Trademarks Throughout Time

Using Previous USPTO Trademark Applications to Understand and Improve Registration Outcomes (for Busy People)
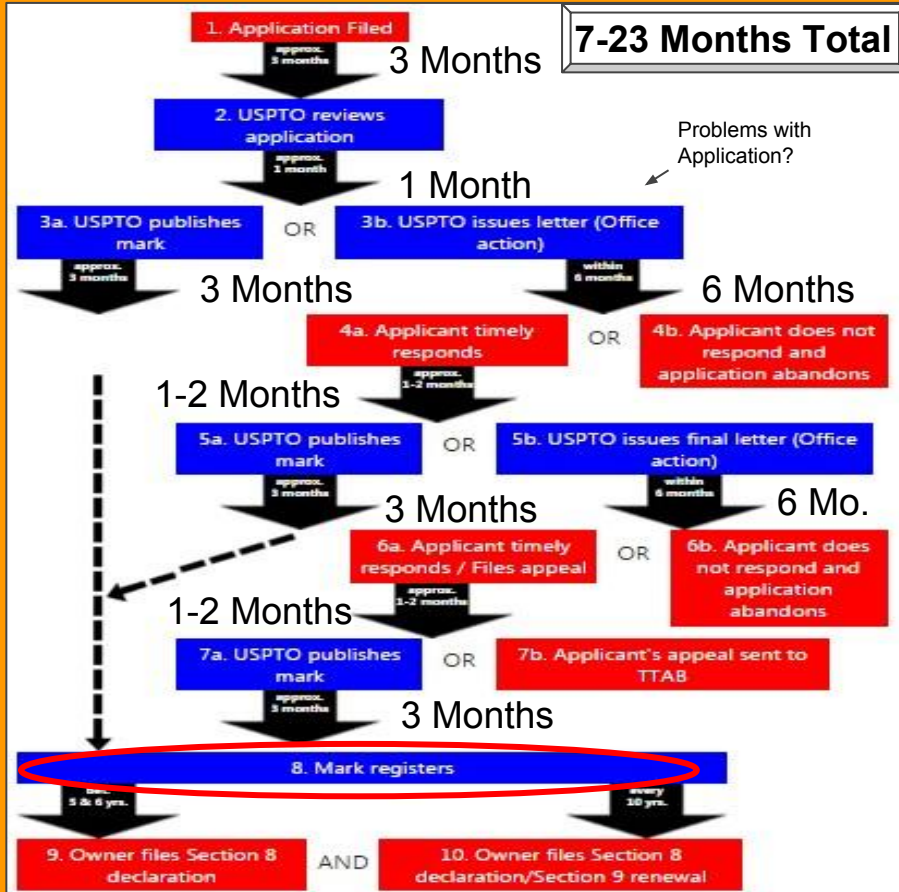
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What is a Trademark?

- *A symbol, word, or words legally registered or established by use as representing a company or product.*

- Successful Federal Trademarks Not Descriptive, Generic, or Likely to Cause Confusion with Other Registered Marks

