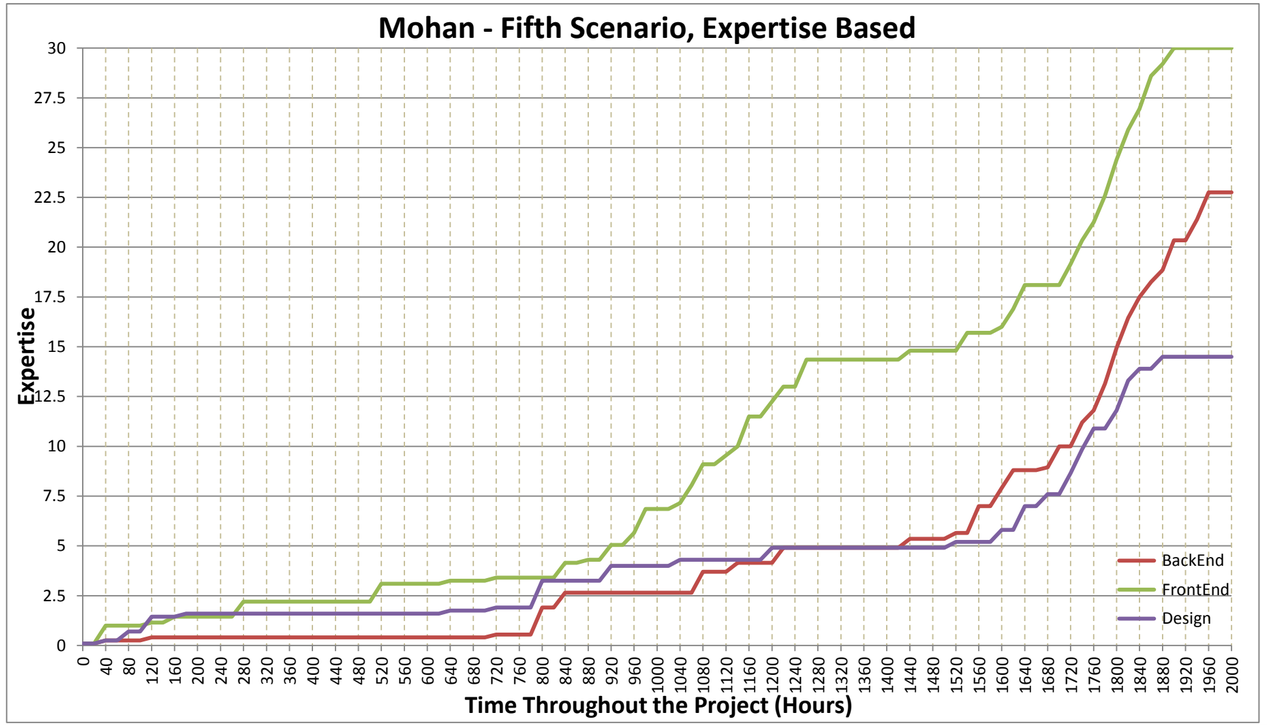
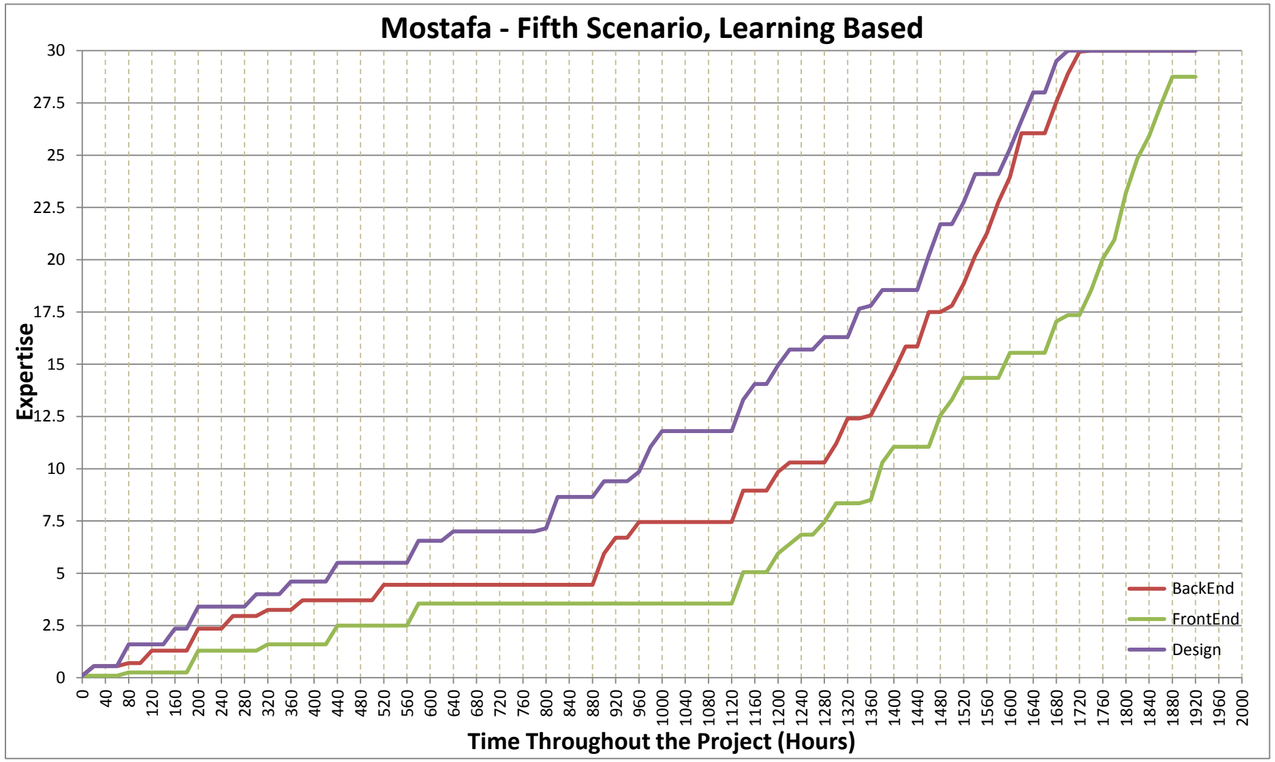
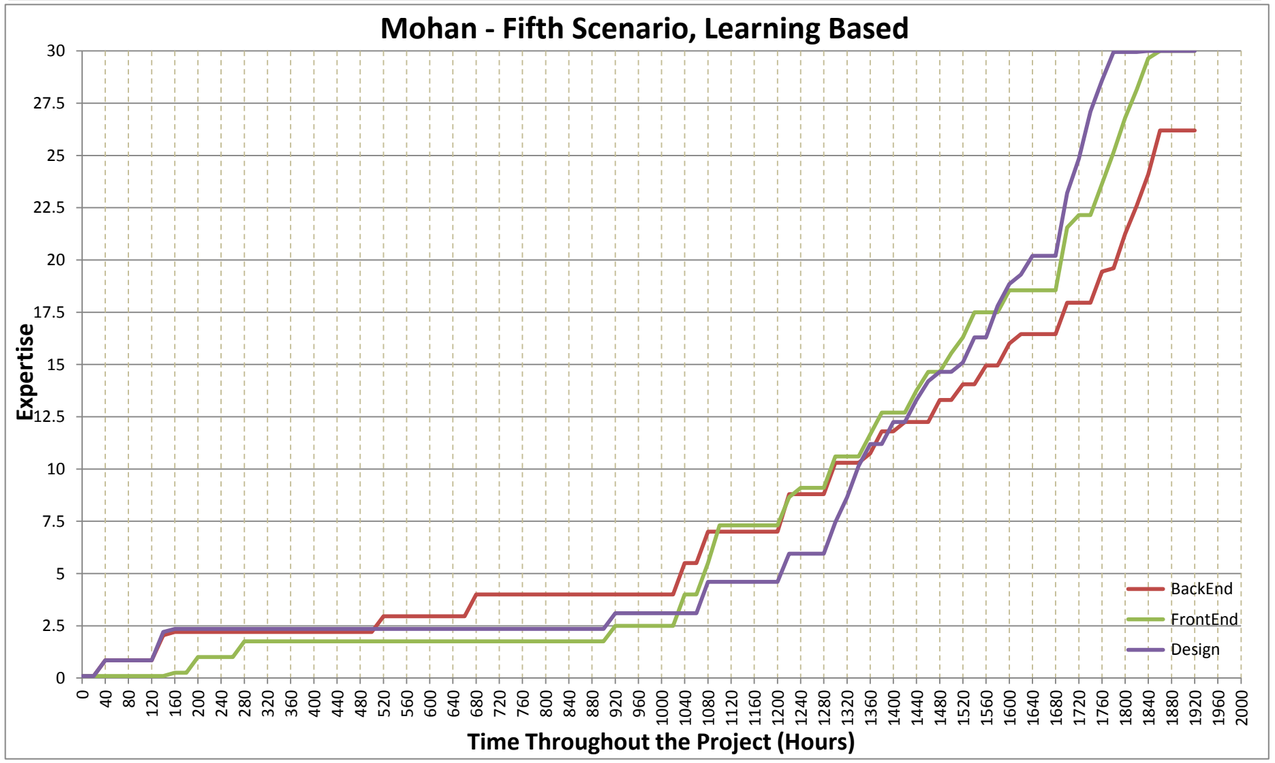
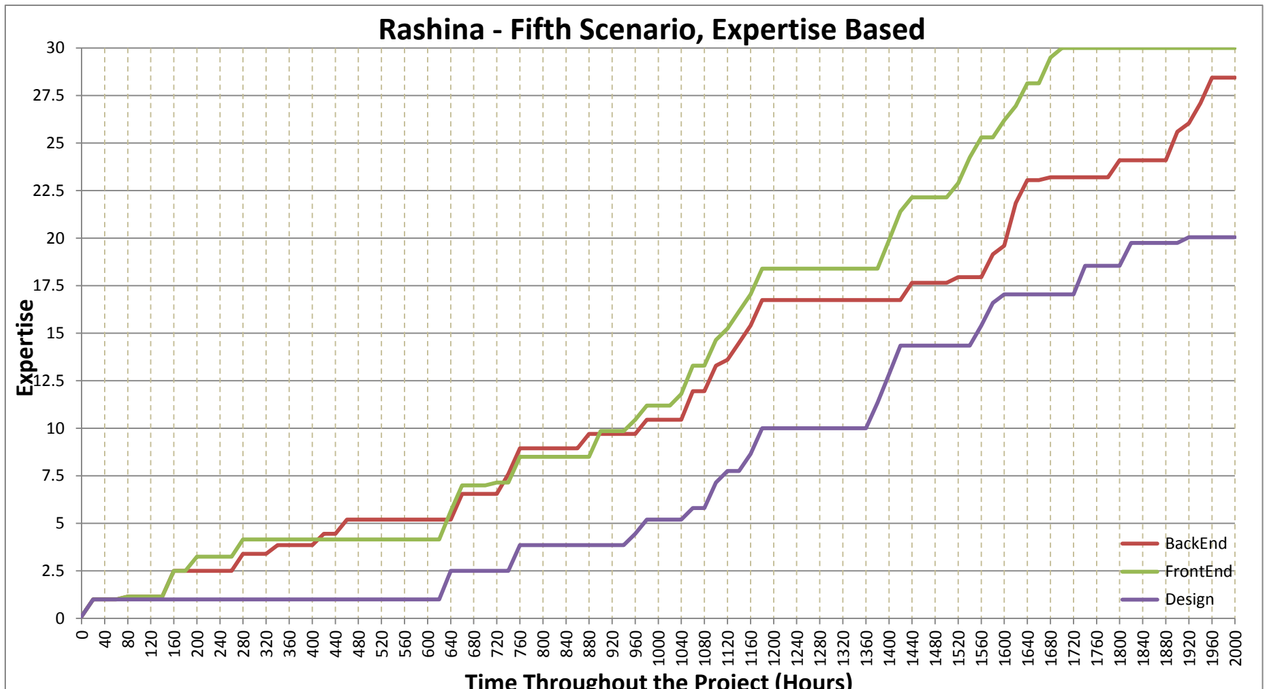
2.5
0
0 40 80 120 160 200 240 280 320 360 400 440 480 520 560 600 640 680 720 760 800 840 880 920 960 1000 1040 1080 1120 1160 1200 1240 1280 1320 1360 1400 1440 1480 1520 1560 1600 1640 1680 1720 1760 1800 1840 1880 1920 1960 2000
Time Throughout the Project (Hours)
Back End
Front End
Design

