# A Review of Dan Warner's "Traffic Targeting and Wastage"

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## INTRODUCTION

The model in Warner's article is not well structured and lacks predictive power.

Below, I deduce the intended structure of the model, sequentially point out some of its unclear issues, examine its predictive power, and briefly outline an alternative prescriptive model to capture the relationship between type of traffic sought by advertisers and knowledge about a user's (or searcher's) intent.

For easy access, a copy of the article's summary diagram is provided in the Appendix.

## THE PRESUMED GENERAL MODEL SETTING

The logic behind the model is not explicitly stated in the article. Thus, one has to deduce it from the quote below and the article's general content.

The premise of the article is provided by the following paragraph: "The enemy to advertisers and traffic affiliates alike is traffic wastage. Traffic wastage is caused by a misalignment between the exact intent of the user and the match with an advertiser's intent."

The premise can be translated into modeling the following hypothesis: If one can predict the optimal type of traffic to send to advertisers, the resulting traffic will reduce wastage.

To answer the above question, the article uses a simple, yet potentially powerful, modeling technique, namely, the 2x2 matrix of scenarios below.

| | | | |
|---|---|---|---|
| | **Matrix of Scenarios** | | |
| | | Low | I | II |

**Matrix of Scenarios**

| | | Low | High |
|---|---|---|---|
| **X2 Variable** | **Low** | I | II |
| | **High** | III | IV |
| | | **Low** | **High** |
| | | **X1 Variable** | |

The low/high states of the X1 and X2 input variables can be equally representing binary combinations of good/bad, no/yes, and weak/strong.


## A SEQUENTIAL LOOK AT THE ARTICLE

The first sentence of paragraph 2 states that the "key to traffic conversion is the balance of two things; revenue generated for the traffic provider and sales generated for the advertiser." First, "traffic conversion" is not defined. Presumably it refers to conversion of traffic to revenue. Second, the use of the term "balance" is misleading. It suggests a tradeoff between the "two things." However, the key to traffic conversion - the objective of the traffic affiliate - should be to maximize the revenue to the traffic provider, and thus, there is no issue of tradeoff.

The second sentence of paragraph 2 states: "The Internet traffic available to advertisers is a scarce commodity." Not true, unless "Internet traffic" refers to value generating traffic, as one can have a bot that sends unlimited unwanted traffic to any website.

The third sentence of paragraph 2 states: "There are more advertisers wanting traffic than there is traffic available for them to purchase." The opposite is true, as each user can be paid by a large number of companies to visit each of their sites. Thus, there is more traffic available for purchase than advertisers wanting traffic.

The fourth sentence of paragraph 2 states that "scarcity drives a need to maximize the use of all traffic to its fullest potential." "Use" for what purpose? Whose "need" is being maximized?

The third paragraph, which is the focus of the article, states: "Traffic wastage is caused by a misalignment between the exact intent of the user and the match with an advertiser's intent." However, the statement ignores the fact that wastage can also occur when the domain name is more suitable for forwarding/leasing than parking, as indicated by its

brand-to-traffic (B/T) ratio. More details on modeling traffic wastage are discussed below.

After setting up the premise of "traffic wastage," the article starts building the model. It casually refers to the parties involved, but does not spell them out. The parties are intermediary (such as Google), advertisers, traffic affiliate, and technology. The model seems not to consider users as one of the relevant parties. Moreover, it separates the intermediary and the traffic affiliate, when they can be both viewed as an intermediary, if one poses the model within the context of multi-platforms. Furthermore, lumping the traffic affiliate and the owner into one party eliminates interesting questions for the domain name owner in deciding which monetization platform to join. In a multi-platform setting, the various "parking" service providers would be considered representing one "parking" platform. The model is also not clear on why technology is considered a separate party!

The seventh paragraph sates: "It should be considered that the traffic affiliate is in control of a scarce commodity, and has many avenues to sell this commodity at comparable revenue returns." First, the traffic affiliate is leasing, not selling the commodity. Second, how does the author know that the traffic affiliate "has many avenues to sell this commodity at comparable revenue returns"? So, how does the traffic affiliate choose among the "comparable revenue returns"? What precludes the traffic affiliate from having higher revenue options?

