



## **Statistical Domain Name Appraisal: Same as What You're Doing, +/-**

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### **Abstract**

Professional domain name appraisals have acquired a dubious reputation, and I understand the rational skepticism regarding their usefulness. This paper will try to demystify the statistical approach by pointing out its commonality with methods intuitively adopted by active domainers. It will also underscore some of the sources of skepticism toward various appraisal methodologies, and point out the advantages and limitations of statistical models. The paper concludes with a list of the conditions that can make a professional appraisal value adding, and with a plea for transparency.

### **Communality with Domainers**

I agree with domainers' views on a large number of issues related to valuation:

1. Appraisers, including yours truly, have not spent the time needed to demystify our models. (This essay is an attempt in that direction.)
2. Some domainers are very good at recognizing price patterns without the use of formal statistical models.
3. Human input is necessary in the following areas:
  - a. Identifying complements to a domain name's key words. When analyzing, for example, BrooklynCollege.com, AdWords' suggestion tool does not include complementary products/services, such as books and student loans.<sup>1</sup>
  - b. Incorporating extraneous public information. Yale University, for example, is pursuing legal means to secure "similar" domain names. Machines alone cannot yet identify potentially relevant extraneous information. Thus, when appraising, for example, BrooklynCollege.com,

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<sup>1</sup> You may suspect that I am adding variables only to improve the model's fit. True. But from a forecasting standpoint, I only care about greater predictive power, not the goodness of fit per se. Nevertheless, on a theoretical level, including additional explanatory variables may increase goodness of fit and also parameter estimation accuracy.

Yale's action can be an extremely valuable signal regarding possible change in the environment of education-related domain names.<sup>2</sup>

- c. Improving the accuracy of the predictive model by narrowing down the list of possible explanatory variables. A machine has to go over an extremely large number of variables to determine whether they contribute significantly to value prediction. Moreover, the benefits of meaningful and parsimonious predictive variables would be lost with pure machine appraisal.
4. Most of the appraisers rely on dubious proprietary models. Such an approach is very suspect, especially when rigorous asset valuation models have already been developed and are suitable for domain names, which are intangible assets. Those appraisers hiding behind proprietary models must believe that the word "proprietary" looks good to potential customers. They must also believe that they need not provide performance information of any sort.
5. Some of the variables that proprietary appraisers use seem like dubious candidates for quantification. This is not necessarily a problem, as appraisers are only trying to predict value, not measure the impact of each variable on value. But because their models are black boxes, it is not possible to ascertain whether or not such variables are adding noise to value estimates and thereby making them less precise. Moreover, if appraisers can actually estimate, say, brandability, and thus include it as one of their predictors, why should companies pay branding agencies millions of dollars to come up with a name? Why not toss the domain name appraisers a few bucks and get the same result? Furthermore, if these appraisers can estimate resale value, won't the price of an inactive domain, for example, be easily derived by simply discounting the resale value to the present?
6. Domainers are suspicious of some of the information provided in appraisal reports. For example, reports by some of the prominent professional services include a list of comparable sales. If they are able to accurately identify comparable sales, then mission accomplished! All they need to do is calculate the average and/or the median of the prices of the comparables, and voila, they get a very good estimate of value. I conjecture that this provides a better estimate of value and range than their unsubstantiated appraisal methodology.
7. Forums, in principle, are tantamount to professional appraisals because they embody a scientifically proven approach based on the wisdom of a large number of participants.<sup>3</sup> However, the number of member appraisers per domain name

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<sup>2</sup> One needs to be careful when using such data so as not to unintentionally bias the results. See, for example, Alex Tajirian (2006), "['Human' vs. Machine Appraisals](#)," DomainMart.

<sup>3</sup> See James Surowiecki (2004), *The Wisdom of Crowds: Why the Many Are Smarter Than the Few and How Collective Wisdom Shapes Business, Economies, Societies and Nations*, Little, Brown.

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- seems to have dwindled<sup>4</sup> over time and the submitted price ranges have sometimes been too wide or too narrow to be useful.
8. When performing their own appraisals for buying, selling, or registering names for parking, domainers rely on a set of healthy intuitions as to:
    - a. Which variables are good predictors of value. (The length of a domain, for example, is all but irrelevant to predicting value, other things being equal.<sup>5</sup>) Domainers have relied on public data from Overture (which has been acquired and integrated into Yahoo marketing), Google, Alexa, and [Domain Research Tools](#). These sources provide the bulk of the significant explanatory variables.
    - b. The importance of grouping similar names—for instance, names with numbers, names with hyphens, names that share an extension, or names that share a language.
  9. Publicly available price information is very noisy.

## Statistical models

### 1. Advantages

- a. Rigor. It's not that the resulting appraisals are very precise. But the models, when applied correctly, can overcome data noise to function as powerful valuation tools. They can:
  - i. Confirm which of the intuitive variables (for example, length of domain name) are important.<sup>6</sup>
  - ii. Determine which domain names are comparable.
  - iii. Obtain more precise estimates of value and range.
  - iv. Bring in transparency of methodology and data sources, including a list of significant predictive variables. The appraisal can be duplicated by anyone, which reduces suspicion.
  - v. Detect data outliers and choose the best techniques to deal with them.
  - vi. Estimate the size of the premiums of “.com” over other extension of comparable domain names.<sup>7</sup>
  - vii. Value appreciation estimates.<sup>8</sup>
- b. Systematic analysis of huge amounts of information.

