APPENDIX

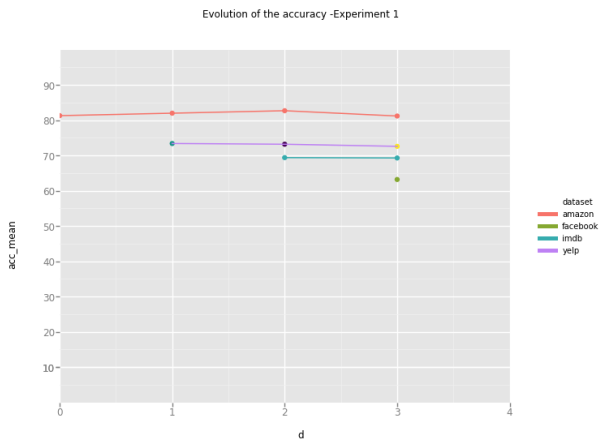
The appendix contains the results of all the experiments and the results of the experiment evaluations using multiple linear regression and Anova.

1. **Group of experiments 1 using the following parameters:**

propor2Best	proporGuilty	proporPowerful	proporRandom	test_size
0.5	0.7	0.8	0.6	0.1

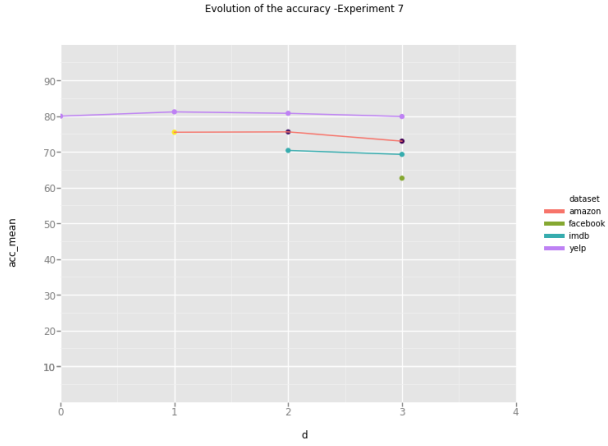
Experiment 1. Sequence of domains: ['amazon', 'yelp', 'imdb', 'facebook']

dataset	yelp	imdb	facebook
Acc. new domain	71.7	69.3	61.1



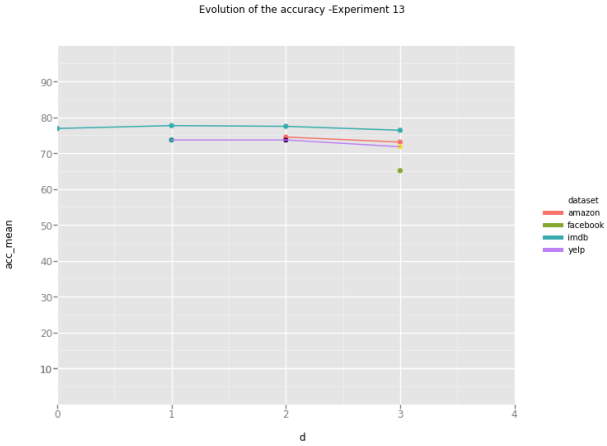
Experiment 7. Sequence of domains: ['yelp', 'amazon', 'imdb', 'facebook']

dataset	amazon	imdb	facebook
Acc. new domain	73.4	68.4	57.6



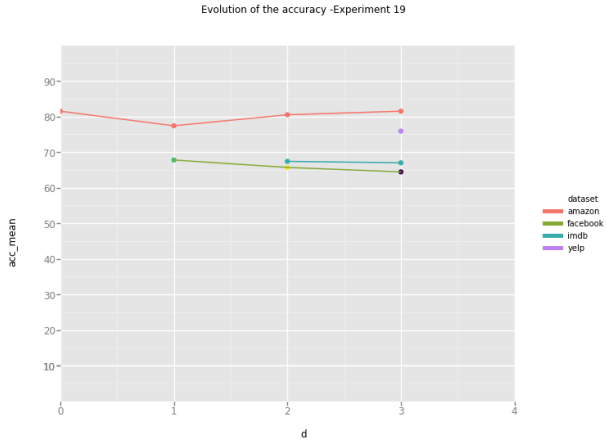
Experiment 13 . Sequence of domains: ['imdb', 'yelp', 'amazon', 'facebook']

dataset	yelp	amazon	facebook
Acc. new domain	71	73.5	60.8



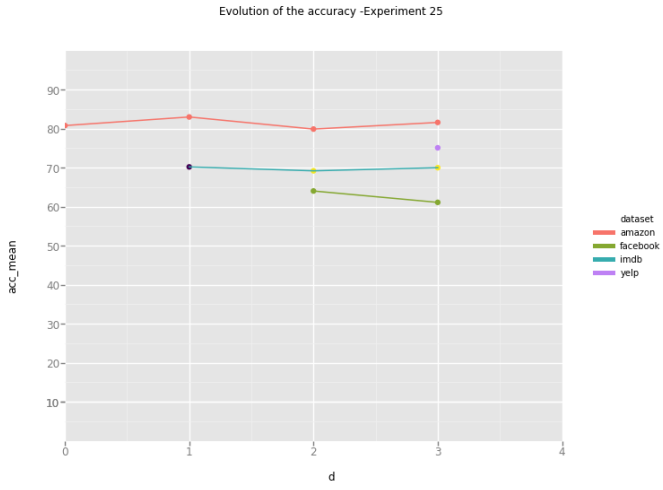
Experiment 19 . Sequence of domains: ['amazon', 'facebook', 'imdb', 'yelp']

dataset	facebook	imdb	yelp
Acc. new domain	62.9	64.4	72.3



Experiment 25. Sequence of domains: ['amazon', 'imdb', 'facebook', 'yelp']

dataset	imdb	facebook	yelp
Acc. new domain	67.8	61.6	74.2

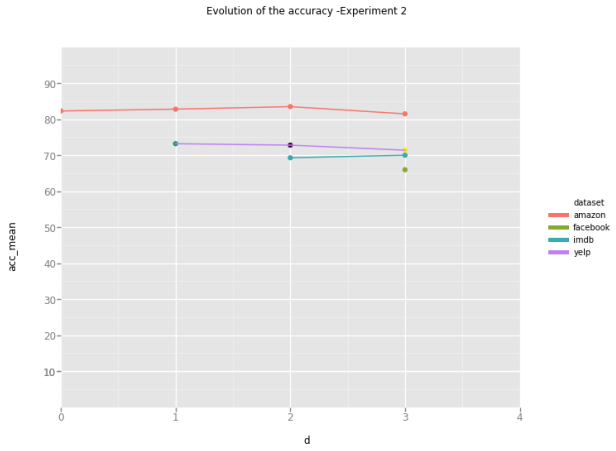


2. Group of experiments 2 using the following parameters:

propor2Best	proporGuilty	proporPowerful	proporRandom	test_size
0.7	0.5	0.8	0.6	0.1

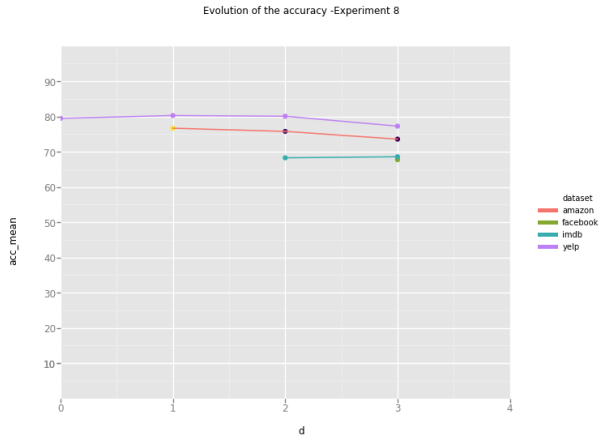
Experiment 2. Sequence of domains: ['amazon', 'yelp', 'imdb', 'facebook']

dataset	yelp	imdb	facebook
Acc. new domain	72.8	66.6	62



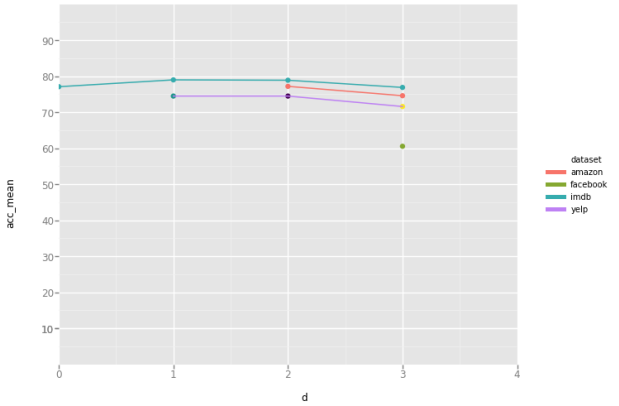
Experiment 8. Sequence of domains: ['yelp', 'amazon', 'imdb', 'facebook']

dataset	amazon	imdb	facebook
Acc. new domain	74	69.4	64.7



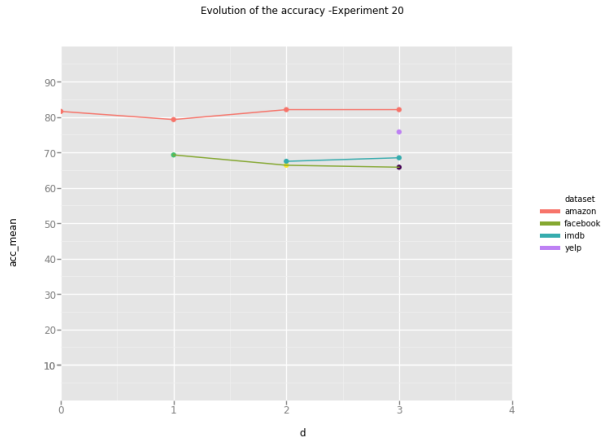
Experiment 14 . Sequence of domains: ['imdb', 'yelp', 'amazon', 'facebook']

