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978-1-107-01197-7 - Understanding Sponsored Search: Core Elements of Keyword Advertising

Jim Jansen

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UNDERSTANDING SPONSORED SEARCH

This book addresses the underlying foundational elements, both theoretical and methodological, of sponsored search. As such, the contents are less affected by the ever-changing implementation aspects of technology. Rather than focusing on the how, this book examines what causes the how. Why do certain keywords work whereas others do not? Why does that ad work well when others that are similar do not? Why does a key phrase cost a given amount? Why do we measure what we do in keyword advertising?

This book speaks to that curiosity to understand why we do what we do in sponsored search. The content flows through the major components of any sponsored-search effort, regardless of the underlying technology or client or product. The book addresses keywords, ads, consumers, pricing, competitors, analytics, branding, marketing, and advertising, integrating these separate components into an incorporated whole. The focus is on the critical elements, with ample illustrations, and with enough detail to lead the interested reader to further inquiry.

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Preface

Almost in the beginning was curiosity.
Isaac Asimov,
Asimov's Guide to Science [1]

As Asimov mentions in his *Guide to Science* [1], curiosity may be a basic human attribute. It is a drive that compels us to learn, discover, describe, and understand the world around us. It is this compelling drive that has driven me to write this book on sponsored search.

I've had the privilege of having many discussions with some top-notch, and often young, search engine marketing professionals from well-known online marketing firms, as well as professionals from lesser-known firms. I'm typically impressed (very impressed, actually) with their depth and breadth of knowledge about the mechanisms and tactics of sponsored search. Many times, they have provided interesting and perceptive insights on techniques for keyword selection, methods for composing ad copy, and other aspects of implementing keyword advertising campaigns.

However, I have always sensed an underlying curiosity from these professionals, pointing to a possible knowledge absence, regarding the foundational and underlying elements of sponsored search. Why does one select certain keywords (other than that historically they seem to work)? Why does one choose particular terms for one's ad copy (other than that historically they seem to work)? Why is this bidding process the way it is? Why look at certain metrics and not at others?

In other words, *why* do we do what we do?

This book is for those who are curious about such things.

I am one of these people, as I am curious why things are the way they are with sponsored search, which is the process in which advertisers pay to have their advertisements appear on a search engine results page in response to a query from a searcher. Sponsored search is also commonly known as keyword advertising.

There is also a great practical benefit in understanding the theoretical foundations of what one does. Doing something just because it worked in the past will generally produce good results – until the context, situation, or environment changes. Then, all the historical data and results are of little value. However, an understanding of the

theory and models of a given area provides us with continuity during turbulent times [2], as theory is more stable and enduring.

Therefore, theory is of value to both the academic and the practitioner.

Potpourri: As an academic researcher, I used to be amazed by the number of scholarly articles on advertising that would lament the rift that exists between academic advertising researchers and advertising practitioners.

I used to be amazed, but no longer.

There is typically little effort expended to ensure that academic research is impactful to practitioners. Unfortunately, this is true in many academic fields and will remain so until the reward system changes (i.e., from publication to impact).

For the content in this book, nearly every chapter has been reviewed by both a researcher and a practitioner to increase the possibility that the material will be of value to both.

Also, theory helps us avoid ultimate relativism, where each individual case is unique in terms of attributes and context. Theory aids in finding the generalities among these individual cases, highlighting the trends and commonalities.

Theory helps us see the forest in the trees.

The contents of this book address the underlying foundational elements, both theoretical and methodological, of sponsored search. As such, the contents are less affected by the ever-changing implementation aspects of technology. Rather than focusing on the how, we examine what causes the how.

- *Why* do certain keywords work whereas others do not?
- *Why* does that ad work well when others that are very similar do not?
- *Why* does that keyword cost a given amount?
- *Why* do we measure what we do?

This book speaks to that curiosity to understand why we do what we do in sponsored search.

So, this is not a how-to book for pay-per-click, keyword advertising, or sponsored-search efforts. There are many such books, manuscripts, articles, Web sites, and blogs that address in great detail the mechanical aspects of implementation. Many are quite good and are a must-read for anyone in the profession. However, these publications are continually updated, as their half-life is generally short given the rapid pace of change in the interfaces and algorithms of advertising platforms and technology.