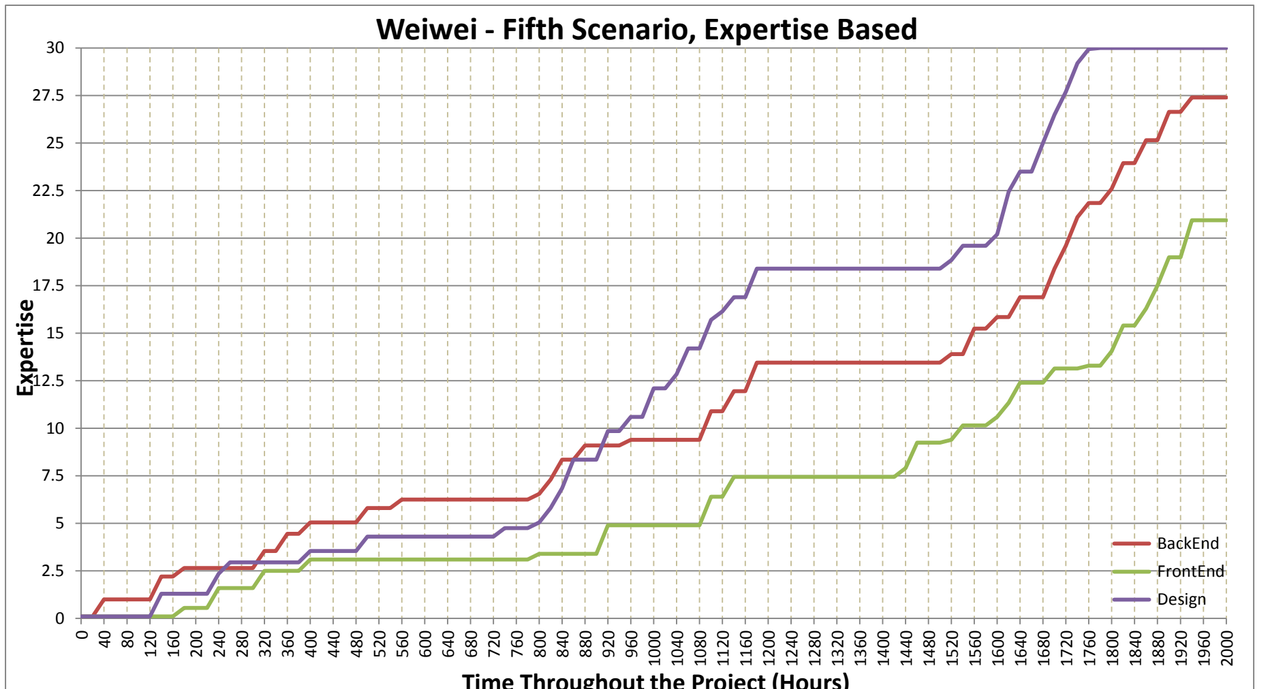

Mostafa - Fifth Scenario, Expertise Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design