dataset	yelp	amazon	facebook
Acc. new domain	69.4	77	58



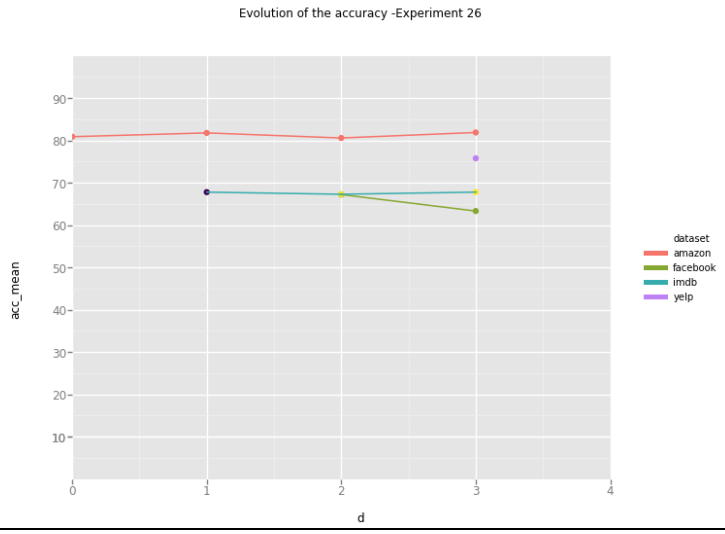
Experiment 20 . Sequence of domains: ['amazon', 'facebook', 'imdb', 'yelp']

dataset	facebook	imdb	yelp
Acc. new domain	62.3	64.6	73



Experiment 26. Sequence of domains: ['amazon', 'imdb', 'facebook', 'yelp']

dataset	imdb	facebook	yelp
Acc. new domain	64.5	62.5	74.4

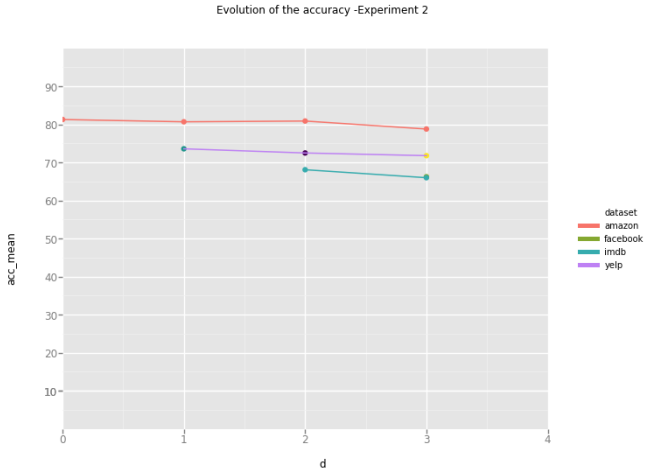


3. Group of experiments 3 using the following parameters:

propor2Best	proporGuilty	proporPowerful	proporRandom	test_size
0.5	0.7	0.8	0.5	0.1

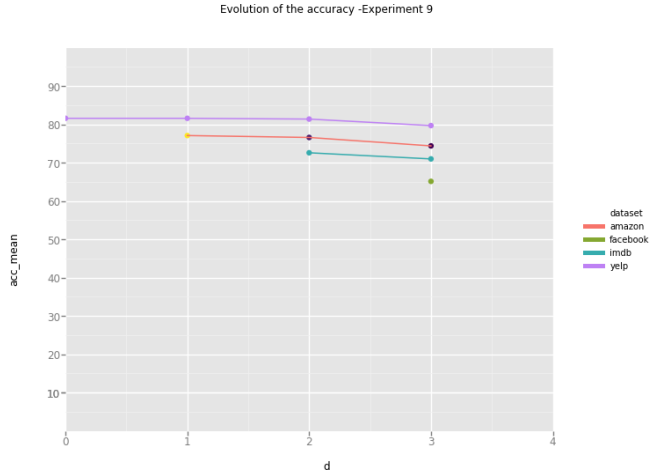
Experiment 3. Sequence of domains: ['amazon', 'yelp', 'imdb', 'facebook']

dataset	yelp	imdb	facebook
Acc. new domain	71.1	65.6	64.7



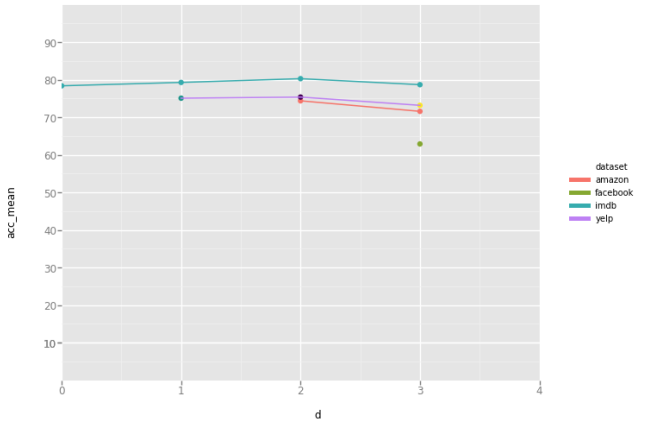
Experiment 9. Sequence of domains: ['yelp', 'amazon', 'imdb', 'facebook']

dataset	amazon	imdb	facebook
Acc. new domain	73.5	69.2	61.25



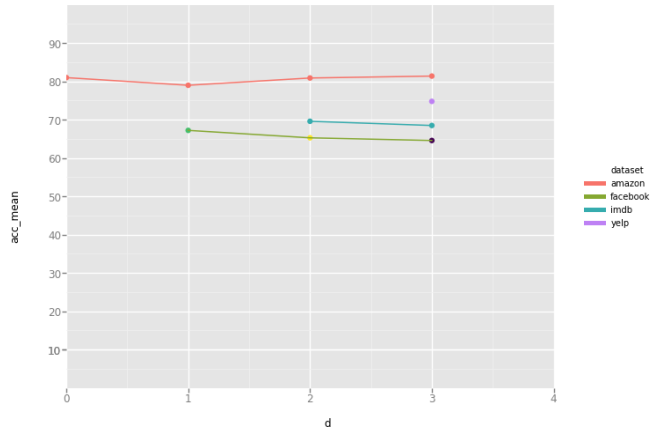
Experiment 15 . Sequence of domains: ['imdb', 'yelp', 'amazon', 'facebook']

dataset	yelp	amazon	facebook
Acc. new domain	72.2	71.8	58



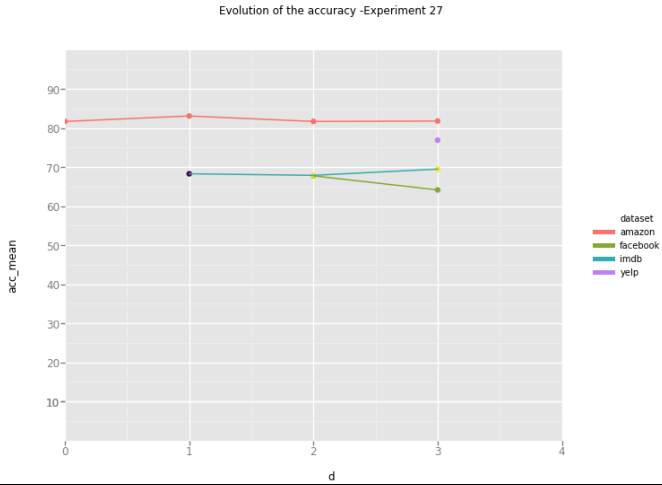
Experiment 21. Sequence of domains: ['amazon', 'facebook', 'imdb', 'yelp']

dataset	facebook	imdb	yelp
Acc. new domain	63	66.6	72.3



Experiment 27. Sequence of domains: ['amazon', 'imdb', 'facebook', 'yelp']

dataset	imdb	facebook	yelp
Acc. new domain	65.3	64.4	74.2



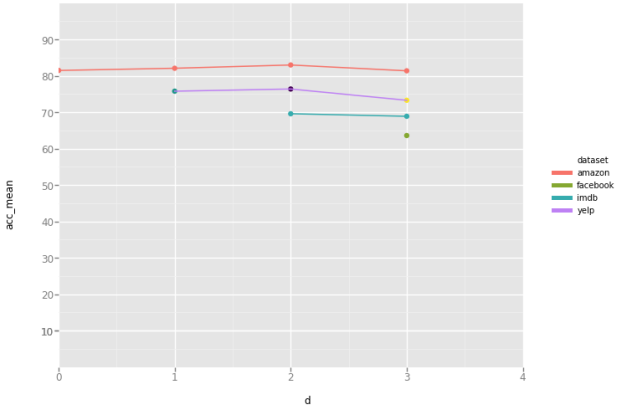
4. Group of experiments 4 using the following parameters:

propor2Best	proporGuilty	proporPowerful	proporRandom	test_size
0.7	0.8	0.9	0.5	0.1

Experiment 4. Sequence of domains: ['amazon', 'yelp', 'imdb', 'facebook']

dataset	yelp	imdb	facebook
Acc. new domain	74.7	68	60.2

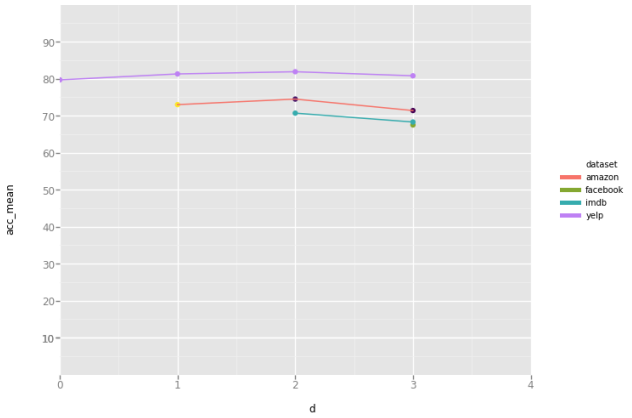
Evolution of the accuracy -Experiment 4



Experiment 10. Sequence of domains: ['yelp', 'amazon', 'imdb', 'facebook']

dataset	amazon	imdb	facebook
Acc. new domain	71.6	68.5	62.9

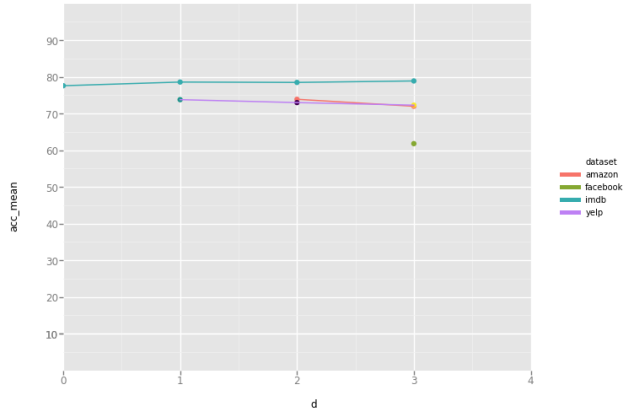
Evolution of the accuracy -Experiment 10