The theory of sponsored search is more enduring because keyword advertising is a business of people.

I'm of the belief that the Internet, Web, and search engines have changed (and are changing) people's behaviors but have had little effect on people's thinking, or more accurately, their cognitive processing of the world around them. People may now communicate faster, process information in smaller chunks, and buy products and services differently, along with many other changes in behaviors. The metaphors they

use may have changed. However, I find it hard to believe that cognitive processing developed over millions of years has altered much at all.

Therefore, many of the theoretical perspectives in this book deal with people. Sponsored search is a people venture, with informational and technical aspects.

Potpourri: Although I do not believe that there has been any change in the way people think, I am open to the possibility. In fact, there is some evidence that we may have undergone a radical transformation in the way people think, although it appears to have had nothing to do with the Internet.

What is the evidence of this change?

In the last 20,000 or so years, the average size of the human brain has decreased by about 10 percent [3]. That’s right! Going by brain size, Cro-Magnon had the best brain-to-body ratio. Modern humans have less brain per body mass.

This decrease in brain size began about the time that humans transitioned from hunter-gatherer cultures to agricultural communities.

Researchers believe that this decrease in brain size is the result of the more complex social structure of humans, which reduces the need for aggression and other cognitive processes to survive in the wild.

In others words, we domesticated ourselves! This domestication might have caused a smaller brain, which may have resulted in a change in the way humans think.

It has been observed that domesticated animals (i.e., dogs, cats, sheep, cows, etc.) have smaller brains than their wild counterparts.

However, the Internet appears to have had no effect on this reduction in human brain size, as far as we can tell.

What is the relationship between theory and practice?

There is an old academic joke that goes like this. “What is the difference between theory and practice?” The punch line is: “In theory, they aren’t that different. In practice, they are quite different.” (Note: Academic jokes typically are not particularly funny.)

Like many jokes, it has an element of inherent truth. Theory and practice are different, as any account manager of a sponsored-search campaign will tell you. Every advertiser, every product, and every campaign has caveats and exceptions that the practitioner deals with on every account. However, there are some general trends, behaviors, and guidelines. Theory explains the principles and constructs underlying these guidelines and trends.

Therefore, in this book, we deal with theories and models that have provided the grounding for the techniques that empirical testing and practice have shown to work – or not work – in sponsored search. The methods of practice are typically the result of repeated testing among many advertisers across many verticals. In this book, we aim to provide insight into these practices.

We deal with the fundamentals that provide understanding. Do not, however, take away from this that I am against the empirical. Exactly the opposite, as I am an empirical researcher myself.

Keyword advertising is, by nature, an empirical field. Many wonderful advertisers have been proponents of taking nothing at its face value, always testing [4, 5, 6, 7]. This is a position with which I completely agree. However, the theories presented in this book have withstood repeated empirical evaluation. They explain much of keyword advertising, although there are always caveats and exceptions for individual accounts, campaigns, keyphrases, and ads.

Potpourri: Although some may consider theory the “higher ground,” I fully acknowledge that it all depends on the situation, and there are times when one can only solve a problem or leverage an opportunity via empirical research.

One classic example of this is the invention of paper, with the credit going to Ts’ai Lun, around A.D. 105, although the word “paper” comes from papyrus, invented by the Egyptians, which was the first paper-like substance.

The reason that paper is an empirical invention is that there is no “theory” that takes one from “I need a cheap, portable, durable, flexible, and versatile material to write on” to “therefore I need to pulverize wood, mix it with water, and let it dry.” One can only get from the *need* to the *solution* via empirical methods [8].

What subjects does this book not address?

The book does not address affiliate marketing or contextual advertising in any great detail. These are forms of online advertising related to keyword advertising concepts, but they are distinct from the keyword-triggered advertising of sponsored search.

Who is the book written for?

The book is written for those interested in understanding the fundamentals of sponsored search, which includes:

- those just *beginning* in the sponsored-search area
- those who are *skilled* in the mechanics of keyword advertising

The material presented here will be of great interest and value to those starting out in the area of sponsored search, providing a framework within which to connect the pieces inherent to this system. Such an introduction to the foundational elements can greatly accelerate the process of becoming skilled in this rather intricate area of online advertising. If this describes you to some degree, then this book is for you.

