PAYBUYER WHITE PAPER

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HOW TO PAY PROSPECTS MONEY FOR THEIR ATTENTION

WHITE PAPER

INTRODUCTION

This paper explores the problem of how to pay prospects for their attention to sales messages and provides a solution. This solution is a method called Pay-the-Buyer Advertising Using Expected Value Payment and Probabilistic Verification of Purchases.

VERIFYING PURCHASES IS NECESSARY WHEN PAYING SALES PROSPECTS.

Assume you are an advertiser who wants to pay $10 to prospects in exchange for their calling your company. Say you sell swimming pools. You could list your business in a directory under the search term “swimming pools.” Then if a searcher found your ad, she could click on it and make a call via a click-to-call mechanism. A $10 payment from your company to her could be triggered automatically by the call.

But, you would want to know that the searchers you paid were prospects who were going to buy swimming pools. Otherwise, you would be paying almost all your money to non-buyers. How could you be sure you were paying only imminent buyers?

One way would be to verify that, after calling your company, the caller purchased the product that you sell. You could require proof-of-purchase. You or the directory operator could then ensure that every person you paid actually went on to buy a pool from your company or from one of your competitors.

With $10 at stake per call, if purchases were not verified, non-buyers would inedeed take 99+% of the payments. Thus, some kind of verification of purchases seems essential.

VERIFYING EVERY PURCHASE IS IMPRACTICAL.

Yet, if payments for attention are small, verifying every purchase, online and offline, is too time-consuming for the payer (or the directory operator) and for the buyers. For example, assume Mary enters "swimming pools" into a directory and is offered $10 to call Acme Pools on the condition that she will submit proof that she bought a pool within 30 days of calling Acme. In most cases, it's not cost-effective for Acme to verify her purchase. More importantly, if Mary is like most people she will not submit proof-of-purchase for $10 or some other small amount of money.

Moreover, if normal dollar payments are used, then every time Mary clicks on an ad link (or otherwise triggers a potential payment), the directory would have to ask her, some time after her search, "Did you buy the type of product you clicked on?" Few users would be inclined to answer such a question each time they click on a link. In theory, instead of answering these questions, a user could send in a notice of purchase to collect a payment, but then she would have to match that purchase with all her associated clicks and calls, which is too laborious for most people.

Alternatively, a computer could automate the verification, solving the labor problem. But, the computer would need access to the buyer's purchase records and have the intelligence to match searches with purchases. Currently, computers do not appear to quite have these abilities, as privacy concerns have blocked blanket access to purchase records, and machine understanding of natural language remains somewhat unreliable.

PROBABILISTIC VERIFICATION OF PURCHASES IS REQUIRED.

If verifying every purchase and checking every click is impractical, some kind of probabilistic verification is necessary. A user-friendly way needs to be found to:

1. Probabilistically select sales message receptions (ad impressions, web page visits, phone calls, video views).

2. Pay the recipients of the messages if they turn out, upon inspection, to be purchasers.

A SOLUTION IS PROBABILISTIC PAYMENT IN COMBINATION WITH PROBABILISTIC VERIFICATION.

One way to probabilistically select sales message receptions for purchase verification is to use a probabilistic payment method called expected value (EV) payment[1]. This method is payment by lottery ticket. As Rivest[2] has pointed out, "From a bank's point of view, lottery tickets are significantly more efficient than any known micropayment scheme."

If EV payment is used, probabilistic payment can be combined with probabilistic verification, as follows. Instead of a definite payment of $10 from Acme, Mary would be offered $10 EV. This means that in exchange for calling Acme, she would receive a virtual "EV Ticket" which would have, say, a 1/100 chance of being worth a payoff of $1,000. The **critical** condition of being eligible for the payoff is that, after calling Acme, Mary must buy a pool from Acme or one of Acme's competitors.

Assume, then, that Mary takes the offer and collects an EV Ticket by clicking on Acme's link in a directory and calling. Assume, further, that her EV Ticket wins, entitling her to $1,000, if she can prove that she bought a pool after calling Acme. Acme, or the directory providing Acme's pay-ad, would alert Mary that she has provisionally won the $1,000, which she can collect if she provides proof-of-purchase.