Experiment 16. Sequence of domains: ['imdb', 'yelp', 'amazon', 'facebook']

dataset	yelp	amazon	facebook
Acc. new domain	70.5	74.1	58.2

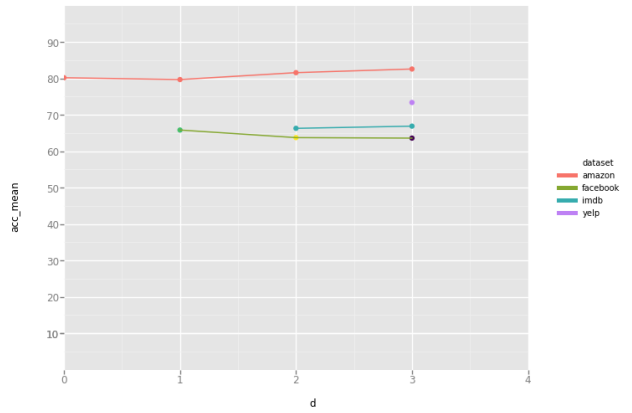
Evolution of the accuracy -Experiment 16



Experiment 22 . Sequence of domains: ['amazon', 'facebook', 'imdb', 'yelp']

dataset	facebook	imdb	yelp
Acc. new domain	62	65.9	72.9

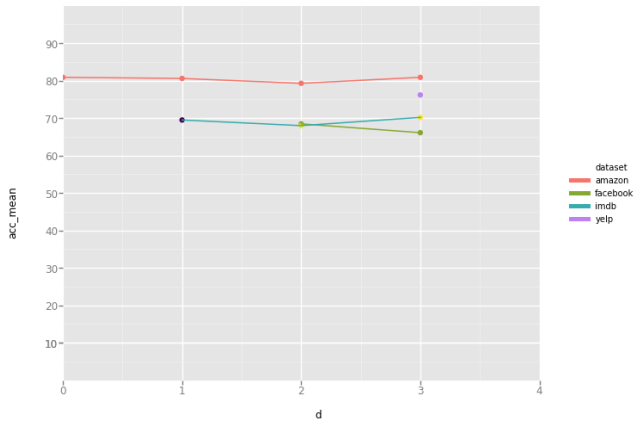
Evolution of the accuracy -Experiment 22



Experiment 28 Sequence of domains: ['amazon', 'imdb', 'facebook', 'yelp']

dataset	imdb	facebook	yelp
Acc. new domain	67.6	65.4	74.1

Evolution of the accuracy -Experiment 28

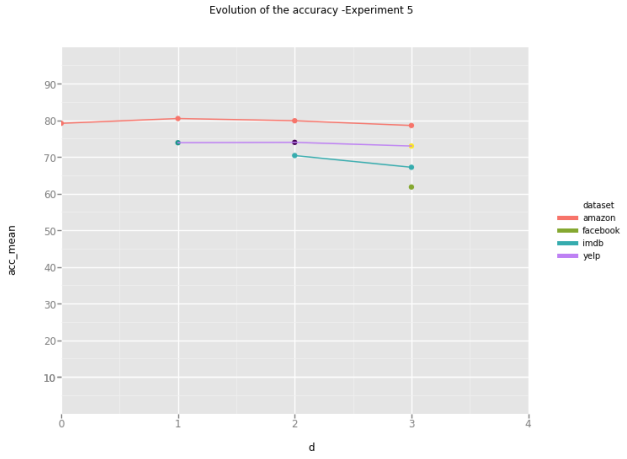


5. Group of experiments 5 using the following parameters:

propor2Best	proporGuilty	proporPowerful	proporRandom	test_size
0.6	0.6	0.8	0.7	0.1

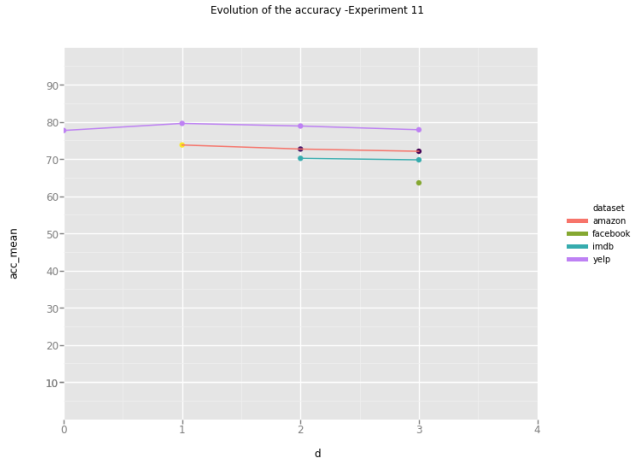
Experiment 5. Sequence of domains: ['amazon', 'yelp', 'imdb', 'facebook']

dataset	yelp	imdb	facebook
Acc. new domain	71.6	68.3	60.2



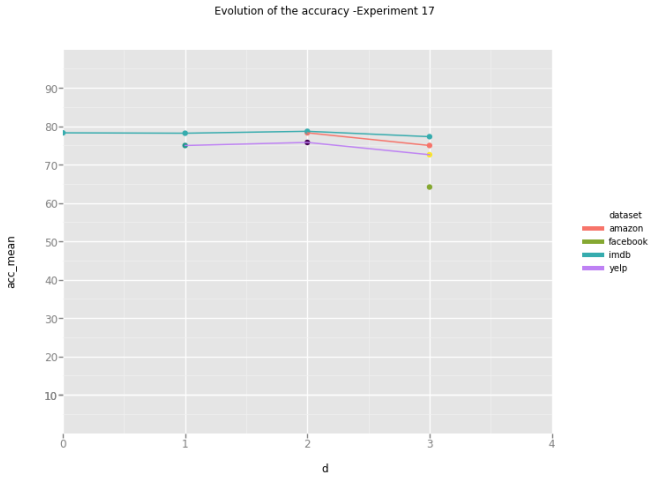
Experiment 11. Sequence of domains: ['yelp', 'amazon', 'imdb', 'facebook']

dataset	amazon	imdb	facebook
Acc. new domain	72.4	69	60.69



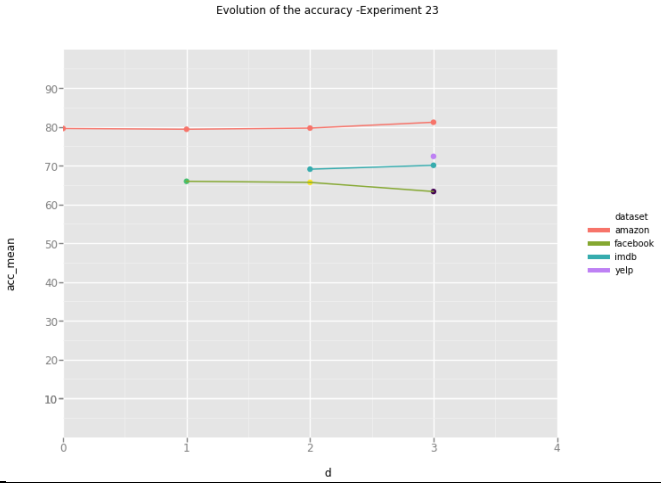
Experiment 17. Sequence of domains: ['imdb', 'yelp', 'amazon', 'facebook']

dataset	yelp	amazon	facebook
Acc. new domain	72.5	76.2	60.97



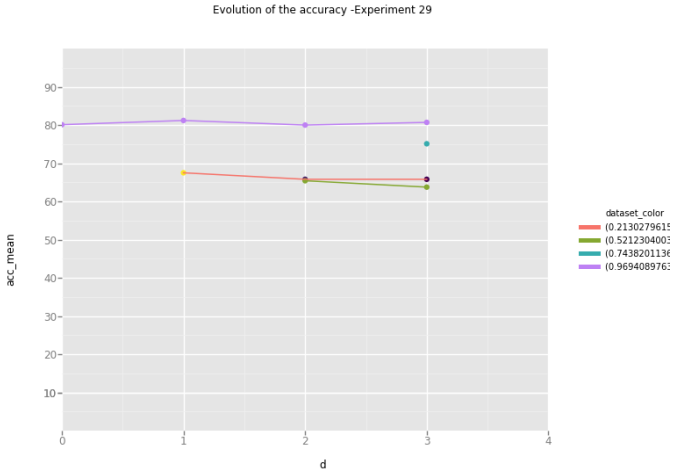
Experiment 23. Sequence of domains: ['amazon', 'facebook', 'imdb', 'yelp']

dataset	facebook	imdb	yelp
Acc. new domain	62.63	67.5	69.9



Experiment 29. Sequence of domains: ['amazon', 'imdb', 'facebook', 'yelp']

dataset	imdb	facebook	yelp
Acc. new domain	64.8	62.63	73.4

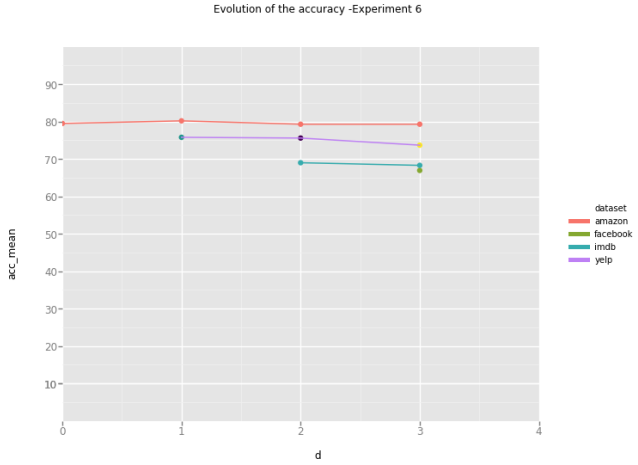


6. Group of experiments 6 using the following parameters:

propor2Best	proporGuilty	proporPowerful	proporRandom	test_size
0.7	0.6	0.8	0.6	0.1