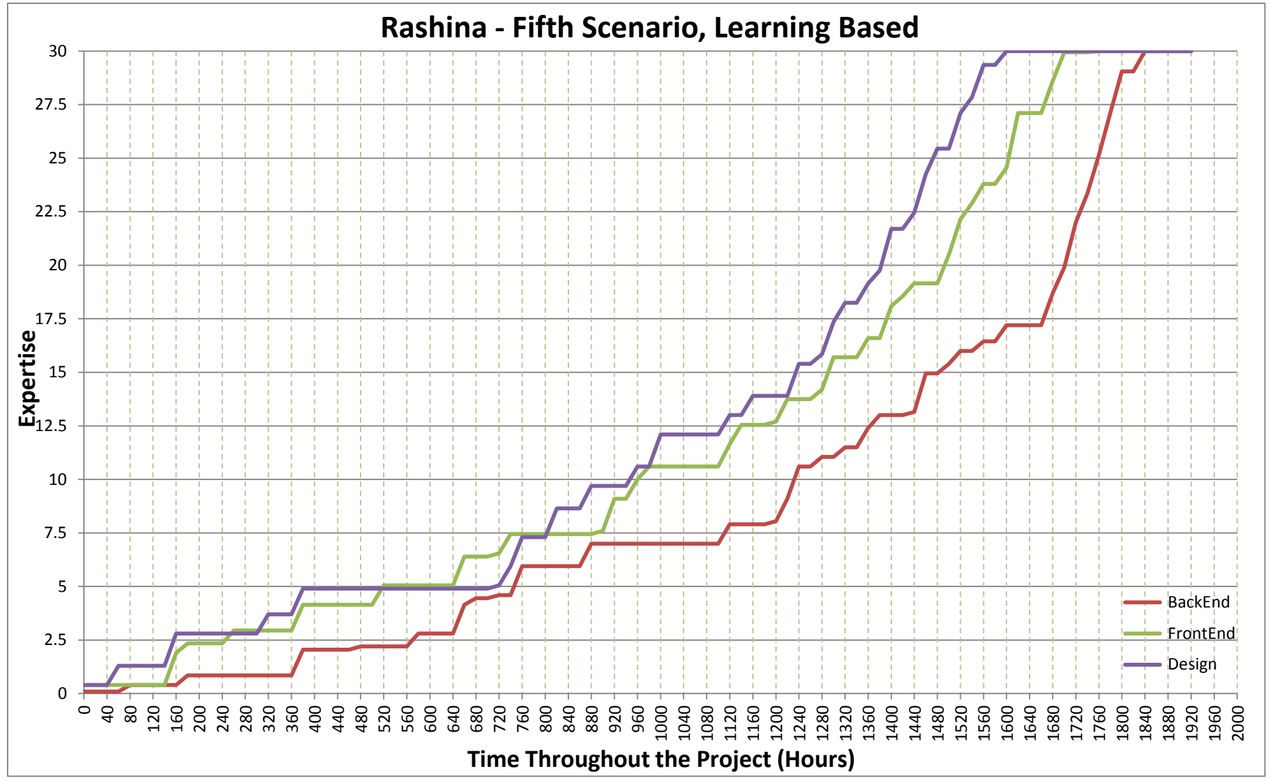

Mohan - Fifth Scenario, Expertise Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design

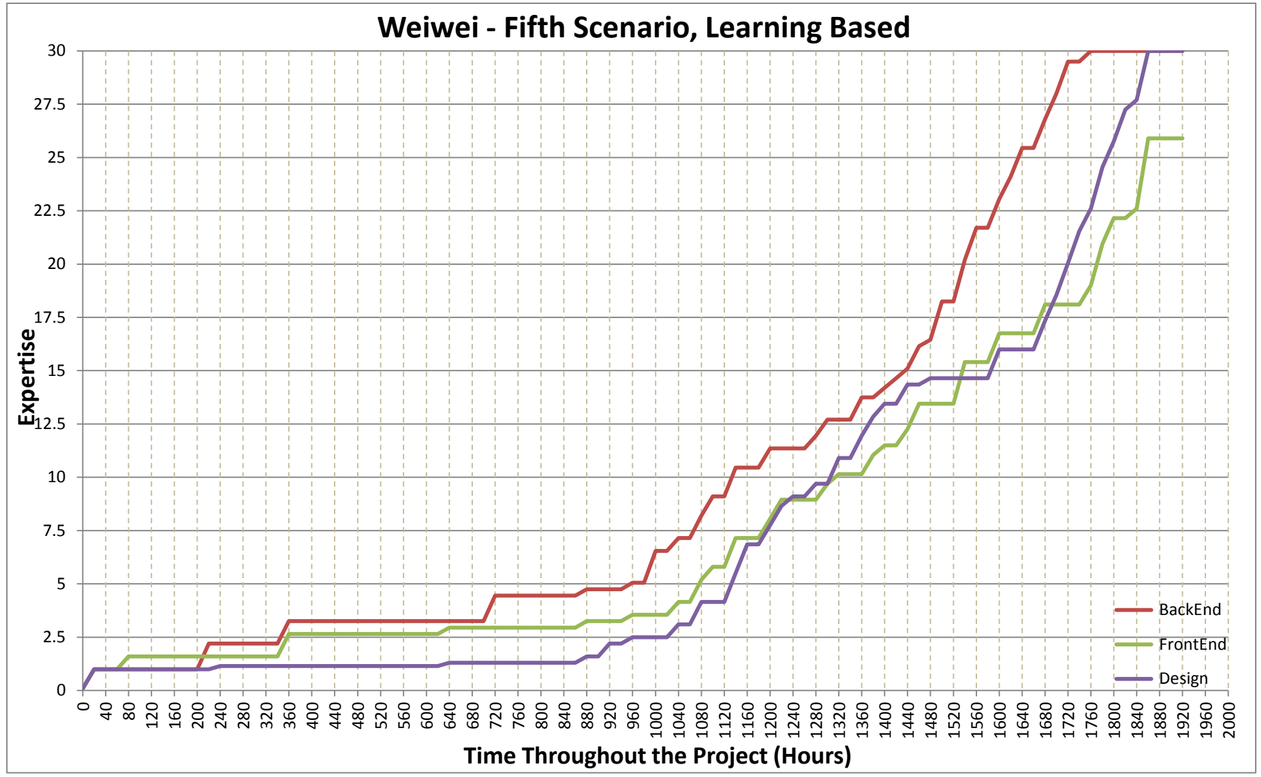

Mostafa - Fifth Scenario, Learning Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design