**Matching User and Advertiser Intentions**

**(a) The Model's Input Variables**

In the diagram of "Matching User and Advertiser Intentions," X1 refers to "Advertiser's Specific Intent" and X2 refers to "User's Specific Intent." The axes represent the input variables for the model.

The diagram presented in the article is not well constructed. It is a two dimensional matrix with four axes represented by the arrows around the box: "Advertiser's Specific Intent," etc. The four axes would collapse into the standard 2x2 matrix only if the top and right axes are perfectly negatively correlated with the axis on the opposite side of the matrix. See the "AN ALTERNATIVE 2x2 MODEL" section below for an alternative selection of input variables.

**(b) The Model's Output Variables**

From the content of the quadrants, one can infer that the outcome variables of interest are the "conversion rate," the "degree of alignment of user's intent with advertiser's intent," and pricing. However, not every quadrant has a description of all three outcomes!

Let's consider Pricing. This is an exogenous variable, i.e., the traffic affiliate is a price taker (for varying levels of traffic quality) from the competing ad agencies. Each ad

agency provides pricing that maximizes its profits, not the profits of the traffic affiliate. Thus, even if the traffic affiliate develops a proprietary ad agency, the traffic affiliate is still a price taker with the potential of conflict of interest between the two sides of the business.

It is not clear why it would be in the best interest of all traffic affiliates to choose cost-per-acquisition (CPA) over cost-per-click (CPC) pricing in the respective quadrants of the diagram. There is no a priori reason to believe that a CPA is better for the traffic affiliate than, say, a low CPC. It is an empirical question. Thus, if the traffic affiliate has a choice between CPA and CPC, the choice should be determined by the option that maximizes value to the traffic affiliate. Therefore, it should not be considered an outcome and should be left out of the diagram.

### (c) Quadrant Specific Issues

Under the lower quadrant of the X2-axis, User's Specific Intent, the lowest possible intent for, say, Cold Calling, would be "don't call me." Thus, the CPA, under this scenario, would be zero and thus, an uninterestingly predictable outcome.

It is not obvious why under the "Untargeted" quadrant there should be "little alignment to achieve needs." If the advertiser wants to target the general public, presumably because of lack of specific information, the alignment becomes exact.

Examining the top-left and the bottom-left quadrants exhibit inconsistencies. How can the X2-axis measure "User's Specific Intent," while the top and bottom quadrants refer to the same degree of intent, namely, "user's intentions is likely to be **undetermined**" and the bottom refers to "**poorly defined** user intent" [Emphasis added]. The axis has to represent dichotomous extreme outcomes.

The top-right quadrant describes an "Exact Alignment" when "domain (domain phrase) is matched with the same advertiser bided phrase." However, the article does not point out that this is only a necessary condition, but not sufficient, as there is uncertainty as to, for example, whether the user is looking for information or a product (or service) related to the keyword.

### (d) Modeling Requirements Issues

In the paragraph immediately following the diagram, the model requires that the "number of advertisers on every phrase would be deep enough that a truly active and honest auction could occur for the commodity (traffic), enabling the traffic provider to be paid the highest value for their goods." What modeling problem would a monopoly create when prices reflect the advertiser's true willingness to pay? A viable monopoly is bad for the traffic affiliate, but great for the advertiser and, in the short-term, the traffic affiliate is a price taker from the ad agency.

The next paragraph describes an imperfect system where there are "millions of phrases that have no advertisers bidding for them." Does that mean that in a perfect world there cannot be any phrases with no advertisers? What would such an imperfection cause? In the next sentence "the volume of traffic matched to advertisers rarely meets the volume of traffic they would like to obtain while meeting their conversion criteria." This sounds like excess demand, so either the advertisers have to pay higher price for traffic or lower their conversion criteria, i.e., their conversion criteria may be inefficient.