If Mary is like most people she would gladly submit proof for $1,000.

Thus, EV payments enable advertisers to pay prospects for attention because only winning tickets lead to purchase verifcations[2]. That means:

- The searcher only gets notified if her EV Ticket is a winner. Then she can answer, "Did you buy?"
- For a large payoff it's worth her time to prove she was a buyer.
- Given the large payoff, the payer or directory operator can cost-effectively verify the purchase.
- Non-buyers get nothing.

In other words, purchase verification, essential to paying meaningful amounts of money for attention, is made practical by large, random payoffs.

Advertisers, like Acme Pools, are satisfied because they know that they are only paying for reaching people who will purchase what they sell. Their money is paid out to verified buyers, not in small amounts with each sales message, but randomly, in large amounts.

Naturally, buyers will have different preferences regarding how much money they require in order to go to the trouble of submitting proof-of-purchase. To fit personal preferences, an advertising system enabling EV payments for attention can let individuals choose the size of their payoffs. A user would set her payoff and the system would automatically adjust her probability of winning to yield the EV payment determined by the advertiser. For instance, if Acme Pools offers $10 EV, and Mary chooses a payoff of $2,000, then her probability of winning would be set at 1/200.

4 CURRENT TARGETING TECHNIQUES CANNOT BE USED TO PAY PROSPECTS.

Techniques such as keyword placement, personalization, and context-based placement all increase the probability that a person who receives an ad will be a buyer. However, these techniques cannot work well for offering money to prospects for attention because of two fundamental limitations:

1. They have no way to stop free riders (non-buyers) from taking almost all of the payments.

2. They do not yield a high enough probability of a sale[3] per message reception to justify a meaningful money payment to a prospect (see the payment formula[4] below).

WHEN CAN AN ADVERTISER PAY A PERSON A LOT FOR ATTENTION TO A SALES MESSAGE?

The only time an advertiser can pay a person a significant amount of money to visit a web site, view a commercial, or call is when the person is an imminent buyer of the advertiser's type of product or service. Only at this time is reaching the person worth much money, because only at this time is the probability of a sale high.

The fact is, you are almost always worthless (or close to worthless) to advertisers. For instance, a local pool builder will almost never be willing to pay you much, if anything, to talk to him on the phone. But there is one time when you are worth a lot: when you are really in the market for a pool. Then, at that rare time, a local pool builder may well be willing to pay you $100.00 to talk to him on the phone.

Commentators who have suggested that advertisers should pay people directly for attention to sales messages have missed the central fact that people are almost always worth near zero to advertisers.

That's why the amount of money that can be spent per sales message delivered to an audience member is generally small (e.g., from .5 cent to 2.0 cents per viewer of a commercial).

It is only during the pivotal ready-to-buy time that a person flips from being Ms. Worth-almost-nothing to Ms. Worth-a-lot.

Accordingly, if a method is to enable advertisers to pay searchers the maximum amounts for attention, that method must ensure that advertisers pay only real buyers. Probabilistic payment and purchase verification does precisely that.

WHEN ARE PEOPLE INTERESTED IN RECEIVING ADVERTISING?

Not coincidentally, most people are only interested in receiving advertising - product information - when they are ready to buy. People don't want to spend their time, or be paid to spend time, receiving random ad messages. Do you want to listen to a 5 minute pitch about a Steinway piano, right now?

However, in that rare time when they are ready to buy, people actively seek ad information. If they are planning to buy a piano, they seek pitches about pianos. So, a system that pays imminent buyers and only imminent buyers to receive messages is not only highly efficient for advertisers, but also for the recipients of those messages.

VERIFICATION + PAYMENT ENABLES EXTREME TARGETING.

The probabilistic payment + verification method sketched above enables an advertiser to target a pay-message to people who match virtually any verifiable criteria. This means advertisers can target pay-messages to a degree not possible with conventional targeting systems. For example, the Venetian Hotel could target and pay $10 EV to people who are going to:

- Rent a hotel room.
- In the next 60 minutes.
- For over $400 a night.
- From the Bellagio Hotel.