- Protects Goods and Services

- United States Patent and Trademark Office

- Federal Jurisdiction

Typical USPTO Filing

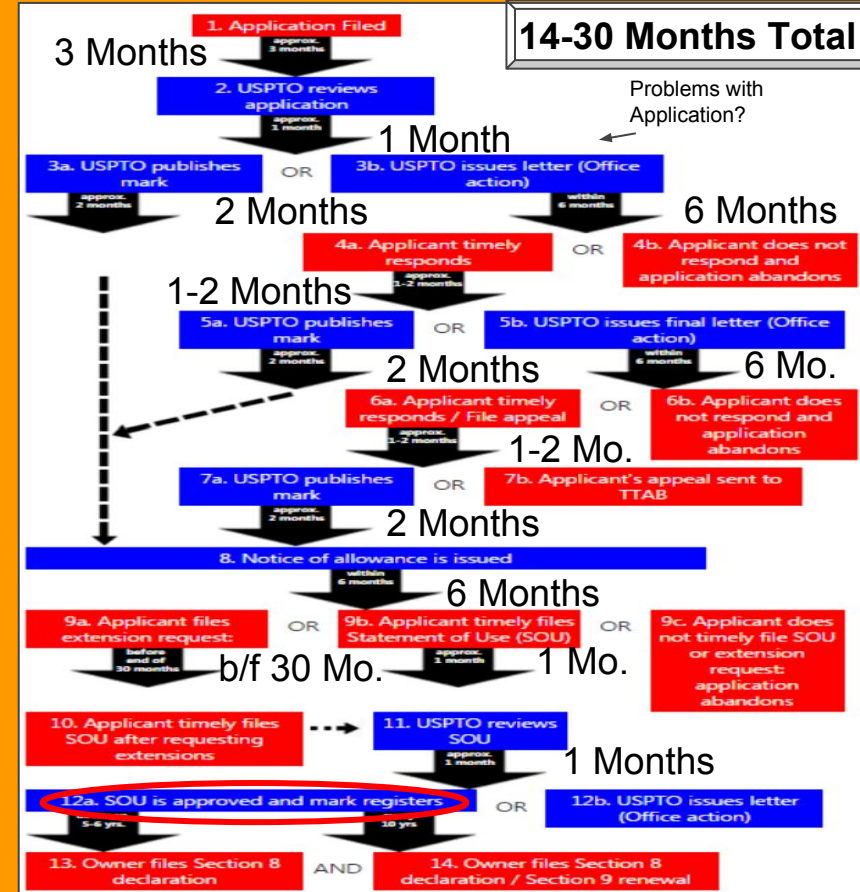1. Choose Mark Format: Standardized, Stylized or Sound?

2. Choose Applicable Trademark Classes to Apply (e.g. 8: Cutlery, 20: Clothing)

3. Search USPTO Database for Conflicting Mark

4. Filing Basis: Have You Used Trademark in Past? In Interstate Commerce? Choose "Use in Commerce," Otherwise "Intent to Use"

5. (Optional) Hire a Private Trademark Attorney to Advise on and Monitor Application Process

Use in Commerce

Intent to Use

Use in Commerce (left diagram): 7-23 Months Total

- 1. Application Filed — 3 Months
- 2. USPTO reviews application — 1 Month — Problems with Application?
- 3a. USPTO publishes mark OR 3b. USPTO issues letter (Office action) — 3 Months / 6 Months
- 4a. Applicant timely responds OR 4b. Applicant does not respond and application abandons — 1-2 Months
- 5a. USPTO publishes mark OR 5b. USPTO issues final letter (Office action) — 3 Months / 6 Mo.
- 6a. Applicant timely responds / Files appeal OR 6b. Applicant does not respond and application abandons — 1-2 Months
- 7a. USPTO publishes mark OR 7b. Applicant's appeal sent to TTAB — 3 Months
- 8. Mark registers — 5 & 6 yrs. / every 10 yrs.
- 9. Owner files Section 8 declaration AND 10. Owner files Section 8 declaration/Section 9 renewal

vs.