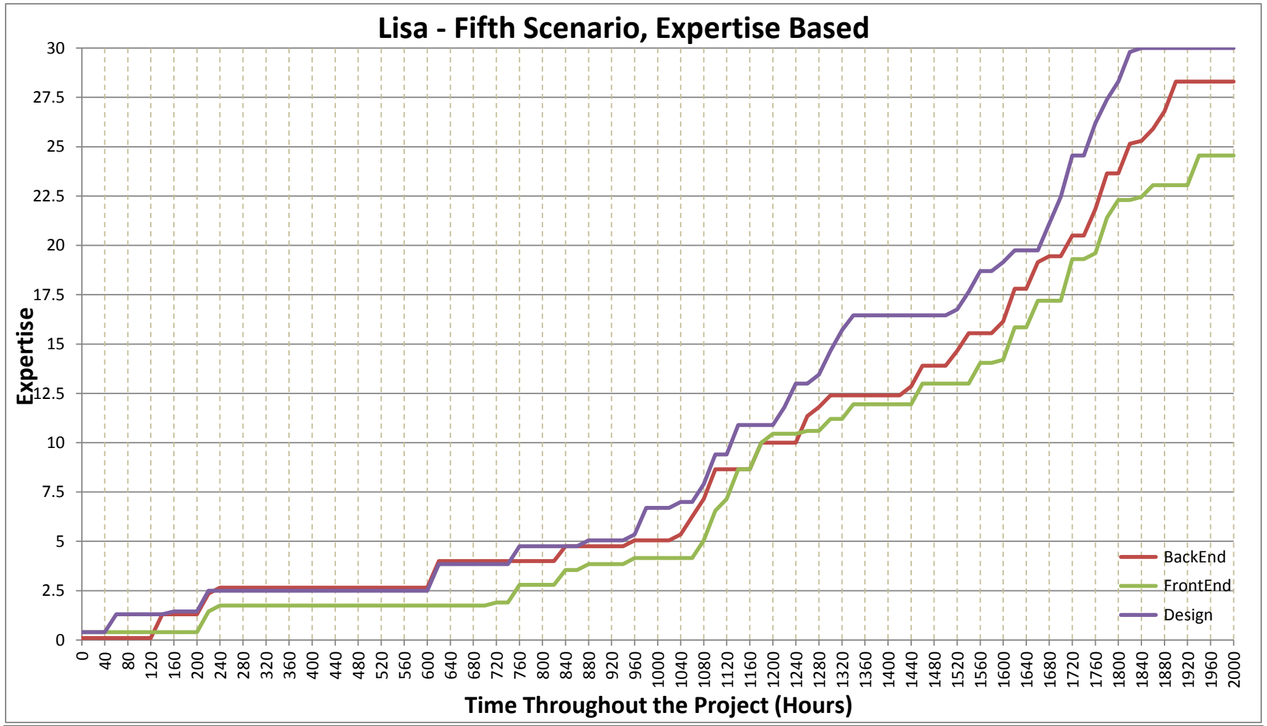

Mohan - Fifth Scenario, Learning Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design

