

SEMANTIC SEO GUIDE

By Gennaro Cuofano, Andrea Volpini, and Maria Silvia Sanna

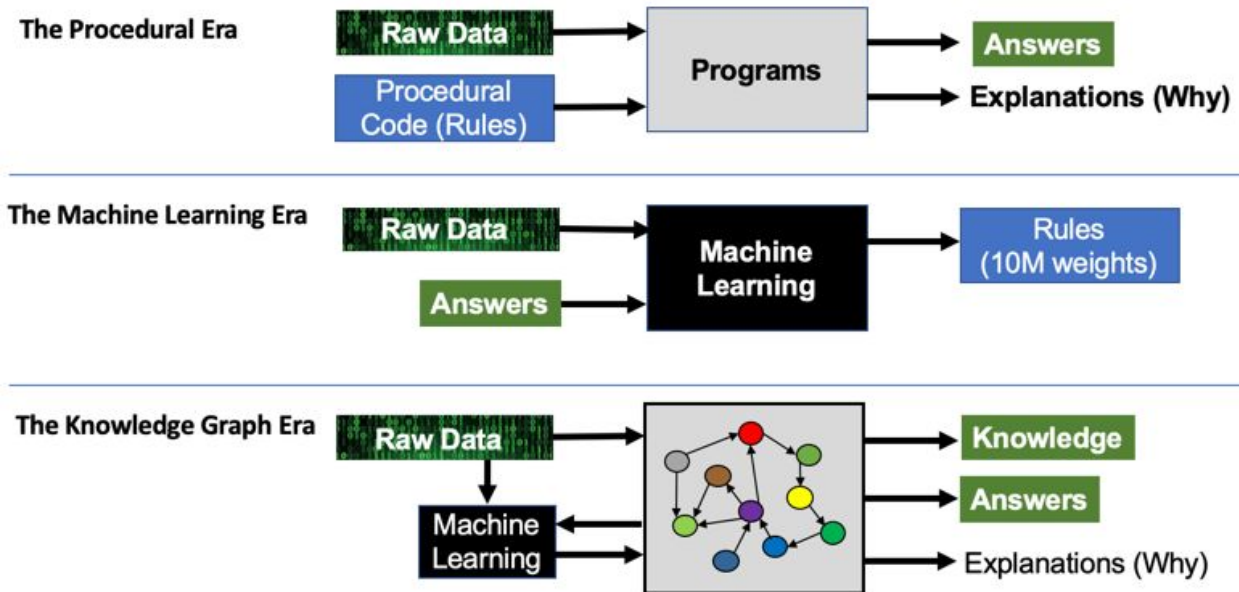


How to Integrate Structured Data in Your SEO strategy

Table of content

Welcome in the Knowledge Graph Era!	2
What's my payoff? Show me the bottom line!	3
How SEO has changed and why it matters	4
Where is Google going and how much of traditional search is powered up by AI?	8
Toward voice search: A change in consumers habits	10
How did you lose all your SEO traffic? "Gradually, then suddenly!"	11
Why does Semantic SEO matter at all?	12
When did this change start?	13
NLP and how Google uses it	13
Why did Google need a Knowledge Graph? Inside Google OneBoxes	15
What is an Entity?	16
Why are Entities Way More Effective than Keywords?	17
Metadata: Data About Data	17
Schema Markup: The Gold Standard of the Semantic Web	18
What is Structured Data?	19
What is a Triple?	20
Why is JSON-LD the best format for structured data?	21
Why is Linked Data so Important?	22
How Can I Link Entities With One Another?	23
Why is it Important to Publish 5-stars Linked Data?	23
How Can you Link Entities from your WordPress Site to the Linked Open Data Cloud?	25
Putting it all together with a knowledge graph	26
Make your content enter position zero!	28
What else can I do with a Knowledge Graph?	30
What's happening next? Beware of fraggles	32
Summary and Conclusions	32

Welcome in the Knowledge Graph Era!