This kind of targeting may prevail eventually for three reasons:

1. A directory can make hyper-targeted pay-messages easy for advertisers to post and buyers to find.

2. The messages include EV payments that incentivize the targets to find those messages.

3. Verification assures advertisers that payoffs only go to people who match all the target conditions.

[1] EXPECTED VALUE PAYMENT AMOUNTS

The formula for expected value (EV) is:

EV = (your chances of winning) x (the payoff you can win).

For example:

$1 EV = a 1/100 chance to win $100.

1% EV of a sale = a 1/100 chance to win a 100% rebate on the sale.

As Paybuyer-type directories develop, it is likely that bidded amounts and bidded placement under search terms will be used.

EV amounts can be denominated in EV dollars and cents. For instance, under "grand piano" Steinway might bid $5 EV to be ranked #1, Yamaha might bid $4.90 EV to be ranked #2, and Young Chang might bid $4.80 EV to be ranked #3.

Or, EV amounts can be denominated in terms of a percentage of a sale. Steinway might bid 1.2% EV of a sale to be ranked #1, Yamaha might bid 1.1% EV to be ranked #2 , and Young Chang might bid 1.0% EV to be ranked #3.

[2] EFFICIENCY OF EV PAYMENTS

For more on the efficiency of EV payments, see the second paragraph of Electronic Lottery Tickets as Micropayments (http://people.csail.mit.edu/rivest/Lottery/pdf) by Ronald L. Rivest, which explains that, "This scheme is exceptionally efficient because the bank only handles winning tickets, instead of handling each micropayment."

[3] NEW WAY TO TARGET MESSAGES IS FUNDAMENTALLY BETTER BECAUSE VERIFYING PURCHASES IS MORE RELIABLE THAN PREDICTING THEM.

The probability that a purchase will result from an ad message depends crucially on the attractiveness of an advertiser's product offering. We will not consider this aspect of advertising. Instead, we will just consider the targeting of messages, and assume that an advertiser has a competitive offering.

Now, if we look at targeting at a fundamental level, we see that conventional methods rely on correlations, especially correlations between a user's actions and the probability of a purchase. A user who enters "piano" into a search engine, or visits a site about pianos, or buys piano sheet music, or receives emails that contain the word "piano," has a higher probability than the average person of purchasing a piano in the near future.

Such correlations are usually weak predictors that usually yield far less than a 1/10 probability of reaching an imminent buyer with an ad message. For many ads, such as banner ads, the probability can be less than 1/10,000.

Simply put, conventional targeting methods attempt to predict future buying behavior from past and/or current behavior, an attempt that almost always fails.

By contrast, the method sketched above relies on verification of a user's stated purchasing intent. Verifying behavior is, of course, far more reliable than predicting it. With a verification-based approach an advertiser can have a near 100% probability of paying only for reaching an imminent buyer.

[4] FORMULA FOR THE MAXIMUM AN ADVERTISER CAN PAY A PROSPECT

Not counting transaction costs, the formula for the maximum amount an advertiser can, without losing money, pay a prospect for exposure to a sales message is:

max amount = (probability of a sale) x (lifetime value of the customer).

Payment is proportional to the probability of a sale: the lower the probability, the lower the payment; the higher the probability, the higher the payment.

It is because the probability of a sale per impression is very low that advertisers usually pay tiny amounts for ad impressions - usually less than .5 cent per banner ad exposure, and generally, from .5 cent - 2.0 cents per impression for TV, radio, and billboard ads.

By contrast, when using a verification (Paybuyer) type system, advertisers only pay for reaching prospects who have a 100% probability of buying a specified product or service. So, if the advertiser's product or service provides a competitive value, the sales conversion rate will justify a meaningful payment to those imminent buyer prospects. For example, an auto insurer with a high conversion rate, like GEICO, could pay over $50 EV per call to imminent buyers.