Intent to Use (right diagram): 14-30 Months Total

- 1. Application Filed — 3 Months
- 2. USPTO reviews application — 1 Month — Problems with Application?
- 3a. USPTO publishes mark OR 3b. USPTO issues letter (Office action) — 2 Months / 6 Months
- 4a. Applicant timely responds OR 4b. Applicant does not respond and application abandons — 1-2 Months
- 5a. USPTO publishes mark OR 5b. USPTO issues final letter (Office action) — 2 Months / 6 Mo.
- 6a. Applicant timely responds / File appeal OR 6b. Applicant does not respond and application abandons — 1-2 Mo.
- 7a. USPTO publishes mark OR 7b. Applicant's appeal sent to TTAB — 2 Months
- 8. Notice of allowance is issued — 6 Months
- 9a. Applicant files extension request: OR 9b. Applicant timely files Statement of Use (SOU) OR 9c. Applicant does not timely file SOU or extension request: application abandons — b/f 30 Mo. / 1 Mo.
- 10. Applicant timely files SOU after requesting extensions --> 11. USPTO reviews SOU — 1 Months
- 12a. SOU is approved and mark registers OR 12b. USPTO issues letter (Office action) — 5-6 yrs. / 10 yrs.
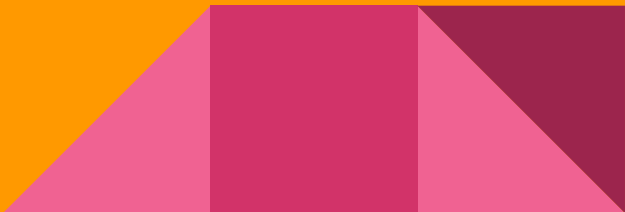- 13. Owner files Section 8 declaration AND 14. Owner files Section 8 declaration / Section 9 renewal

Application Timeline

- Months to Years

- Attorney and Non-Refundable Filing Fees

- Typical Costs Upwards of $2500

- Predictive Method to Anticipate Rejection?

- Information Available?

Application for registration, per international class (paper filing)	375.00
Application for registration, per international class (electronic filing, TEAS application)	325.00
Application for registration, per international class (electronic filing, TEAS RF application)	275.00
Application for registration, per international class (electronic filing, TEAS Plus application)	225.00
Filing an Amendment to Allege Use under §1(c), per class	100.00
Filing a Statement of Use under §1(d)(1), per class	100.00
Filing a Request for a Six-month Extension of Time for Filing a Statement of Use under §1(d)(1), per class	150.00
Petitions to the Director	100.00

Trademark Case Files

- 7.7+ Million Trademark Applications

- 1870 - 2015

- 79 Default Features

- Largely Binary

- Status of Application, TM Characteristics, Size, etc.

Expectations

- Non-Binary Predictor Variables Will Impact Outcome of Dependent Variable

- Distorting, 100% Predictive Variables Will Not Dominate Model

- Multiple-Million Size Sample Will Not Overfit, but Predict Well to Test Set

- The Resulting Decision-Tree Nodes Will Sequentially Diagram Process of Successful Trademark Registration

Is the TM Registered?