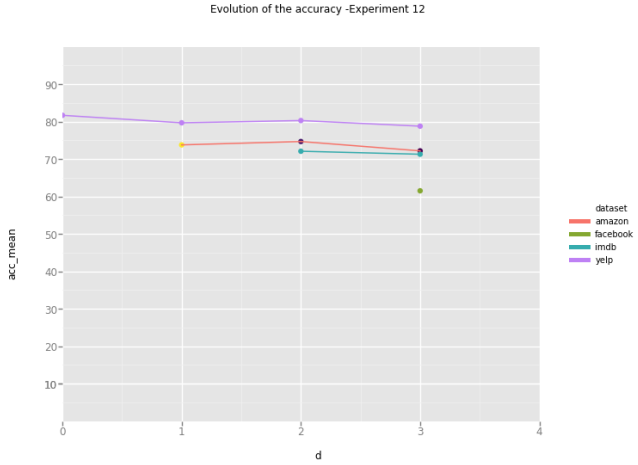
Experiment 6. Sequence of domains: ['amazon', 'yelp', 'imdb', 'facebook']

dataset	yelp	imdb	facebook
Acc. new domain	74.2	67.9	66.11



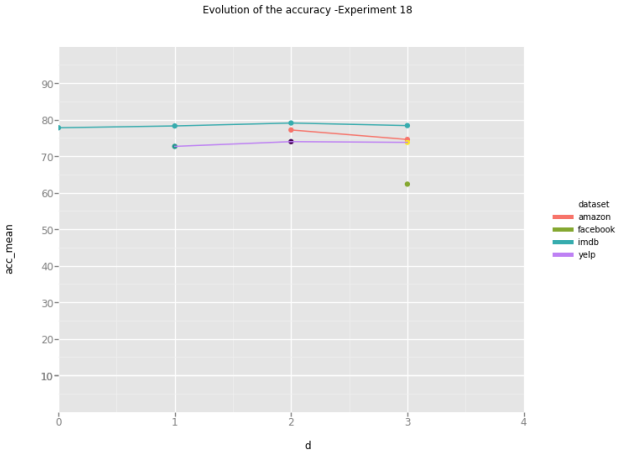
Experiment 12. Sequence of domains: ['yelp', 'amazon', 'imdb', 'facebook']

dataset	amazon	imdb	facebook
Acc. new domain	71.1	70.9	59.7



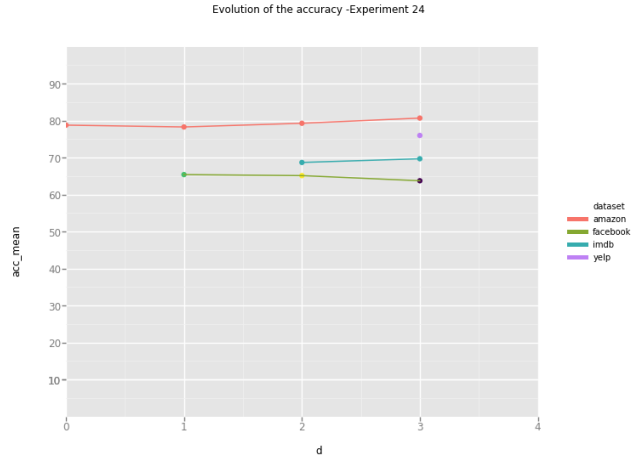
Experiment 18. Sequence of domains: ['imdb', 'yelp', 'amazon', 'facebook']

dataset	yelp	amazon	facebook
Acc. new domain	70.6	74.4	56.2



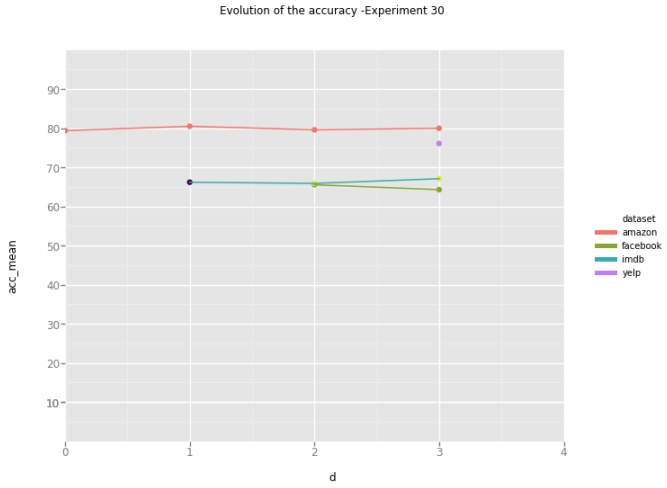
Experiment 24. Sequence of domains: ['amazon', 'facebook', 'imdb', 'yelp']

dataset	facebook	imdb	yelp
Acc. new domain	62.2	68.1	72.9



Experiment 30. Sequence of domains: ['amazon', 'imdb', 'facebook', 'yelp']

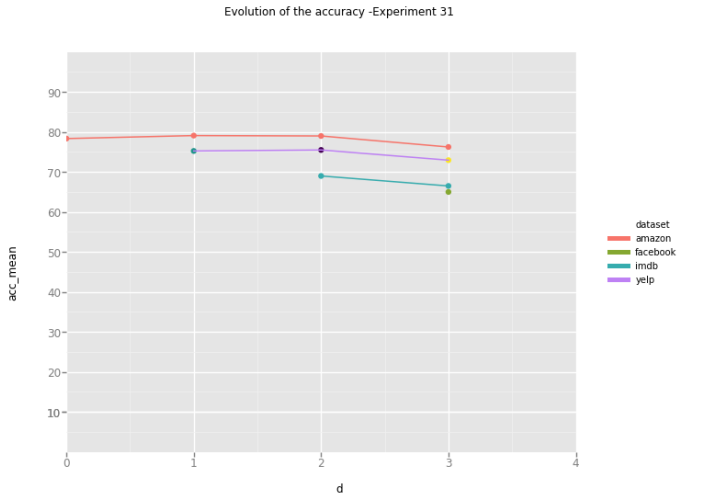
dataset	imdb	facebook	yelp
Acc. new domain	64.3	64.4	74.2



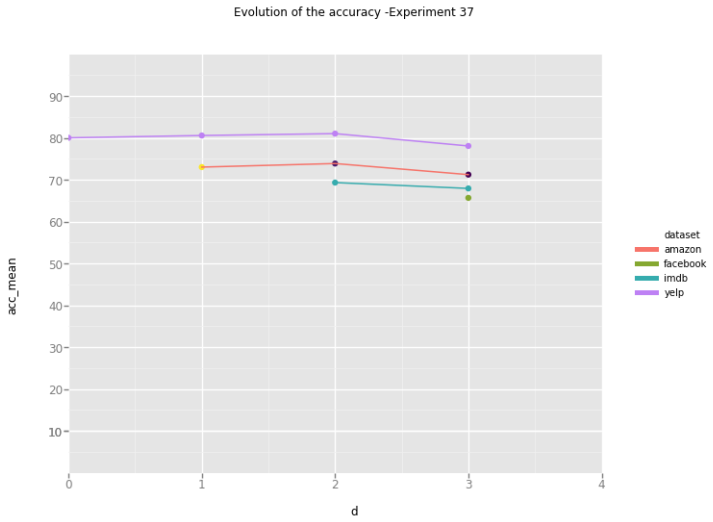
7. Group of experiments 7 using the following parameters:

propor2Best	proporGuilty	proporPowerful	proporRandom	test_size
0.5	0.7	0.8	0.6	0.2

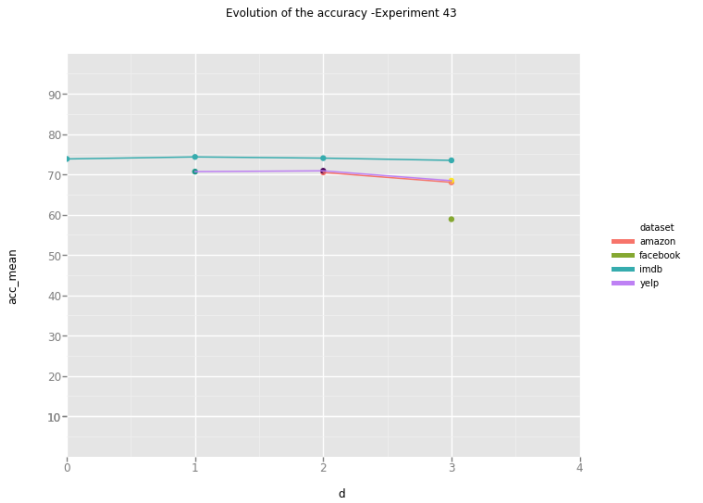
Experiment 31. Sequence of domains: ['amazon', 'yelp', 'imdb', 'facebook']



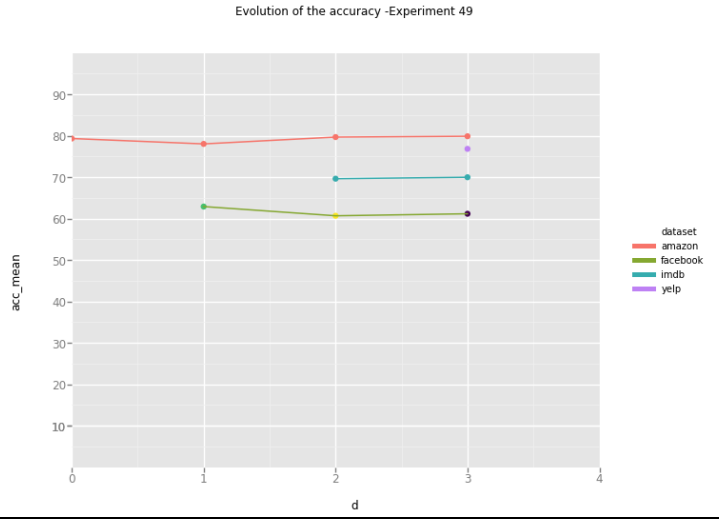
Experiment 37. Sequence of domains: ['yelp', 'amazon', 'imdb', 'facebook']



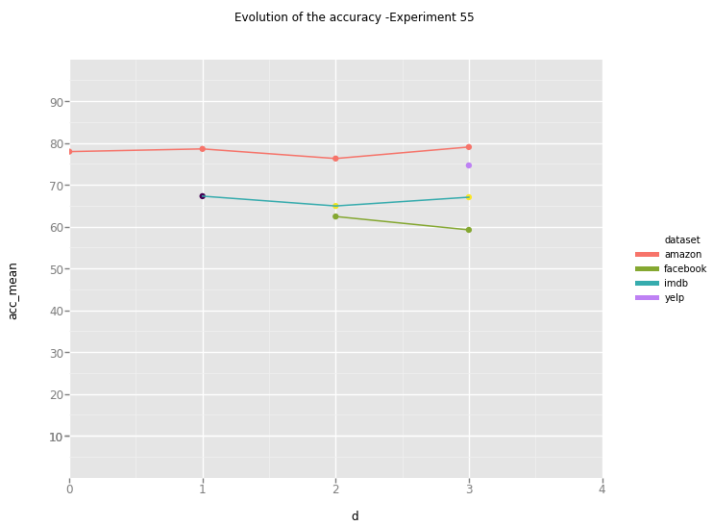
Experiment 43. Sequence of domains: ['imdb', 'yelp', 'amazon', 'facebook']