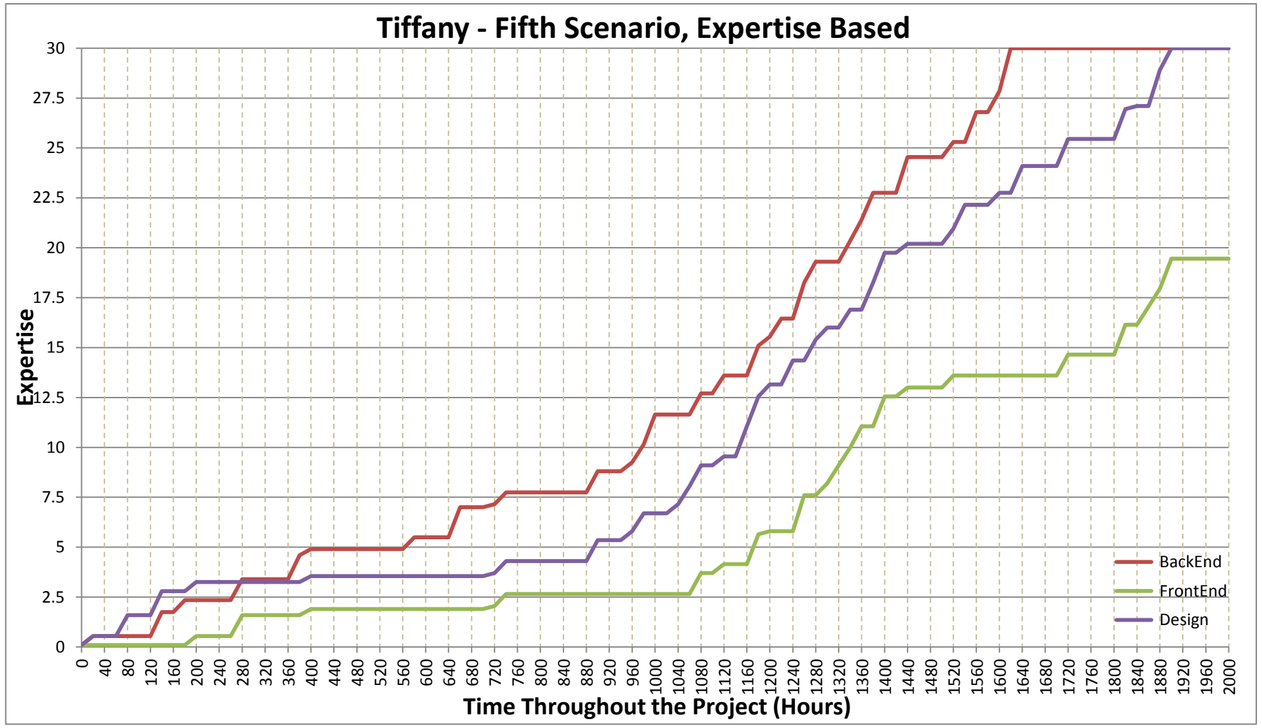

Rashina - Fifth Scenario, Expertise Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design