In the definition of arbitrage, the mis-priced assets bought and sold simultaneously have to be either identical but available on different markets or a process of buying and selling equivalent assets - an asset and a replicating portfolio, for example. It is meaningless to simultaneously buy and sells the same asset in the same market, as at a minimum, one would incur the cost of the bid-ask spread. Thus, arbitrage, as defined in the article, represents a riskless loss, not a riskless profit. Moreover, it is not clear what is being arbitraged or what is being bought and sold. Furthermore, the described process sounds like a pooling concept rather than an arbitrage activity. Nevertheless, riskless arbitrage opportunities should disappear once they become public. Thus, one should now assume that the opportunity has been arbitraged out.

With reference to a traffic pricing system, the article notes that the "requirement for equity is not to change the bidding system, but instead to ensure that the advertiser pays only the fair value for the traffic." This is a meaningless statement; as noted earlier, the objective of the traffic affiliate is to maximize profit. Moreover, the fairness concept is later negated by pointing out that the "system is flawed because it discourages traffic affiliates from cleaning up their traffic to a quality grade higher than what the constant's own traffic represents."

## PREDICTIVE POWER OF THE MODEL

With low user specific intent, should the traffic affiliate serve the user's general interest or high intent ads? It is not clear what the model predicts. Presumably, it is predicting low ads, which minimize wastage. But, why not serve high target ads if that increases the traffic affiliate's profit? There is no theoretic or a priori reason to believe that serving low/general ads is optimal. Thus, the model does not provide a prescription for the best action.

Now, suppose that the traffic affiliate notices an increase in conversion rates. Would that be a result of better matching? Unfortunately, the model cannot answer the question. Thus, either the modeling technique is not the correct approach to answer the question or, due to the complexity of the environment, we need a different model for different sets of questions.

## AN ALTERNATIVE 2x2 MODEL

In the spirit of the article's modeling framework, an alternative simple prescriptive model is to assume that there are two types of information that are available about the intent of the user – low and high – and two types of advertising scope – general and targeted. A two-by-two matrix can be constructed by assuming that the objective of the traffic affiliate is to maximize traffic profit, subject to the available inventory of domain name types. The X1-axis would represent "Targeting Quality of Available Domain Names" and the X2-axis would represent "Knowledge about User's Intent."

Under such a model, one would analyze the path to maximizing revenue under each of the 4 quadrants. Using the model, one can also investigate the following interesting questions:

1. How does one find the user's Intent? Should one use one of the proposed solutions to intent revelation, albeit in a different context, or does parking require a different approach?