Experiment 49. Sequence of domains: ['amazon', 'facebook', 'imdb', 'yelp']



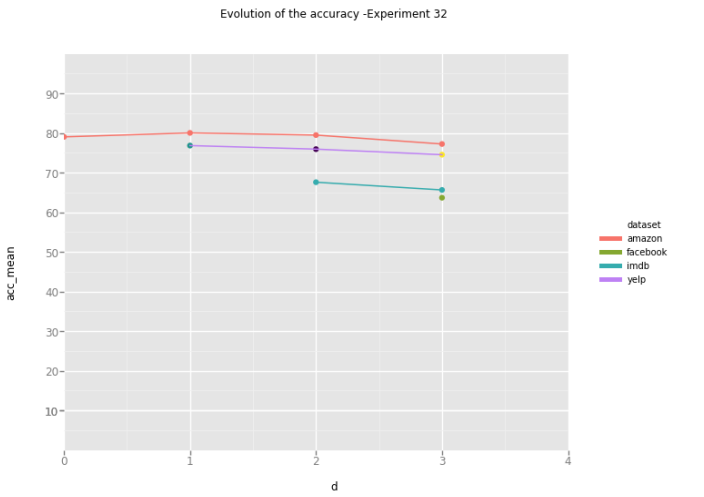
Experiment 55. Sequence of domains: ['amazon', 'imdb', 'facebook', 'yelp']



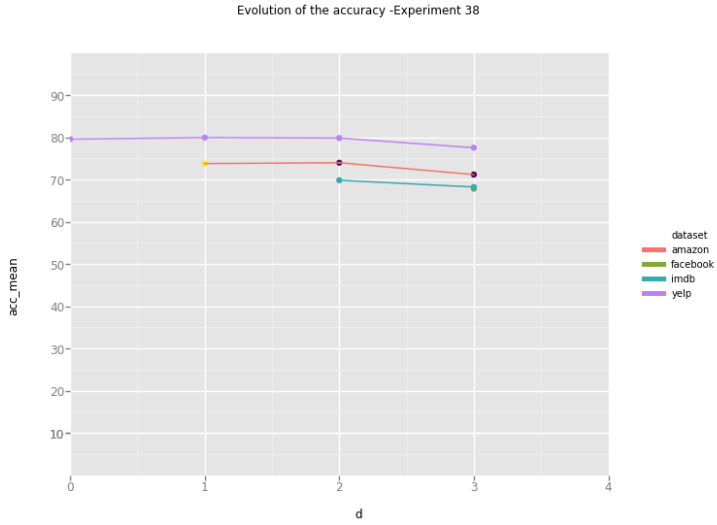
8. Group of experiments 8 using the following parameters:

propor2Best	proporGuilty	proporPowerful	proporRandom	test_size
0.7	0.5	0.8	0.6	0.2

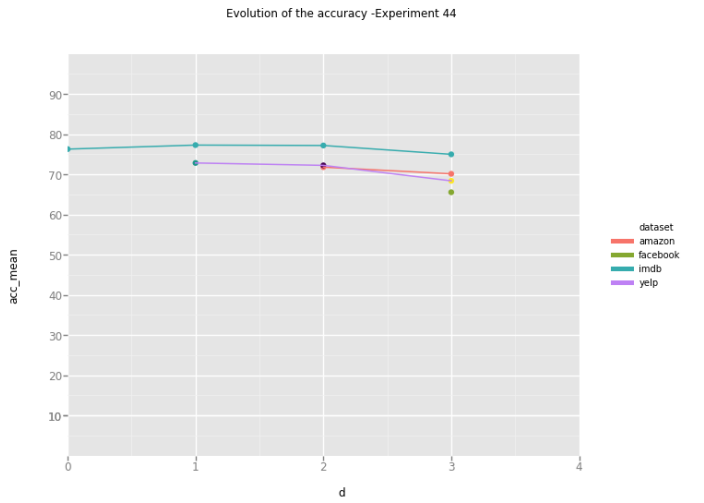
Experiment 32. Sequence of domains: ['amazon', 'yelp', 'imdb', 'facebook']



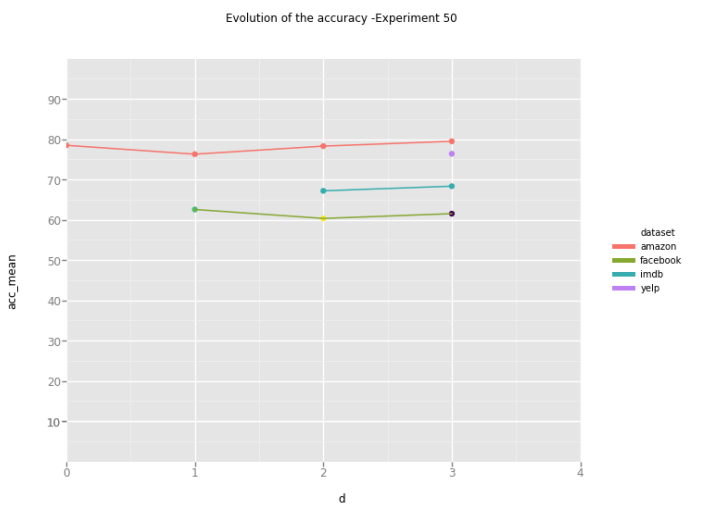
Experiment 38. Sequence of domains: ['yelp', 'amazon', 'imdb', 'facebook']



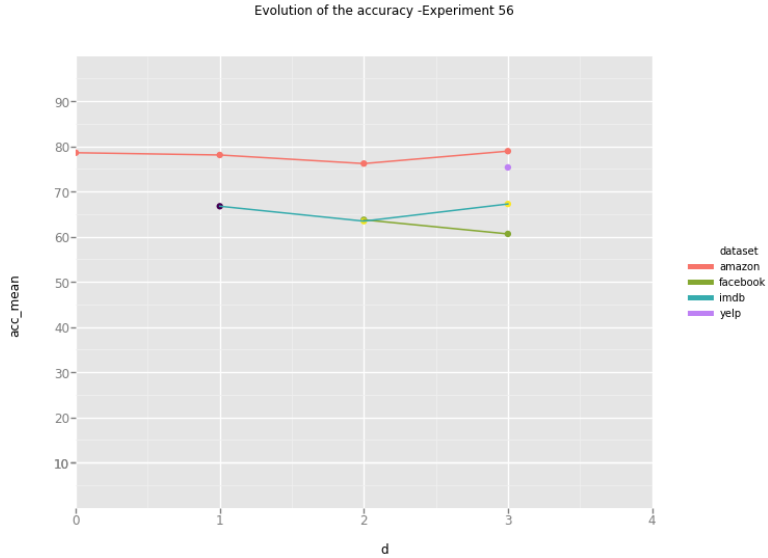
Experiment 44. Sequence of domains: ['imdb', 'yelp', 'amazon', 'facebook']



Experiment 50. Sequence of domains: ['amazon', 'facebook', 'imdb', 'yelp']



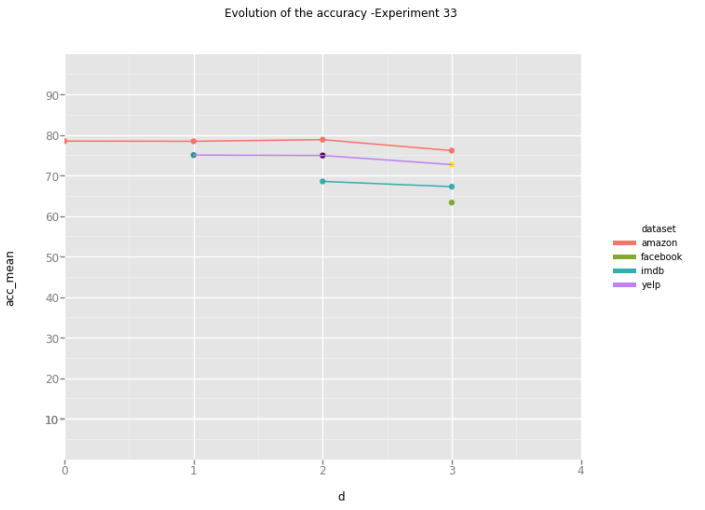
Experiment 56. Sequence of domains: ['amazon', 'imdb', 'facebook', 'yelp']



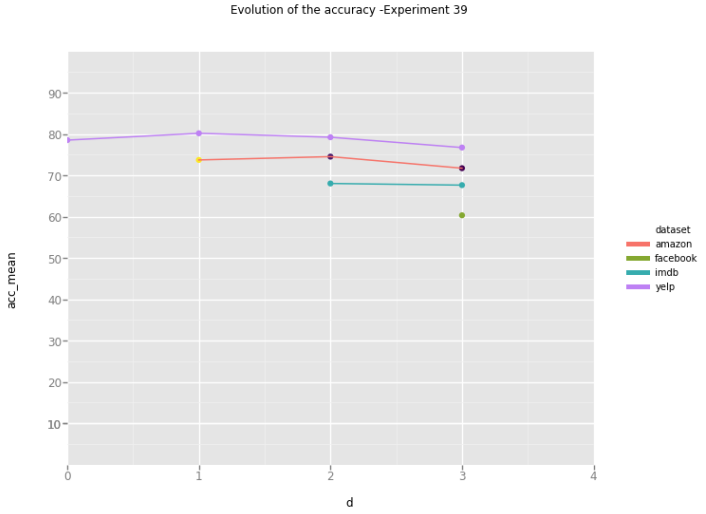
9. Group of experiments 9 using the following parameters:

propor2Best	proporGuilty	proporPowerful	proporRandom	test_size
0.5	0.7	0.8	0.5	0.2