Source: medium.com/@dmccreary

This graph explains extremely well, the kind of change we've gone through in the last decade. That change has completely transformed the search industry.

Yet still a few have realized that the web is already Semantic and Google can't be called anymore a search engine, but it is in full effect a Semantic Engine. Large organizations, startups and practitioners that have grasped this change, have already invested massive resources to also adapt to those new technologies, and in particular to Knowledge Graph technologies.

We'll see how this technology works and why it matters in the first place. But let's start from the end.

What's my payoff? Show me the bottom line!

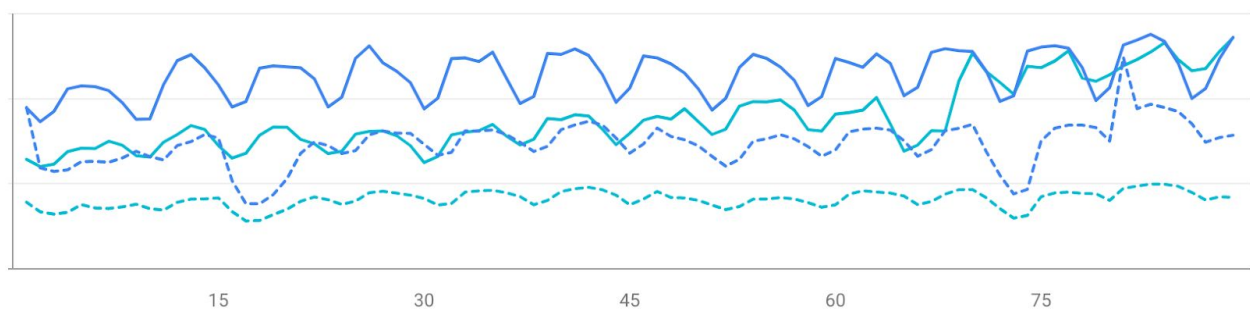
In the business world, most people are skeptic of new technologies, and they can understand them only when they bring a short term pay off. That makes sense, as new technologies are risky, and until they don't bring commercial advantage, why bothering.

So what's the short term pay off of implementing a Knowledge Graph for your SEO strategy? Defenitely organic traffic!

With the WordLift team, we've been working with over five hundred web properties across the web, from small businesses to large organizations, and in most of the cases we've witnessed a large improvement in search metrics due to better coverage of long taim queries, coupled with improvement in rankings, and in some cases the triggering of Google advanced features (featured snippets, knowledge graphs and more).

For instance, on a large portal, like windowsreport.com we've seen a 61% increase in organic traffic, in 8 months, which resulted to a whooping increase of 1.312.250 users every month on top of what they had!

And during the last three months compared to last year we got this:



+ 118% of impressions

+ 55% of clicks

In addition, during the last 3 months we got **+2,1 Million** clicks compared to the previous 3 months.



We have witnessed the same % results on smaller websites, confirmed by recent case studies, from publishing to travel and e-commerce, structured data, coupled with web technologies have become a fast route to enhance search engine visibility, and gain a substantial advantage compared to any other.

We call this effect “WordLifted,” and we will see throughout the guide how it can help your online business to get SEO traction!



How SEO has changed and why it matters

When two young fellows (Page and Brin) during their Ph.D at Stanford were working on a project that would later become Google LLC. In a paper entitled “The anatomy of a large-scale hypertextual Web search engine” they explained:

Google is designed to crawl and index the web efficiently, and produce much more satisfying search results than existing systems

The aim was to create a search engine able to keep up with the the scale and growth of the web, while keeping its engine up to date and with relevant results. Opposite to other existing search engines that in most cases offered spammy results.