From my own experiences, however, I believe that one must work in sponsored search for some time, becoming immersed in the subtleties, before one really understands its problems and issues. At this stage, one can only realize how nuanced the area is and how much there is still to learn. At such a point, a return to the foundational aspects is needed to reground oneself in the core concepts of the field. Otherwise, you get lost in the weeds! If this is generally your state of expertise, then this book is for you also.

How do you read this book?

The book is designed both to be a complete read and to serve as a reference for workshops, seminars, or courses. As a reference, one can use the whole book or individual chapters. I have attempted to be comprehensive, covering each of the major facets of sponsored search. So, depending on one’s background, there may be some areas

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with which one is not familiar. Each chapter is stand-alone. If there is a section that you do not understand fully, you can skip a chapter at first and then return later to reread.

What academic fields are addressed?

My focus is, of course, sponsored search, but I delve deep into the academic fields of information science, consumer behavior, and advertising, along with aspects of computer science, cognitive science, marketing, and statistics. However, I've avoided the nuanced jargon that academics favor and that is sometimes required when the precise meaning of a term is needed. Instead, I have sacrificed preciseness for an easier flow of content. Interested readers are welcome to dig deeper into the academic literature for the meticulous details. The chapters contain comprehensive references. In fact, I have attempted to provide published research to support common practices in the field. The book also has an extensive glossary of terms both addressed in the book and those one hears in the practice of sponsored search.

So, although I focus on some weighty academic subjects, I have intentionally kept my writing light and conversational. There are some mathematical formulas, but these are accompanied by straightforward explanations. Each chapter contains selected items of interest (labeled **Potpourri**), a highlight of the major takeaways (if you like, you can read just these before wading into the whole book), and a subsection that relates the theoretical discussion to practice. The more experienced readers can certainly skip Chapter 1, which lays out the context of the rest of the book, although it is a short read and will not take much time. So, I encourage you to take the few minutes to read it.

How is the book organized?

I have partitioned the subject of sponsored search in rather precise chapters. I am not in favor of the books on Web subjects that come across as “random walks on the Internet” or “look at the Web pages that I browsed.” The separate chapters are somewhat artificially walled, but I have simultaneously attempted to integrate the chapters into a coherent whole. Therefore, although the chapters are stand-alone, the book is a consistent work.

To make each chapter stand alone, there are a few instances where I must repeat a concept across multiple chapters. In these situations, I refer back to the chapter where the concept was introduced in full. Although this approach introduces some repetition, it also facilitates reader concentration on an individual chapter, without having to digest the entire book.

As much as my academic nature will permit, I have attempted to keep the book short, direct, and to the point. However, at times, an aspect may be nuanced and require several examinations to drive the point home.

Although the book is written in an easy-to-follow tone, I have taken great pains to ensure that every word counts. The downside of such an approach is that details and exceptions might not be given their fair due. However, other manuscripts and information sources are available that address these details and exceptions. Many of these sources are listed in the references.

The content flows through the major components of any sponsored-search effort, regardless of the underlying technology or client or product. The book addresses keywords, ads, consumers, pricing, competitors, analytics, branding, marketing, and

advertising, integrating these separate components into an incorporated whole. The focus is on the critical elements, with ample illustrations, and with enough detail to lead the interested reader to further inquiry.

In sum, I have attempted to address the curiosity. The *why*.

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- ClickEquations
- Google AdWords
- Google Research
- GSI Commerce
- iProspect
- Mediative (formerly Enquiro)
- Pepperjam (now part of TrueAction)
- Razorfish
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Naturally, the errors, omissions, and mistakes contained in the pages of this book are mine and mine alone.



Word cloud generated by Wordle

Notes on Terminology

The investigation of the meaning of words is the beginning of education.
Antisthenes,
Greek philosopher of Athens, disciple of Socrates, 445–365 BC (attributed)

Within any complex field, such as sponsored search, that spans many domains of study, the jargon of the field can quickly become overloaded (i.e., the same term can have multiple meanings), inaccurate (i.e., a term can have nuanced meanings depending on the context, and the context may be different in a given case), and sloppy (i.e., several terms for the same thing or concept). Therefore, as Antisthenes reminds us, the study of words is at the foundation of education.