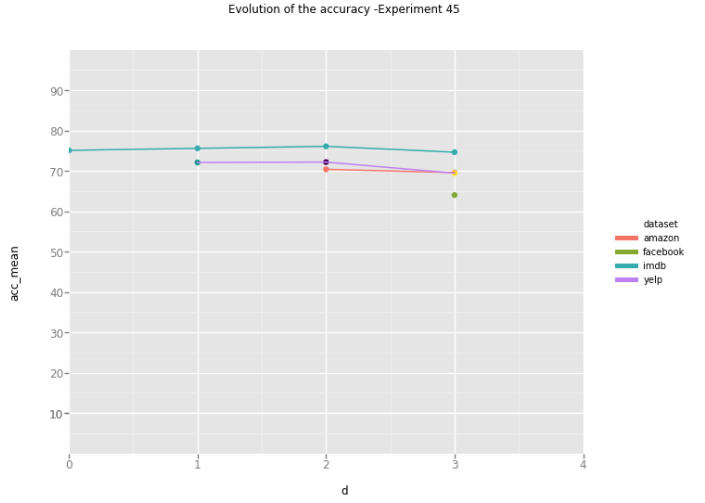
Experiment 33. Sequence of domains: ['amazon', 'yelp', 'imdb', 'facebook']



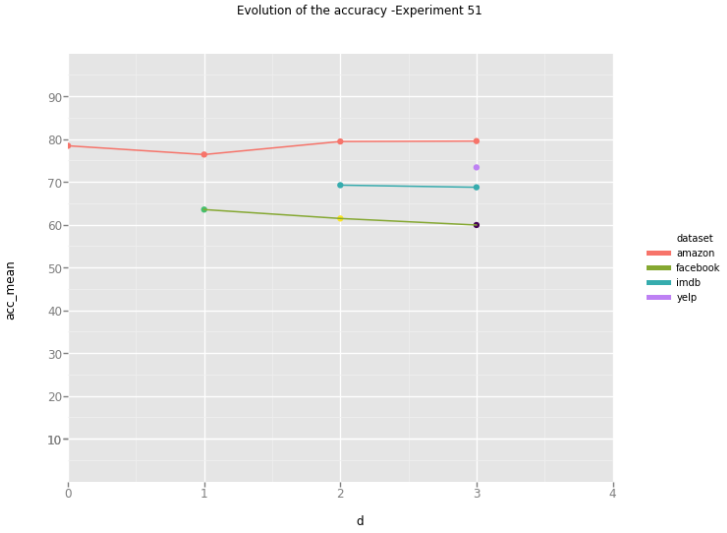
Experiment 39. Sequence of domains: ['yelp', 'amazon', 'imdb', 'facebook']



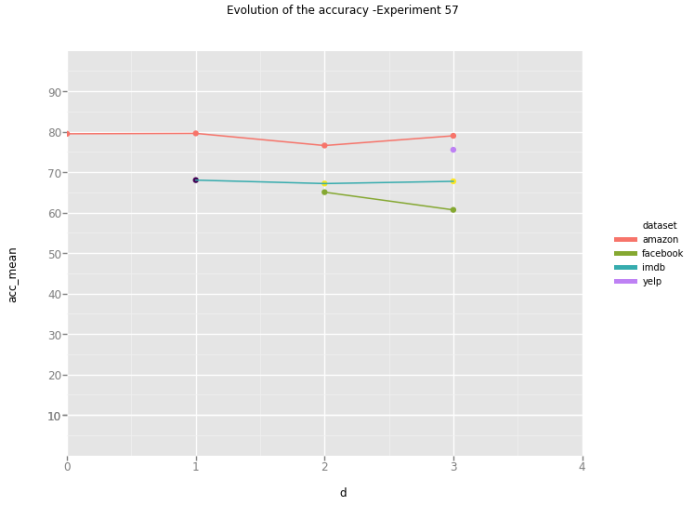
Experiment 45 . Sequence of domains: ['imdb', 'yelp', 'amazon', 'facebook']



Experiment 51. Sequence of domains: ['amazon', 'facebook', 'imdb', 'yelp']



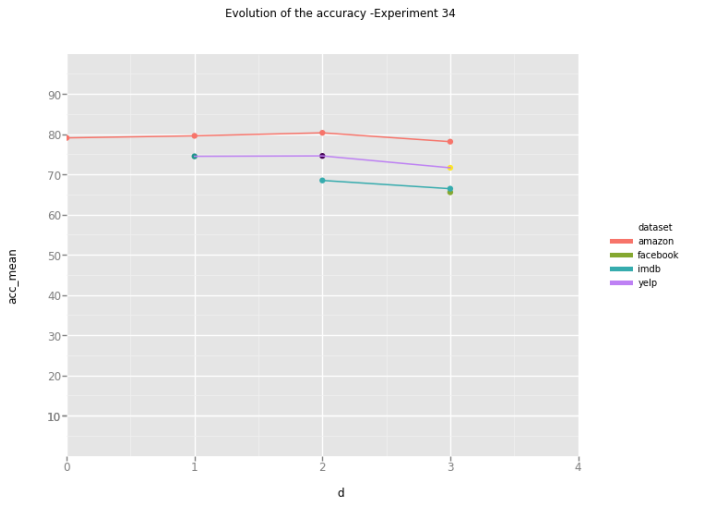
Experiment 57. Sequence of domains: ['amazon', 'imdb', 'facebook', 'yelp']



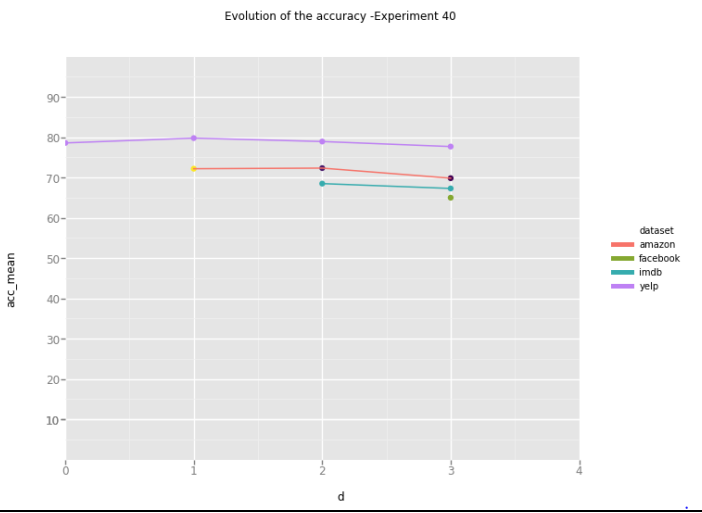
10. Group of experiments 10 using the following parameters:

propor2Best	proporGuilty	proporPowerful	proporRandom	test_size
0.7	0.8	0.9	0.5	0.2

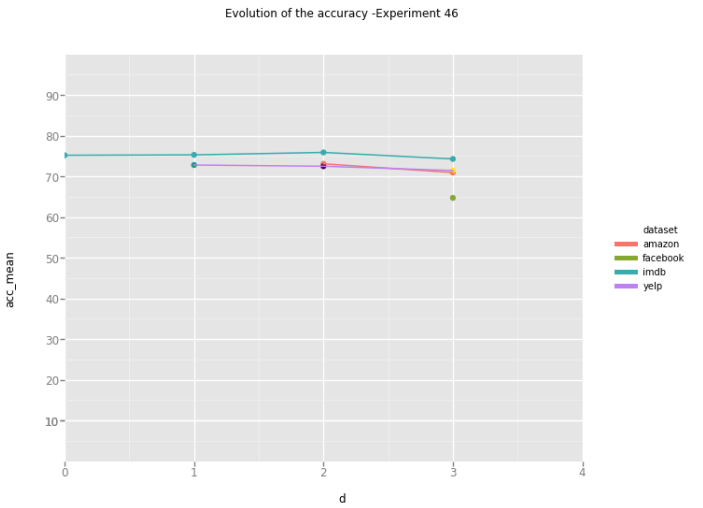
Experiment 34. Sequence of domains: ['amazon', 'yelp', 'imdb', 'facebook']



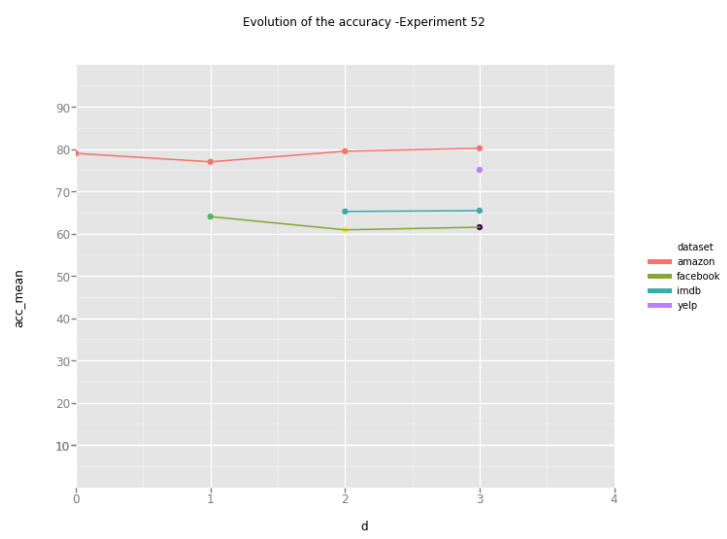
Experiment 40. Sequence of domains: ['yelp', 'amazon', 'imdb', 'facebook']



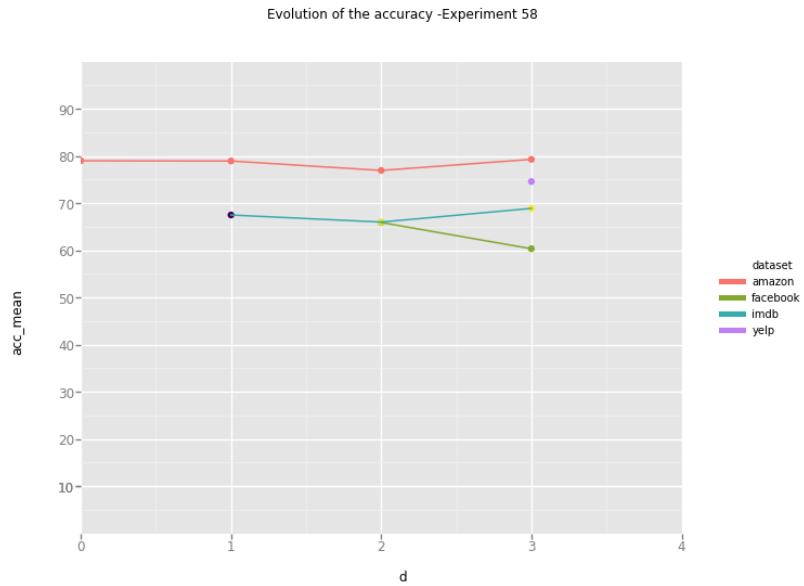
Experiment 46. Sequence of domains: ['imdb', 'yelp', 'amazon', 'facebook']



