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how search engine advertising auctions work

2025

introduction

While Search continues to remain one of the most innovative mediums, the fundamentals of how the search engine ad auction works have not changed. Advancements and deployments of AI in search have radically changed the day to day for search practitioners over the last 10 years. Automation in search has come in many forms with Smart Bidding, Responsive Search Ads (RSA) & Dynamic Search Ads (DSA) being some examples of where AI has taken the leg work out of optimisation and allowed marketers to unlock new insights, while having more time to focus on innovation, insights & technology activation. In a modern world where AI has taken away controls from marketers and now makes so many decisions on their behalf, understanding and applying the fundamentals of search continues to be one of the greatest keys to unlocking business growth.

Note: While there are some nuances and differences between Google & Microsoft ad auctions, this document will look to highlight the major themes and similarities between both search engines.

This document has been developed by the IAB Australia Future of Search Working Group.

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the auction model

Unlike most digital media, paid search is bought on a 'cost per click' model meaning that advertisers only pay when someone actually clicks on an ad. This is the reason that paid search marketing is often referred to as cost per click (CPC) or pay per click (PPC) marketing. Given paid search is a 'pull' form of marketing rather than 'push', this buying model makes sense as advertisers should only have to pay for actual engagement from consumers rather than just impressions.

Google Auction Model

Google uses a 'second price' auction model in its ad auctions meaning the winner of the auction only pays the amount of the second-highest bid, rather than their own bid. This model is common across most digital buying, however, was first popularised by Google to encourage honest bidding and reduce overpayment for clicks.

Microsoft Auction Model

The bidder decides on the bid amount for keywords, which is the price paid each time an ad is clicked. Then, every time someone does a search on the Microsoft Advertising Network, an auction determines which ads are shown and where they'll appear on the search results page. If your ad is eligible and appears in the search results page, you'll only be charged when the ad is clicked. The actual pay-per-click (PPC) amount is, at the most, the bid amount you set and never more than that and you can pay now (prepay) or later (postpay) for those charges.

quality score

So if paid search is only bought on a pay per click model and you only pay the price of the second-highest bidder, what stops the biggest brands with the biggest budgets from bidding on the most popular keywords? Well, what we have to remember is that search engines are built on user experience and are therefore incentivised to provide users with the most relevant ads to their queries. The introduction of a 'Quality Score' in paid search is what makes it one of the most unique ad auctions in all of digital marketing.

The addition of a 'Quality Score' means that it is not just an advertiser's bid that determines where (how?) they rank, it also factors in how relevant the ad is in relation to a user's query. The 'Quality Score' is calculated slightly differently between Google & Microsoft, however, the major factors remain similar. They are:

> **Expected Click-Through Rate (CTR):** An estimate of how likely it is that the ad will be clicked when shown.

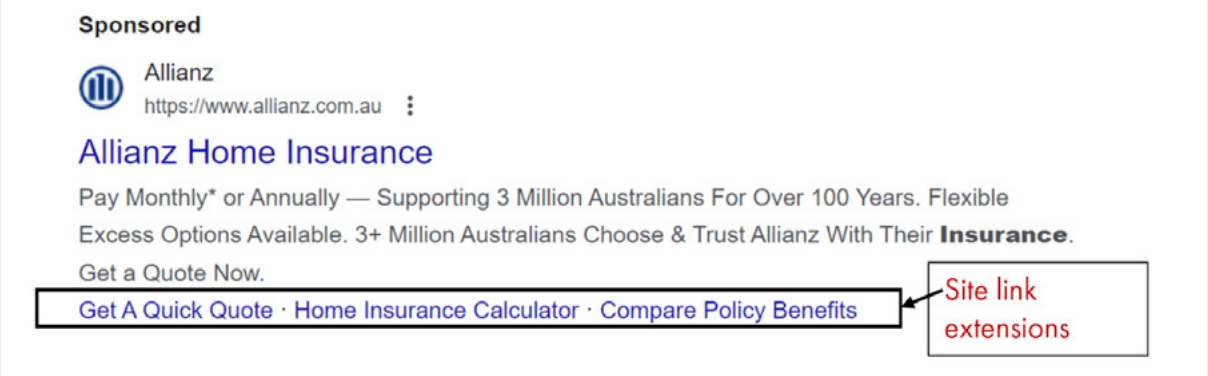
> **Ad Relevance:** How closely the ad matches the intent of the user's search query. This includes if the keyword/query is included in the ad text & landing page.