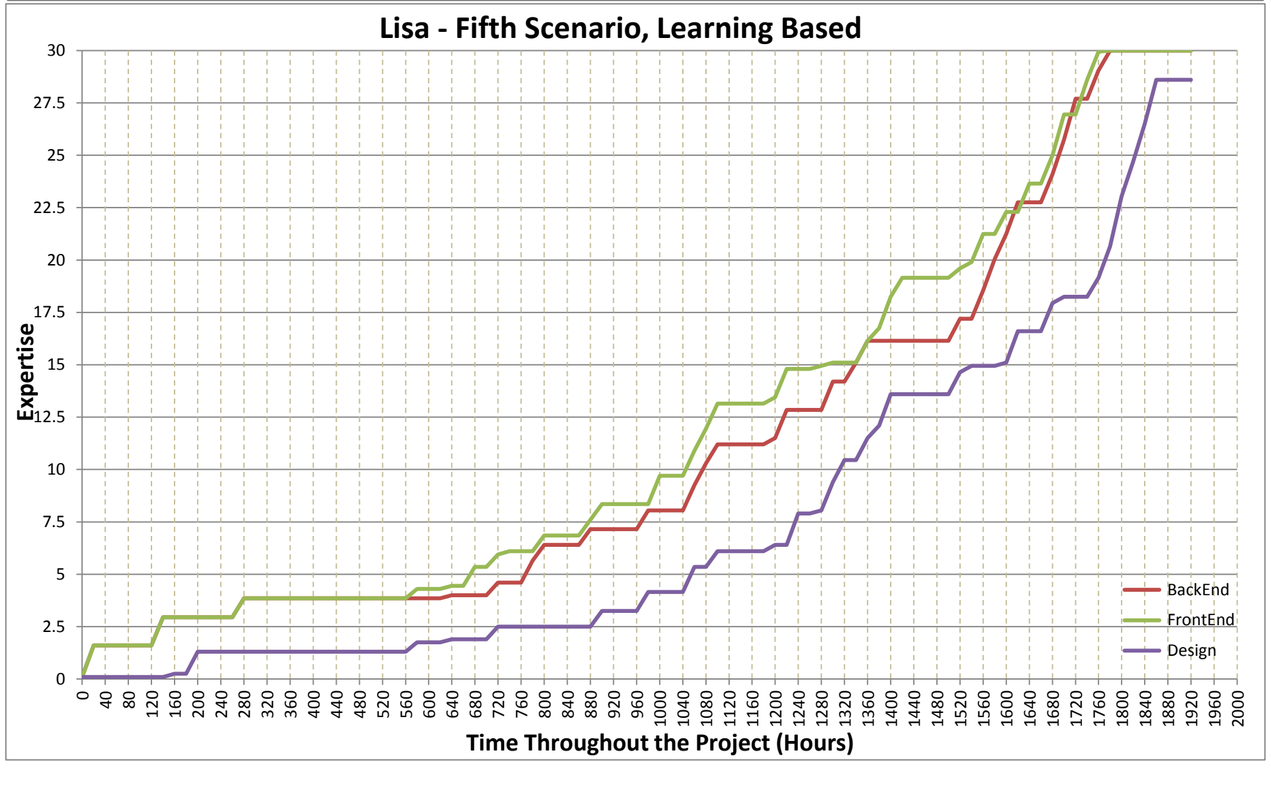

Weiwei - Fifth Scenario, Expertise Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design

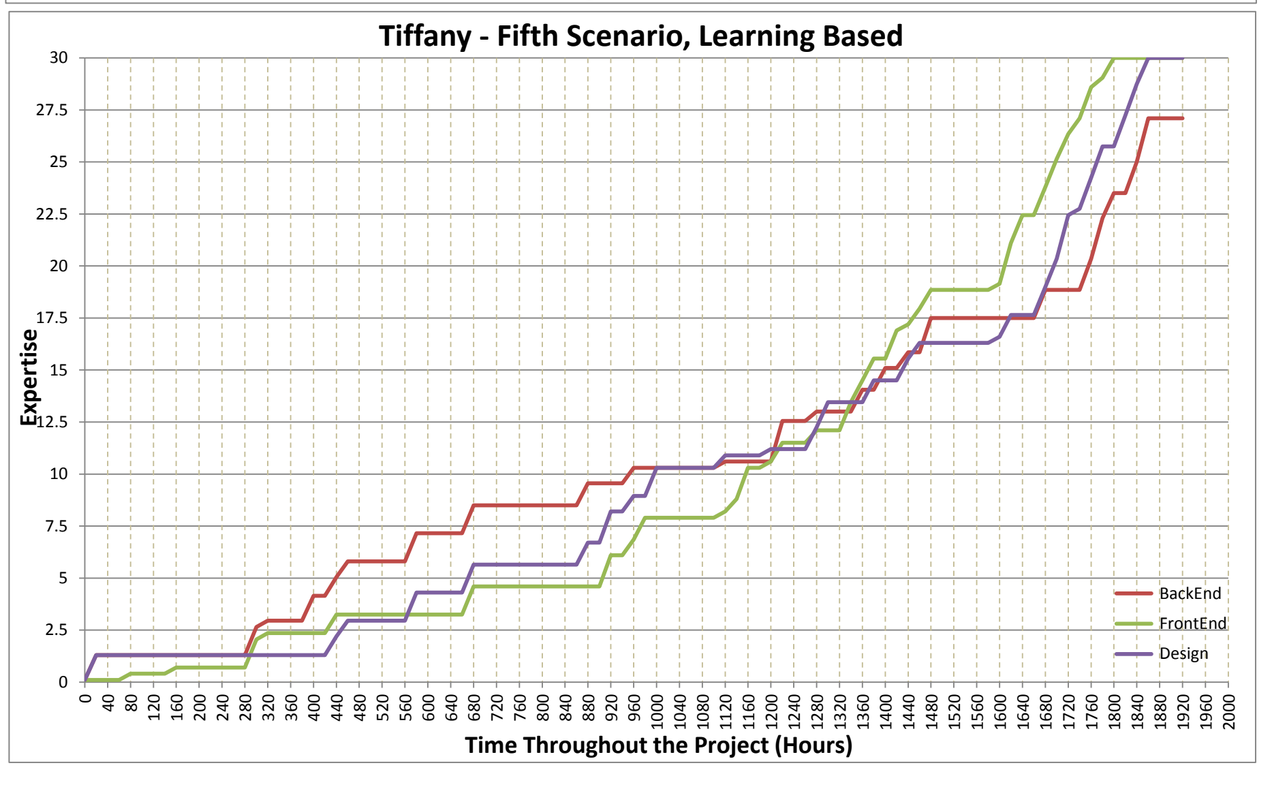

Rashina - Fifth Scenario, Learning Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design


Weiwei - Fifth Scenario, Learning Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design


Lisa - Fifth Scenario, Expertise Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design


Tiffany - Fifth Scenario, Expertise Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design


Lisa - Fifth Scenario, Learning Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design


Tiffany - Fifth Scenario, Learning Based
Expertise
Time Throughout the Project (Hours)
BackEnd
FrontEnd
Design