## Dependent Variable (status code >= 700 i.e. "Registered")
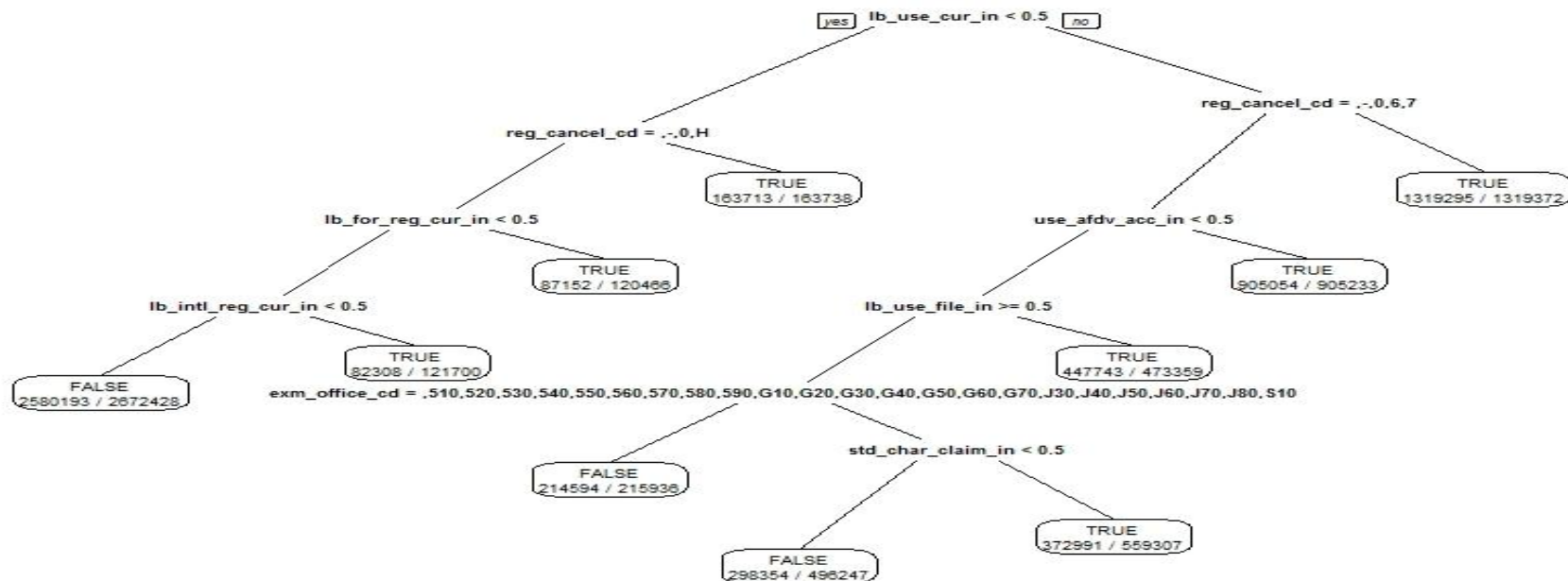
Problems

- Nearly All Significant Variables Binary

- Distorting, 100% Predictive Variables Must Be Purged

- Comprehensive Model Is Overfitted (CART, RF)

- No Obvious Decision-Tree Sequence for Successful Trademark Registration

Methodology

- CART, RandomForest, and Logistic Regression

- Library(data.table), fread()

- Remove Ultra-Specific Dates

- Undersample for Even Outcomes

- ONLY Use Filings from 1980 Onwards

- Feature Selection / Some Engineering

- Predict to Test Set, 2013 -2015

Feature Selection

- VarImp() (CART)

- VarImpPlot() (RF)

- Chi-Square Test of Independence (p-value infinitesimal among most)
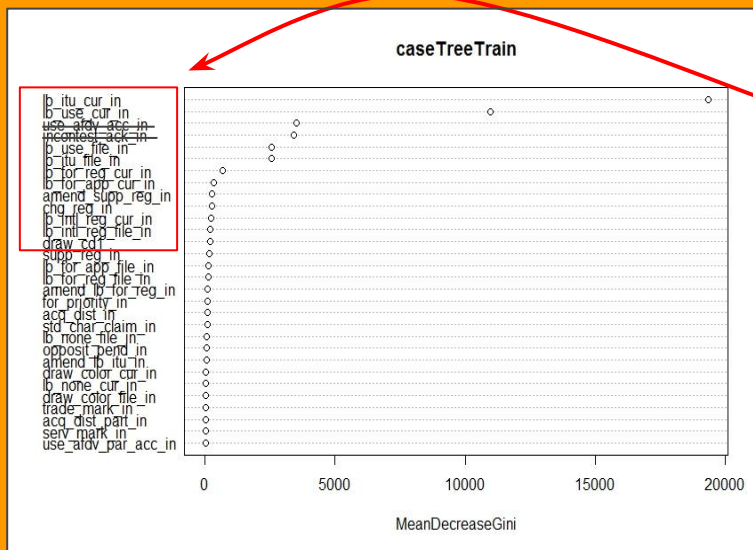

```
> varImp(caseTree)
                        Overall
draw_cd2               63746.51
lb_itu_cur_in         933893.27
lb_itu_file_in        208436.37
lb_use_cur_in         732496.39
lb_use_file_in        178385.08
amend_lb_for_app_in        0.00
amend_lb_for_reg_in        0.00
amend_lb_itu_in            0.00
amend_lb_use_in            0.00
cancel_pend_in             0.00
cert_mark_in               0.00
chg_reg_in                 0.00
coll_memb_mark_in          0.00
coll_serv_mark_in          0.00
coll_trade_mark_in         0.00
draw_color_cur_in          0.00
draw_color_file_in         0.00
concur_use_in              0.00
concur_use_pend_in         0.00
draw_3d_cur_in             0.00
draw_3d_file_in            0.00
lb_for_app_cur_in          0.00
lb_for_reg_cur_in          0.00
lb_intl_reg_cur_in         0.00
lb_for_app_file_in         0.00
lb_for_reg_file_in         0.00
lb_intl_reg_file_in        0.00
lb_none_cur_in             0.00
```

```
> chisq.test(caseTrain$lb_itu_cur_in, caseTrain$lb_use_cur_in)

        Pearson's Chi-squared test with Yates' continuity correction

data:   caseTrain$lb_itu_cur_in and caseTrain$lb_use_cur_in
X-squared = 115400, df = 1, p-value < 2.2e-16
```

```
> chisq.test(caseTrain$lb_itu_cur_in, caseTrain$draw_cd1)

        Pearson's Chi-squared test

data:   caseTrain$lb_itu_cur_in and caseTrain$draw_cd1
X-squared = 3046.7, df = 6, p-value < 2.2e-16
```