The anatomy of a large-scale hypertextual Web search engine¹

Sergey Brin², Lawrence Page^{*,2}

Computer Science Department, Stanford University, Stanford, CA 94305, USA

Abstract

In this paper, we present Google, a prototype of a large-scale search engine which makes heavy use of the structure present in hypertext. Google is designed to crawl and index the Web efficiently and produce much more satisfying search results than existing systems. The prototype with a full text and hyperlink database of at least 24 million pages is available at <http://google.stanford.edu/>

To engineer a search engine is a challenging task. Search engines index tens to hundreds of millions of Web pages involving a comparable number of distinct terms. They answer tens of millions of queries every day. Despite the importance of large-scale search engines on the Web, very little academic research has been done on them. Furthermore, due to rapid advance in technology and Web proliferation, creating a Web search engine today is very different from three years ago. This paper provides an in-depth description of our large-scale Web search engine — the first such detailed public description we know of to date.

Apart from the problems of scaling traditional search techniques to data of this magnitude, there are new technical challenges involved with using the additional information present in hypertext to produce better search results. This paper addresses this question of how to build a practical large-scale system which can exploit the additional information present in hypertext. Also we look at the problem of how to effectively deal with uncontrolled hypertext collections where anyone can publish anything they want. © 1998 Published by Elsevier Science B.V. All rights reserved.

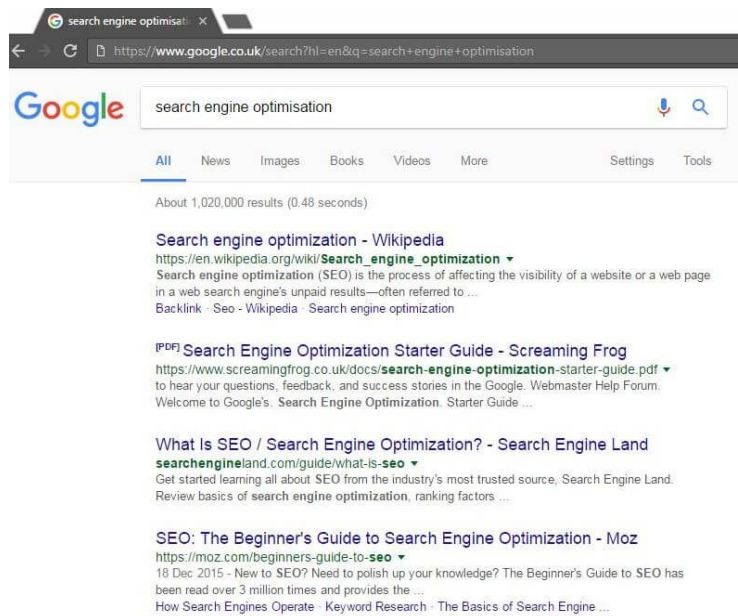
Keywords: World Wide Web; Search engines; Information retrieval; PageRank; Google

Source: stanford.edu

Google wasn't the first search engine, but it was 10X better than existing ones. It used an algorithm engineered by Larry Page, called PageRank. Put shortly, the algorithm used the mechanism of academic citation and applied it to the web. By building a graph able to map backlinks (links that websites received from other sites) they could finally produce a list of relevant sites, retrieved by a query of a user, based on a specific keyword!