2. What can one do to limit the market power of the adverting agents?
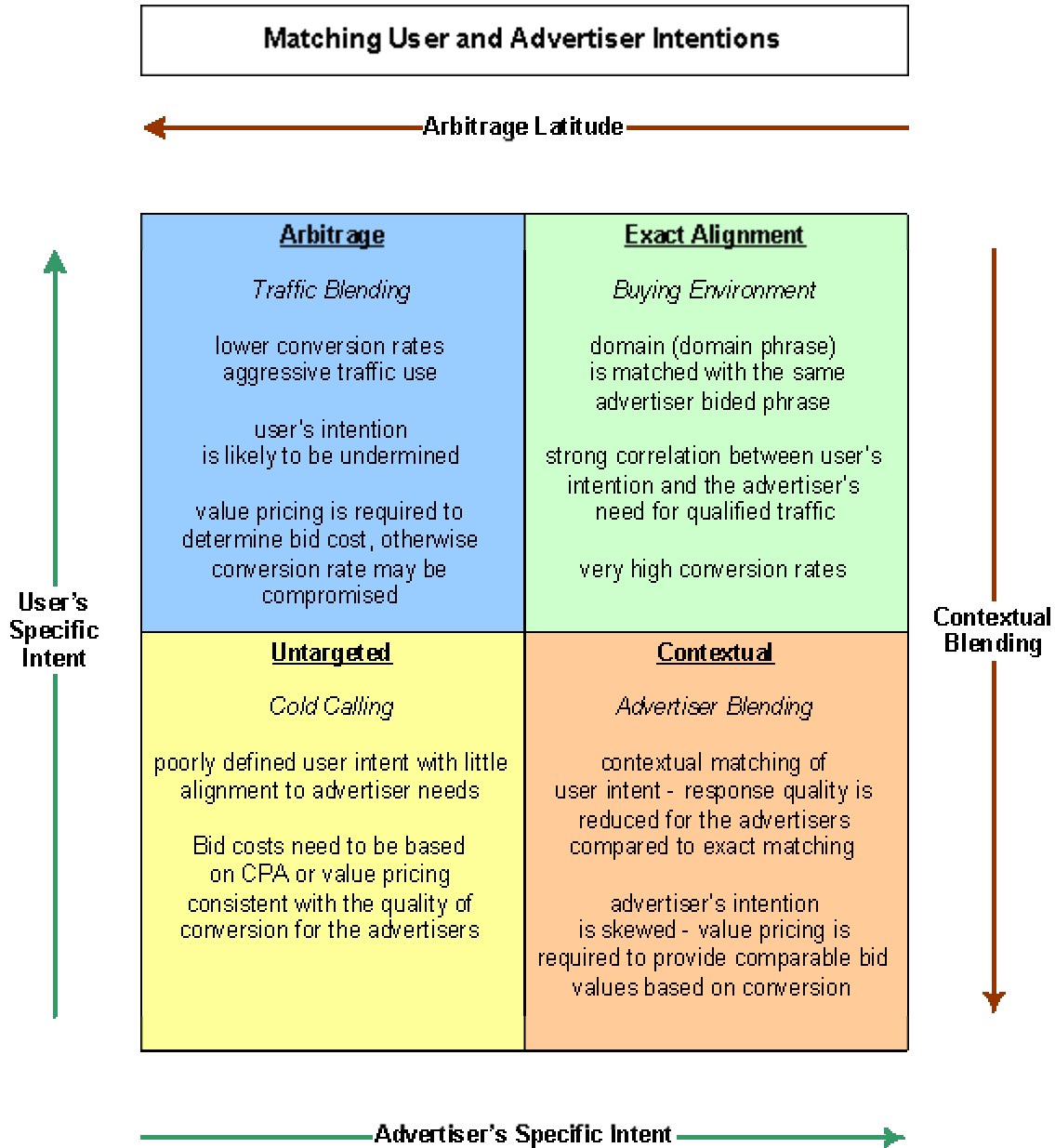
## CONCLUDING REMARKS

Setting up the model within a multi-sided market framework with the correct objective of maximizing profit given the availability of domain name types suitable for the advertisers' intent, yields a model with a broader scope and predictive power.

**SOURCE**: The article is available online at http://dnjournal.com/articles/series/warner-traffictargeting.htm.

**APPENDIX**

The original diagram is provided below for easy access.

| Matching User and Advertiser Intentions |
| --- |

Arbitrage Latitude ◄————————————►

| Arbitrage | Exact Alignment |
| --- | --- |
| *Traffic Blending* | *Buying Environment* |
| lower conversion rates aggressive traffic use | domain (domain phrase) is matched with the same advertiser bided phrase |
| user's intention is likely to be undermined | strong correlation between user's intention and the advertiser's need for qualified traffic |
| value pricing is required to determine bid cost, otherwise conversion rate may be compromised | very high conversion rates |
| **Untargeted** | **Contextual** |
| *Cold Calling* | *Advertiser Blending* |
| poorly defined user intent with little alignment to advertiser needs | contextual matching of user intent - response quality is reduced for the advertisers compared to exact matching |
| Bid costs need to be based on CPA or value pricing consistent with the quality of conversion for the advertisers | advertiser's intention is skewed - value pricing is required to provide comparable bid values based on conversion |

User's Specific Intent ↑

Contextual Blending ↓

Advertiser's Specific Intent ————————►

**Source**: DNJournal