> **Landing Page Experience:** The quality and relevance of the landing page that the ad leads to, including factors like load time, content relevance, and ease of navigation.

the impact of ad assets or extensions

Ad assets or extensions are enhancements to search ads that allow the ad to provide more contextual information to users. These can be through the addition of links to specific pages on your site (sitelink extensions), extra highlights of special offers or features (callout extensions) or even the addition of phone numbers to allow users to call businesses directly (call extensions).

Additional assets applied to ads help improve the visibility and engagement of ads, making them more informative and appealing to potential customers.



bringing it to life (real examples)

The typical basic equation for visualising and determining ad rank is as follows:
Ad Rank = CPC Bid x Quality Score x Format Impact
So let's create an example where we have 4 advertisers all bidding on the same keyword with the example below:

advertiser	bid	quality score	format impact	ad rank
advertiser 1	$4			
advertiser 2	$3			
advertiser 3	$2			
advertiser 4	$1			

In a traditional auction, Advertiser 1 would win this auction as they have the highest bid, however, due to the 'second-price auction', they would only need to pay $3 to win the auction. The same thing would also apply to Advertiser 2 (only paying $2) and Advertiser 3 (only paying $1).

However, let's now add in an example of the Quality & Format Impact for each of these advertisers to see how they determine the ad rank and ultimately how they perform in the Search auction:

advertiser	bid	quality score	format impact	ad rank
advertiser 1	$4	low	no formats	5
advertiser 2	$3	high	low	15
advertiser 3	$2	high	high	20
advertiser 4	$1	medium	medium	8

Rearranging the advertisers based on ad rank, we can now see that even though Advertiser 3 had the 2nd lowest bid, it was able to leverage the impact of a strong quality score & additional formats to help it become the highest ranking advertiser in the auction. Note: Advertiser 1 had such a low ad rank, it wouldn't even appear in the search auction at all!

advertiser	bid	quality score	format impact	ad rank
advertiser 3	$2	high	high	20
advertiser 2	$3	high	low	15
advertiser 4	$1	medium	medium	8
~~**advertiser 1**~~	~~$4~~	~~low~~	~~no formats~~	~~6~~

So now that we have determined the ad rank, based on the second-price auction, how much would each advertiser have to pay for each click? Well, we know that each advertiser only has to pay the minimum amount to beat the advertiser in the next position based on their ad rank score, so if we go back to our example below, the expected CPC's may look like:

advertiser	bid	quality score	format impact	ad rank	google ad cost	microsoft ad cost
advertiser 3	$2	high	high	20	$1.73	$2
advertiser 2	$3	high	low	15	$2.68	$3
advertiser 4	$1	medium	medium	8	$0.69	$1

This is a great example to show how advertisers can leverage the fundamental principles of the search auction to reduce their CPC's and drive growth, without the need to have the highest budgets.

ad rank in shopping experiences

While the above information & example is relevant for search-based campaigns, there are a number of e-commerce advertisers where the majority of their budget may be spent on Performance Max campaign types which rely on an advertiser's shopping feed to return results (you can learn more about this campaign type here).

While the overarching principles are the same, there are some additional factors for ad rank which should be taken into consideration for feed-based search advertising specifically around the shopping feed data quality:

> **Product Titles:** Accurately and comprehensively describe the product, incorporating relevant keywords to improve search visibility and relevance.

> **Price:** Competitive and accurate pricing aligns user expectations and can influence purchase decisions.

> **Promotions:** Clear and compelling offer extensions, such as discounts or free shipping, can increase product attractiveness and drive conversions.

> **Product Descriptions:** Provide detailed and informative product information, highlighting key features and benefits to match user intent and increase click-through rates.

> **Product Images:** Use of high-quality images that accurately represent the product, encouraging clicks and reducing bounce rates.