Experiment 52 Sequence of domains: ['amazon', 'facebook', 'imdb', 'yelp']



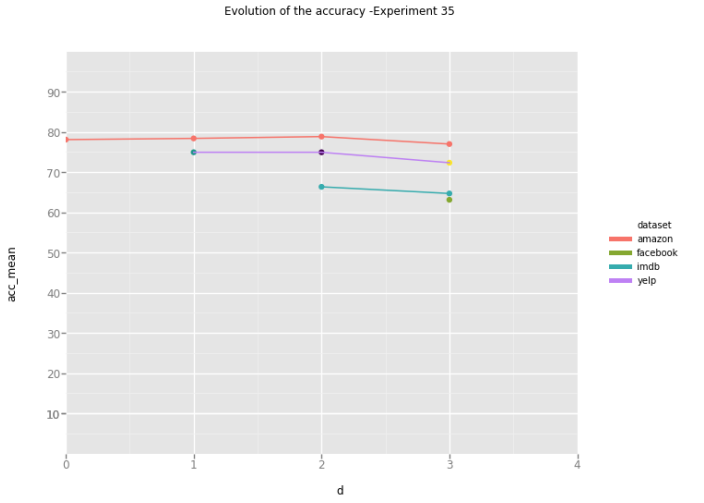
Experiment 58. Sequence of domains: ['amazon', 'imdb', 'facebook', 'yelp']



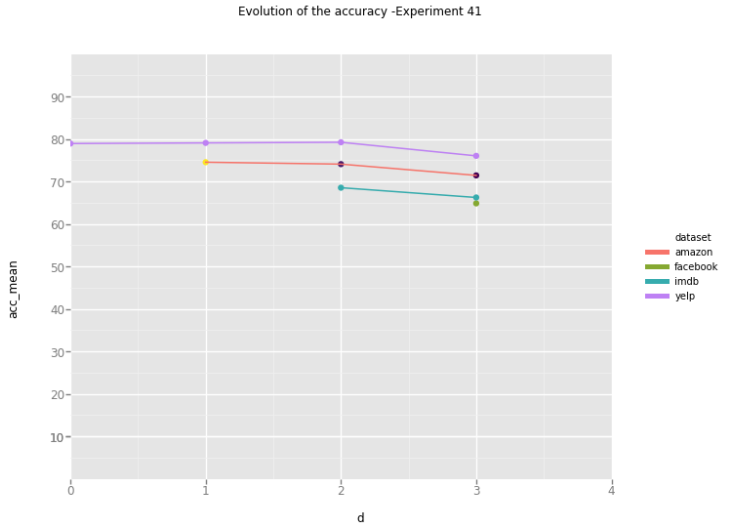
11. Group of experiments 11 using the following parameters:

propor2Best	proporGuilty	proporPowerful	proporRandom	test_size
0.6	0.6	0.8	0.7	0.2

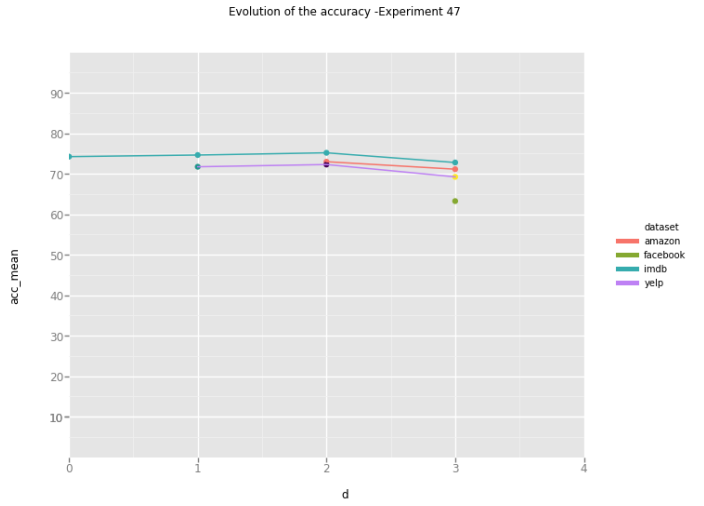
Experiment 35. Sequence of domains: ['amazon', 'yelp', 'imdb', 'facebook']



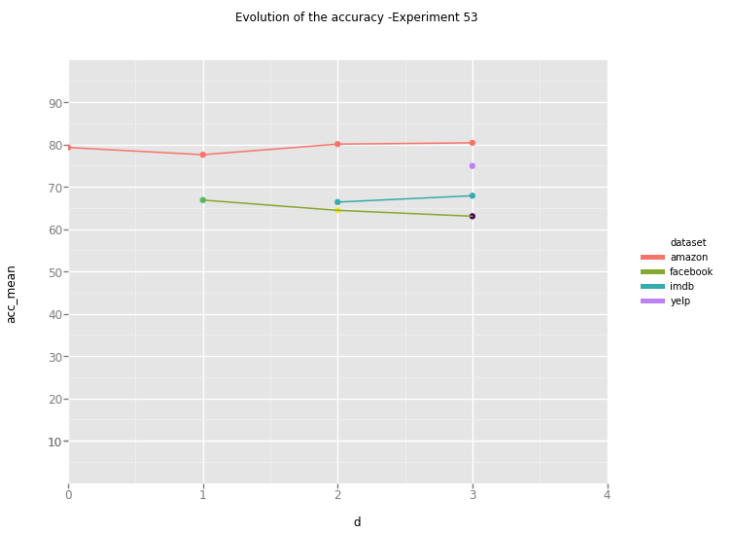
Experiment 41. Sequence of domains: ['yelp', 'amazon', 'imdb', 'facebook']



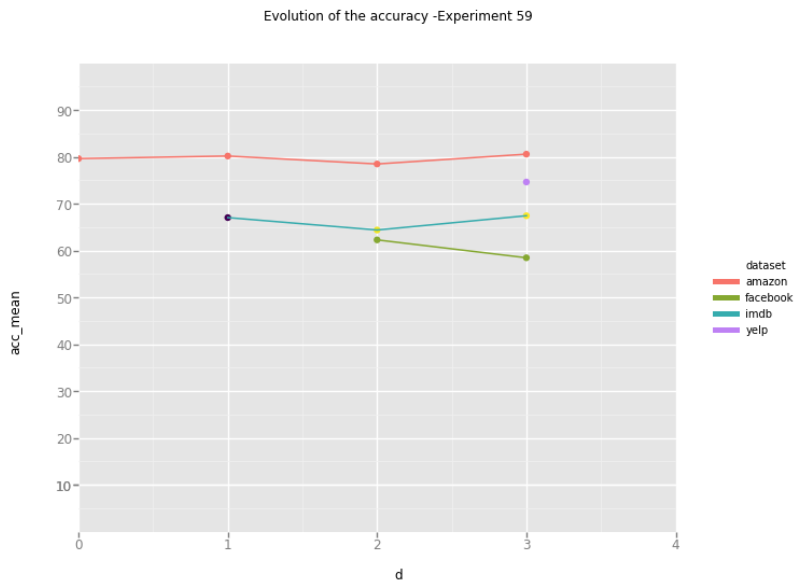
Experiment 47. Sequence of domains: ['imdb', 'yelp', 'amazon', 'facebook']



Experiment 53. Sequence of domains: ['amazon', 'facebook', 'imdb', 'yelp']



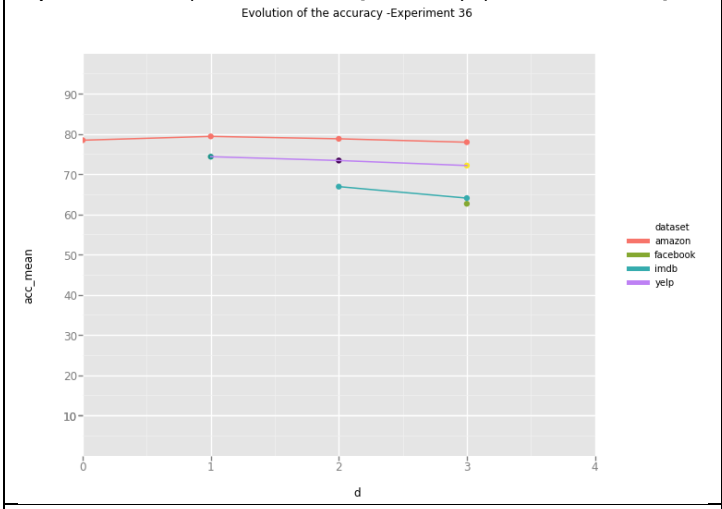
Experiment 59. Sequence of domains: ['amazon', 'imdb', 'facebook', 'yelp']



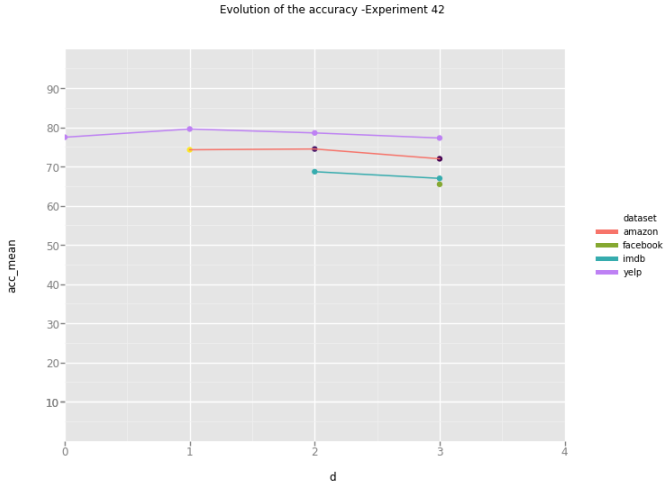
12. Group of experiments 12 using the following parameters:

propor2Best	proporGuilty	proporPowerful	proporRandom	test_size
0.7	0.6	0.8	0.6	0.2

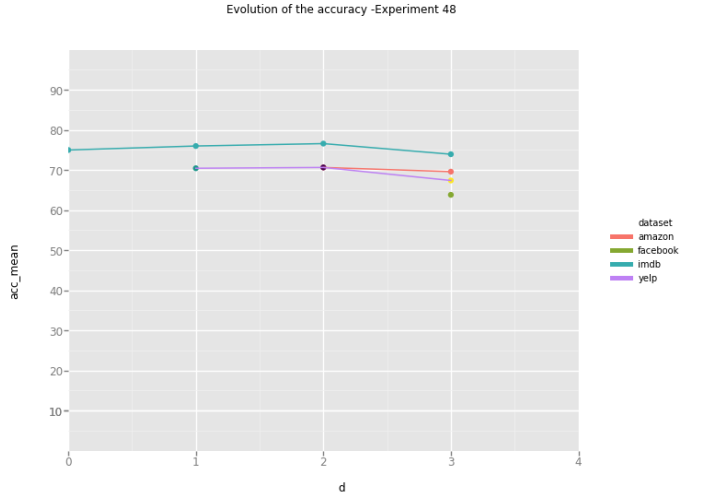
Experiment 36. Sequence of domains: ['amazon', 'yelp', 'imdb', 'facebook']