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<sup>4</sup> An alternative approach that does not require a very large number of appraisers is a [prediction market](#) (bidding market). Such a market can be the ultimate test for the appraisal skills of domainers.

Of course, baffling anecdotal evidence suggests that domain name appraisers prefer to give their appraisals for free!

<sup>5</sup> See Alex Tajirian (2003), “[Length of Domain Name Is Irrelevant!](#),” DomainMart. The result continues to be robust using regression-tree appraisals.

<sup>6</sup> Ibid.

<sup>7</sup> See Alex Tajirian (2006), “[Branding Hierarchy and Premiums Among gTLDs](#),” DomainMart.

<sup>8</sup> See Alex Tajirian (2006), “[94% Annual Domain Name Price Appreciation](#),” DomainMart.

- c. Possibility of significantly greater predictive power than the experts'.<sup>9</sup>
- d. Use in predicting a domain name's parking revenue on idle domain names and in selecting viable domain names to register.
- e. Use in experimenting with the likelihood of sale for different ask prices. The approach can incorporate not only the prices of sold domain names but also the ask prices of unsold names listed on the marketplace. The latter information can add tremendous accuracy and understanding of price dynamics. For example, take three similar domain names, two of which haven't sold. If the unsold names' asking prices are lower than the price the third name sold for, the third name's price accuracy is discounted.<sup>10</sup>
- f. Enabling of post valuation feedback.<sup>11</sup>
- g. Potential for revealing price inefficiencies across marketplaces.<sup>12</sup> Although such inefficiencies might not be arbitrageable, they suggest that one of the value prediction variables is the listing marketplace.
- h. Indirect improvement of market efficiency.<sup>13</sup>

## 2. Limitations

- a. Ground rules that can be confusing and counterintuitive, especially those for nonlinear models such as regression trees<sup>14</sup> and neural networks. For example, the familiar fixed number of relevant explanatory variables for different groups of similar domain names breaks down, leaving no clear answer to the common question, "How many significant variables do you use?"  $R^2$ , which is widely recognized as a goodness-of-fit measure, is no longer appropriate.
- b. The need to regularly collect and update a lot of data.
- c. The fact that, irrespective of methodology, appraised value is only one element of an effective appraisal.<sup>15</sup>

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<sup>9</sup> See, for example, Alex Tajirian (2007), "[10 Types of Domain Name Appraisers](#)," DomainMart.

<sup>10</sup> Alex Tajirian (2006), "[Likelihood of Sale, Given a Domain Name's Ask Price?](#)," DomainMart.

<sup>11</sup> For the importance of performance feedback, see Alex Tajirian (2008), "[LandingBoeing777.com Appraisal](#)," DomainMart.

<sup>12</sup> Alex Tajirian (2006), "[Price Inefficiencies in Domain Name Markets: An Empirical Investigation](#)," DomainMart.

<sup>13</sup> Although not every domainer benefits from an information-efficient market, efficiency adds value to the aggregate ecosystem.

<sup>14</sup> For a description of these models as applied to domain names, see Alex Tajirian (2005), "[Valuing Domain Names: Methodology](#)," DomainMart.

<sup>15</sup> Alex Tajirian (2007), "[Effective Domain Name Appraisals](#)," DomainMart.

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- d. Low utility in judging made-up words and high-value names because of the limited availability of price data for such names. When judging made-up names, the best move is simply to ask a large number of random citizens.<sup>16</sup> For high-value names, it is more appropriate to use a discounted cash flow model.<sup>17</sup>

### **Advantage of professional appraisers using statistical models**

1. Economies of scale that lead to a lower average appraisal cost, as the following costs are spread over a large number of customers:
  - a. Periodic collection of huge amounts of data
  - b. Updates, experiments with different models, and research.
  - c. Collection and analysis of parking revenue data across many domainers and monetization service providers, which results in more precise estimates of revenue for unparked names and domain name values.
  - d. Software for exploratory data analyses and estimation using regression trees and other nonlinear models.
2. Trust in the service provider, although ultimately this is based on gut feeling.
3. Ability to incorporate relevant proprietary information.

### **Concluding Remarks**

1. When buying, selling, or leasing a domain name, I recommend that you get an appraisal for medium- and high-value domain names when the:
  - a. Methodology and sources of data are transparent.
  - b. Methodology provides the appraiser with post valuation accuracy feedback. (It's up to the customer to make sure that the feedback is incorporated)
  - c. The appraisal reflects (explicitly or implicitly) the best use of the domain name.
  - d. The value estimate is recognized as being only one component of an effective appraisal report.
2. If you demand transparency from parking companies and ad agencies such as Google and Yahoo, it follows that you should demand more transparency from appraisal companies. ■

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<sup>16</sup> See footnotes 3 and 4.

<sup>17</sup> "[Valuing Domain Names: Methodology](#)," supra.