Outcomes

- 71.74% fit to 2015 (CART)

- 72.73% with randomForest

- Logistic Regression Less Consistent (4( )
  65% Fit to Data). Specificity always low.

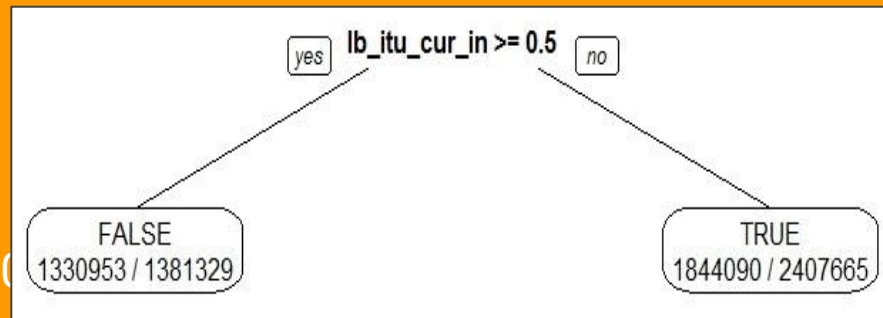- Performance Increase Not Detectable with
  Feature Engineering of Significant Var


```
case2015 <- mutate(case2015, combi = lb_itu_cur_in + lb_itu_file_in)
```

Creates 3 level factor instead of 2 → (0,1) vs (0,1,2)

Model	Accuracy	Sensitivity	Specificity	ROC AUC
CART	71.74%	84.10%	61.86%	0.7298
RandomForest	72.73%	82.87%	64.62%	0.7006
Logistic Regression	60.10%	60.13%	28.57%	0.5565

Conclusions

- Filing Bases Under "Intent to Use" and "Use in Commerce" Appear the Dominant Predictors in Models
- Failure Rate Under "Intent to Use" (ITU) > Success Under "Use in Commerce" Basis
- Filing Necessary Documentation Early Has Little to No Effect on Outcome
- No Evidence to Imply Outcome Bias in Examining Offices

USE YOUR TRADEMARK PRIOR TO APPLICATION!

Further Analysis

- Subset Data by Uses Bases Other Than Intent to Use and Use in Commerce e. g. "Foreign Registration" and "Foreign Application"
- Use Time from Filing to Registration as Dependent Var in Linear Regression
- Text Analytics to Identify Product Category of Filing

Q&A

Sources

http://www.uspto.gov/trademarks-getting-started/trademark-process

http://www.uspto.gov/learning-and-resources/electronic-data-products/trademark-case-files-dataset-0

http://www.uspto.gov/trademark/trademark-timelines/section-1a-timeline-application-based-use-commerce

http://www.uspto.gov/trademark/trademark-timelines/section-1b-timeline-application-based-intent-use