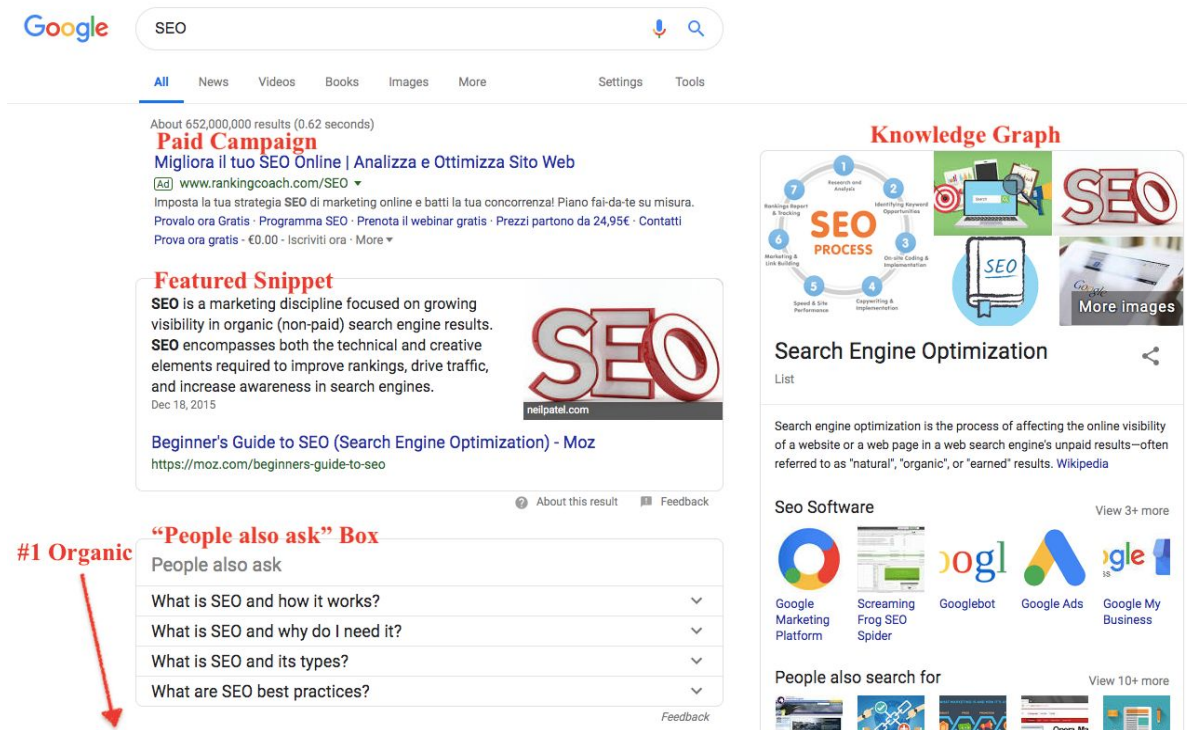
Fast forward, today Google has become the dominant player in the search industry, [generating over \\$116 billion](#) in advertising revenues in 2018.

Powering up over [three billion queries](#) each day Google has become a key distribution channel for many companies around the world. However, SEO has changed. You can appreciate the rate of change of Google with the picture below, which no long ago, provided a list of links for the query “search engine optimization:”



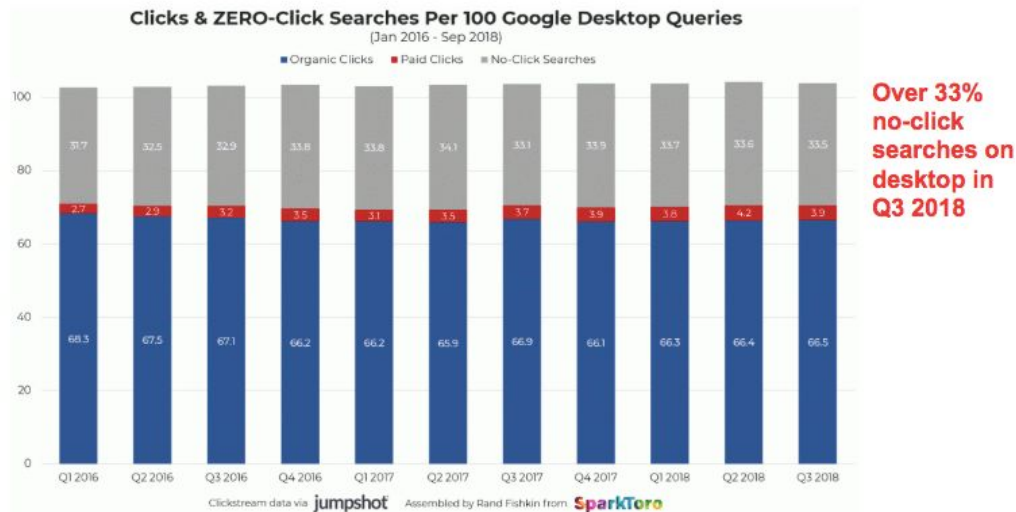
Source: searchengineland.com

If you perform the same query today on Google US those are the results you get:



Can you notice anything here? You'll notice how advanced features (Knowledge Panel, Featured Snippet, "People also ask" box) and paid campaigns are occupying the whole "above the fold" of Google. Where organic traffic took up most of Google search results pages, that has drastically changed.

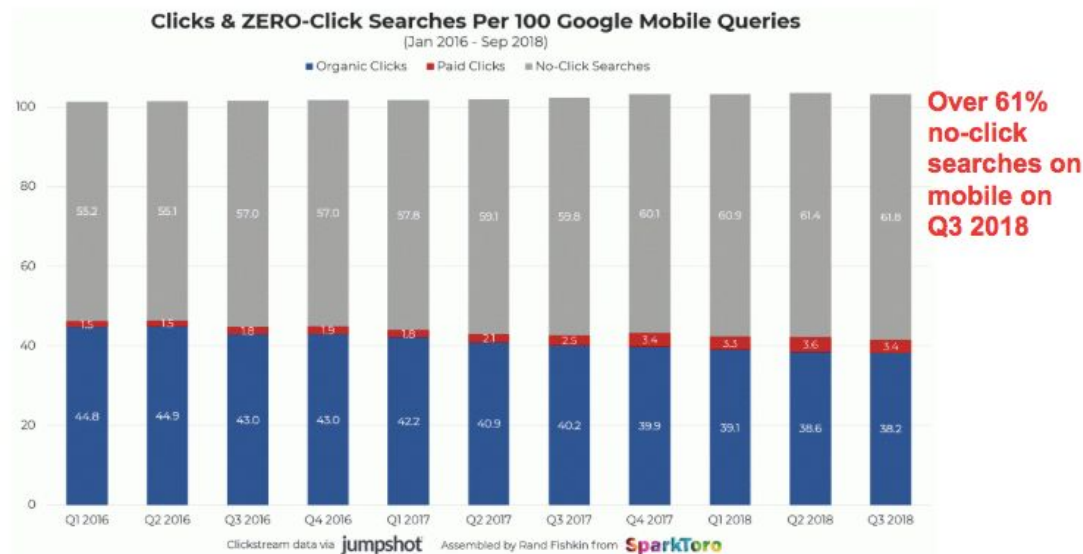
This in turn, has brought us to a new worrying phenomenon for many SEO practitioners: the rise of no-click searches. From a study conducted by Rand Fishkin's SparkToro, and Jumpshot, a shocking truth comes out.



Source: SparkToro/Jumpshot

One third of the queries on Google, from desktop, doesn't translate into organic traffic toward websites. In other words, Google is locking-in users, and offering them an end-to-end experience without having them exit the search results page.

This result is even sharper on mobile, where pretty much, more than half of the users' search queries do not translate in traffico toward third-party websites, but it dies down on Google mobile search results page:



Source: SparkToro/Jumpshot

What does it mean for SEO practitioners?

Before we get to that we need to understand why and what is happening right now to Google, from an organizational and business standpoint.