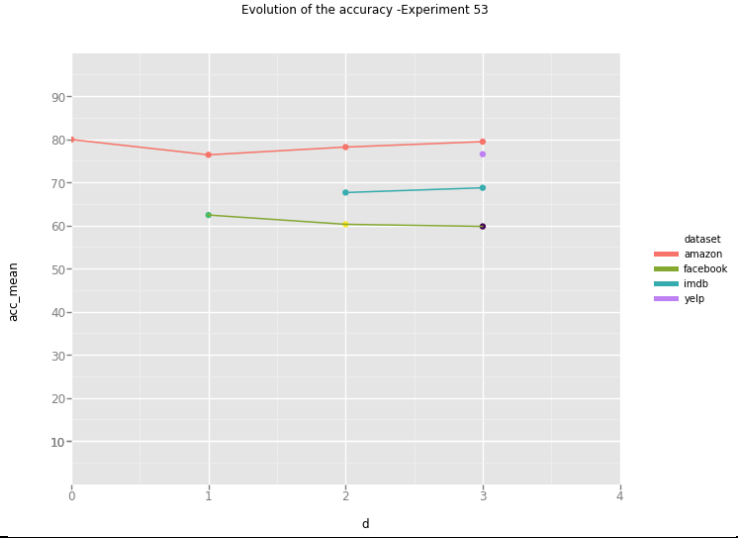
Experiment 42. Sequence of domains: ['yelp', 'amazon', 'imdb', 'facebook']



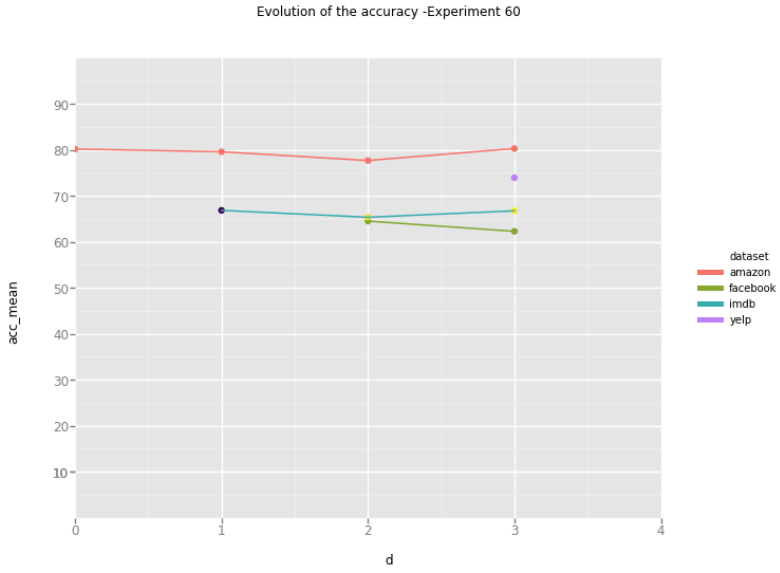
Experiment 48. Sequence of domains: ['imdb', 'yelp', 'amazon', 'facebook']



Experiment 54. Sequence of domains: ['amazon', 'facebook', 'imdb', 'yelp']



Experiment 60. Sequence of domains: ['amazon', 'imdb', 'facebook', 'yelp']



Evaluation of the accuracy using R

Multiple linear regression

```
Call:
lm(formula = acc ~ dataset + test_size + d + proporGuilty + proporPowerful +
    proporRandom + propor2Best, data = metrics)

Residuals:
    Min      1Q  Median      3Q     Max
-6.8855 -2.3356 -0.2892  2.2427  8.3523

Coefficients:
                Estimate Std. Error t value Pr(>|t|)
(Intercept)      81.5911     6.2910  12.969  < 2e-16 ***
datasetfacebook -11.9135     0.4681 -25.449  < 2e-16 ***
datasetimdb      -6.1459     0.3687 -16.669  < 2e-16 ***
datasetyelp      -1.6756     0.3579  -4.682 3.64e-06 ***
test_size       -16.3487     2.8423  -5.752 1.52e-08 ***
d                -1.4639     0.1451 -10.091  < 2e-16 ***
proporGuilty     -6.2823     4.9953  -1.258   0.2091
proporPowerful   11.8855    13.3312   0.892   0.3731
proporRandom     -4.5798     2.6042  -1.759   0.0792 .
propor2Best      -3.2171     4.1898  -0.768   0.4429
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

Anova

```
> Anova(ta)
Anova Table (Type II tests)

Response: acc
              Sum Sq  Df  F value    Pr(>F)
dataset       7715.7   3 257.4975 < 2.2e-16 ***
test_size      330.5   1  33.0848 1.522e-08 ***
d             1017.0   1 101.8193 < 2.2e-16 ***
proporGuilty    15.8   1   1.5816   0.20910
proporPowerful   7.9   1   0.7949   0.37305
proporRandom    30.9   1   3.0927   0.07924 .
propor2Best      5.9   1   0.5896   0.44294
Residuals     5093.9 510
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> ta2 <- lm(acc ~   dataset + test_size+ d, data = metrics)
> Anova(ta2)#
Anova Table (Type II tests)

Response: acc
          Sum Sq  Df F value    Pr(>F)
dataset   7713.5   3 257.332 < 2.2e-16 ***
test_size  326.0   1  32.625 1.893e-08 ***
d         1017.2   1 101.804 < 2.2e-16 ***
Residuals 5135.7 514
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

Evaluation of the precision using R

Multiple linear regression

```
Call:
lm(formula = precision ~ dataset + test_size + d + proporGuilty +
    proporPowerful + proporRandom + propor2Best, data = metrics)

Residuals:
    Min      1Q  Median      3Q     Max
-8.6276 -2.3340 -0.0638  2.0670 11.1597

Coefficients:
                Estimate Std. Error t value Pr(>|t|)
(Intercept)      88.95537    7.07050  12.581  < 2e-16 ***
datasetfacebook  15.65178    0.52614  29.748  < 2e-16 ***
datasetimdb      -2.78179    0.41440  -6.713 5.10e-11 ***
datasetyelp       1.00107    0.40220   2.489   0.0131 *
test_size       -25.24039    3.19446  -7.901 1.71e-14 ***
d                -1.76188    0.16305 -10.805  < 2e-16 ***
proporGuilty      0.03307    5.61424   0.006   0.9953
proporPowerful   -3.40949   14.98296  -0.228   0.8201
proporRandom     -3.85431    2.92690  -1.317   0.1885
propor2Best      -0.91328    4.70895  -0.194   0.8463
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 3.552 on 510 degrees of freedom
Multiple R-squared:  0.7307,    Adjusted R-squared:  0.7259
F-statistic: 153.7 on 9 and 510 DF,  p-value: < 2.2e-16
```

Anova

```
> Anova(tp)
Anova Table (Type II tests)

Response: precision
               Sum Sq  Df  F value    Pr(>F)
dataset        15898.4   3 420.0434 < 2.2e-16 ***
test_size        787.7   1  62.4306 1.712e-14 ***
d               1473.1   1 116.7582 < 2.2e-16 ***
proporGuilty       0.0   1   0.0000    0.9953
proporPowerful     0.7   1   0.0518    0.8201
proporRandom      21.9   1   1.7341    0.1885
propor2Best        0.5   1   0.0376    0.8463
Residuals       6434.4 510
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> tp2 <- lm(precision ~   dataset + test_size + d, data = metrics)
> Anova(tp2)#
Anova Table (Type II tests)

Response: precision
           Sum Sq  Df F value    Pr(>F)
dataset   15897.9   3 420.942 < 2.2e-16 ***
test_size   792.3   1  62.934 1.345e-14 ***
d          1473.2   1 117.019 < 2.2e-16 ***
Residuals  6470.8 514
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

Evaluation of the recall using R

Multiple linear regression

```
Call:
lm(formula = recall ~ dataset + test_size + d + proporGuilty +
    proporPowerful + proporRandom + propor2Best, data = metrics)

Residuals:
     Min       1Q   Median       3Q      Max
-26.1550  -2.3228   0.9522   3.9415  13.7535

Coefficients:
                Estimate Std. Error t value Pr(>|t|)
(Intercept)      71.8561    13.2000   5.444 8.12e-08 ***
datasetfacebook -13.2054     0.9823 -13.444  < 2e-16 ***
datasetimdb     -13.3290     0.7736 -17.229  < 2e-16 ***
datasetyelp      -7.0153     0.7509  -9.343  < 2e-16 ***
test_size         2.7369     5.9638   0.459   0.6465
d                -0.6820     0.3044  -2.240   0.0255 *
proporGuilty    -13.0494    10.4813  -1.245   0.2137
proporPowerful   29.2172    27.9719   1.045   0.2967
proporRandom     -5.0350     5.4643  -0.921   0.3573
propor2Best      -4.6052     8.7912  -0.524   0.6006
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 6.631 on 510 degrees of freedom
Multiple R-squared:  0.444,     Adjusted R-squared:  0.4341
F-statistic: 45.24 on 9 and 510 DF,  p-value: < 2.2e-16
```

Anova

```
> Anova(tr)
Anova Table (Type II tests)

Response: recall
               Sum Sq  Df  F value  Pr(>F)
dataset        15551.1   3 117.8838 < 2e-16 ***
test_size          9.3   1   0.2106 0.64649
d                220.7   1   5.0194 0.02549 *
proporGuilty      68.2   1   1.5501 0.21370
proporPowerful    48.0   1   1.0910 0.29674
proporRandom      37.3   1   0.8490 0.35726
propor2Best       12.1   1   0.2744 0.60062
Residuals      22426.3 510
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> tr2 <- lm(recall ~  dataset + d, data = metrics)
> Anova(tr2)#
Anova Table (Type II tests)

Response: recall
            Sum Sq  Df  F value  Pr(>F)
dataset   15592.5   3 118.3644 < 2e-16 ***
d           218.6   1   4.9791 0.02608 *
Residuals 22614.1 515
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```