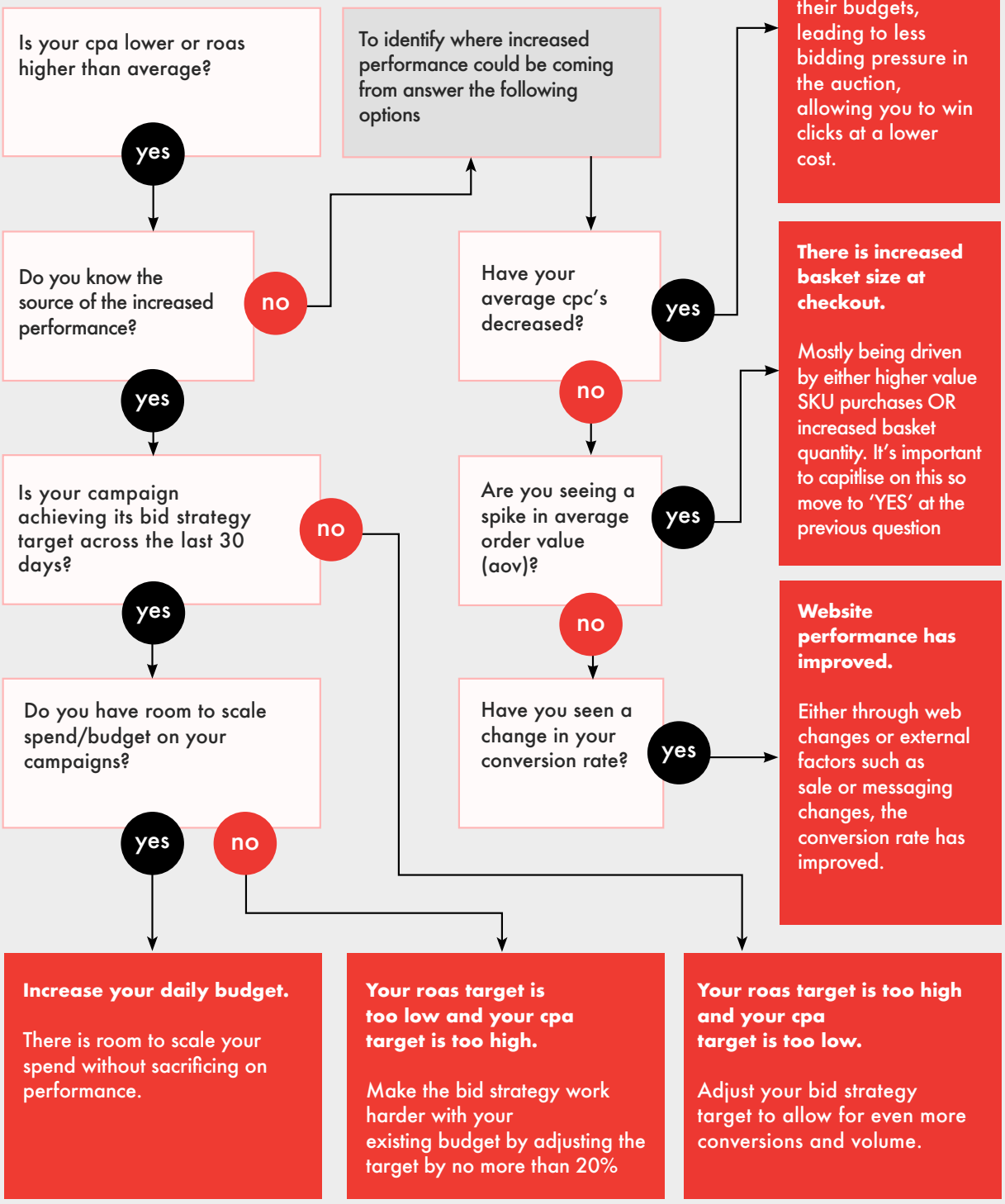
> **GTIN:** A correct GTIN (Global Trade Item Number) ensures product identification and data accuracy, contributing to a positive user experience.

> **Brand:** A strong brand reputation can positively influence user trust and perception, potentially impacting click-through rates and conversion rates.

> **MPN:** A correct MPN (Manufacturer Part Number) provides additional product identification and can improve data quality.

maximising good performance

Optimising search campaigns can make all the difference in a high or low performing campaign. Below is a simple decision tree that may help you identify ways of further improving a campaign that may already be performing effectively.



Explore the full interactive tool by clicking here!

An interactive tool has been developed for both maximising performance as well as correcting poor performance, this decision making tool will help you identify ways that should help your paid search campaigns deliver more effectively.

click to go →

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definitions

Dynamic Search Ads (DSA) - Use website content to target ads and can help fill in the gaps of keyword based campaigns. Dynamic Search Ad headlines and landing pages are also generated using content from a website, which keeps ads relevant

Responsive Search Ads (RSA) -Automatically adjust their size, appearance and format to fit an ad space. So a single responsive ad may appear as a small text ad in one place and a large image ad in another.

Smart Bidding - Automated bid strategies that use machine learning to optimise for conversions or conversion value.

useful resources

Search Optimisation Decision Tree — click to go

How the Google Search Auction Works — click to go

How Keyword Bidding Works (an older video but still relevant) — click to go

Learn how Microsoft Advertising works — click to go

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