In this book, I have striven to use the same term for the same concept throughout, to be as accurate as possible in discussion, and to be as precise as possible in usage of terminology.

However, the nuances of meaning are often dependent on context and convention. Therefore, there are several issues of terminology that we must address.

Searcher versus Potential Consumer

- A *searcher* is a person who submits a query to a search engine, engages the results, or browses Web pages.
- A *potential consumer* is a searcher who may make a purchase or is engaged in a possible e-commerce transaction.
- A searcher engaged in a search process may at some point transition to be a potential consumer. The point of this transition is key to the concept of sponsored search.

Consumer versus Potential Customer

- A *consumer* is a person within a market segment.
- A *customer* is a person who has a realistic possibility of converting (i.e., purchasing, signing up for a newsletter, etc.).
- A consumer may at some point become a potential customer. In fact, this is the *goal of sponsored search*.

Keyphrase versus Keyword

- A *keyword* is a word selected by an advertiser that links a searcher's query to an advertisement.
- A *keyphrase* is a set of two or more keywords.

Keyword versus Term

- A *keyword* is a word selected by an advertiser that links a searcher's query to an advertisement.
- A *term* is a word selected by a searcher for use in a query.
- A *query* may contain one or more terms.

Advertisement versus Sponsored-Search Result

- An *advertisement* is a commercial message to a consumer.
- A *sponsored-search result* is an advertisement that appears on a search engine results page.

Search Engine as Business versus Search Engine as Technology

- A search engine is a *business*, especially within the domain of sponsored search.
- A search engine is a *technology* that provides a searching service, which can be a general-purpose search engine, a niche search engine, or a social media service that provides searching capabilities.
- At times, one must view the search engine as a business and at other times as a technology. The *viewpoint depends on the context* of the discussion.

Sponsored Search as Process versus Sponsored Search as Platform

- Sponsored search is a *process* involving a search engine technology, the business aspect of the search engine as a company, a searcher who may become a potential customer, and an advertiser.
- Sponsored search is a *technology* for advertising provided by a search engine.
- Depending on the context, one must view sponsored search as a process and other times as a platform. The *viewpoint depends on the context* of the discussion.

Advertiser versus Business

- An *advertiser* is an entity that pays for a commercial message.
- A *business* is an entity that can engage in advertising for some commercial purpose.
- Sometimes, the advertiser and business can be the *same entity*.

Business versus Organization

- A *business* is an entity that can engage in advertising for some commercial purpose.

- An *organization* is an entity that can engage in advertising for some noncommercial purpose.

Advertiser versus Bidder

- An *advertiser* is an entity that pays for a commercial message.
- A *bidder* is an entity that engages in a sponsored-search auction.
- Depending on the *context*, one must view an entity as an advertiser in the sponsored-search process and other times as a bidder in a sponsored-search auction.

Search Engine as Auction Technology versus Search Engine as Auctioneer

- A search engine *provides* a sponsored-search technology for advertising.
- A search engine acts as an *auctioneer* in a sponsored-search auction.
- Depending on the context, sometimes the search engine is the sponsored-search technology and other times the auctioneer. Its *goals are different* for each role.

Rank versus Position

- *Rank* is the numerical label for an advertisement in a sponsored-search listing.
- *Position* is a slot for an advertisement in a sponsored-search listing.

Keyphrase Bid versus Maximum Cost-Per-Click

- A *keyphrase bid* is the amount that an advertiser is willing to pay to a search engine for serving its advertisement, typically for a click.
- *Maximum cost-per-click* is the maximum amount that an advertiser pays for a click on an advertisement.
- The maximum cost-per-click is *equal to or less than* the keyphrase bid.

Sponsored-Search Effort versus Sponsored-Search Campaign

- A *sponsored-search effort* is one or more sponsored-search campaigns by an advertiser.
- A *sponsored-search campaign* is a set of keyphrases, bids, and advertisements cognitively linked to a topic by an advertiser.

Web versus Internet

- *Web* is a browser-based, typically HTTP and HTML communication medium, which is a layer of user application that sits on the Internet (note capital I) hardware and software network.
- *internet* (note lowercase i) refers to any communication medium that is not browser-based, typically apps and software that facilitate user communication and transactions on the Internet (note capital I) hardware and software network.



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