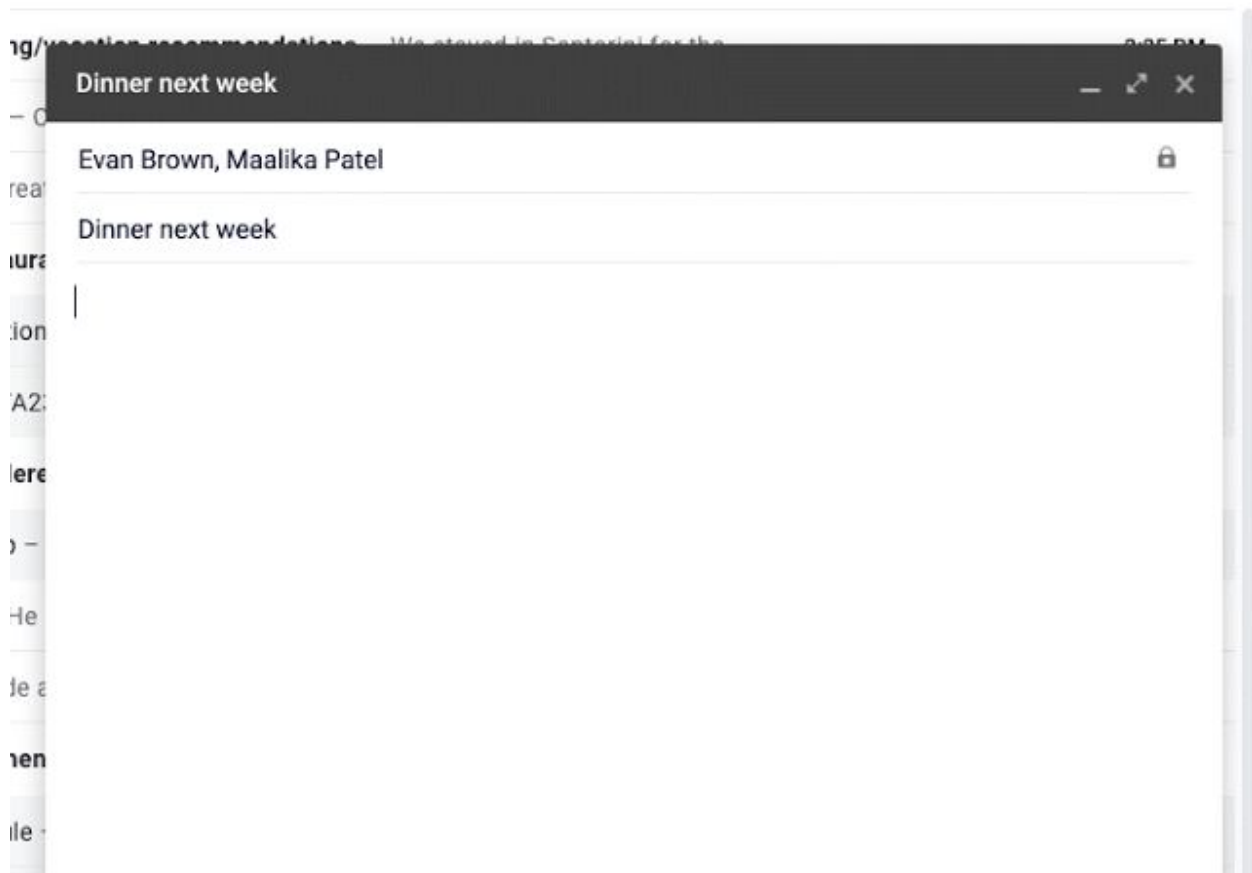
Where is Google going and how much of traditional search is powered up by AI?

From the business standpoint, Google is probably evolving toward voice, and Google has taken a big step forward. As semantic technologies (like Knowledge Graphs) have become mature enough to handle massive amounts of data, Google is rolling those technologies aggressively, to offer a richer and richer experience to users and to control their end-to-end navigation. Where in the past, Google would send users toward third-party websites, today Google is transitioning toward becoming a locked-in platform, where it can control the full experience of its users. From finding information, to almost completing a transaction.

Why does Google want that? There are several reasons. Some are strictly related to the capturing of business value (the more you can control the experience of users the more you can monetize it). Another compelling reason is the transition of consumers' habits from traditional search, to more elaborated systems of discovery.

In the past this wasn't possible, as most of users' data could be hardly turned into something valuable.

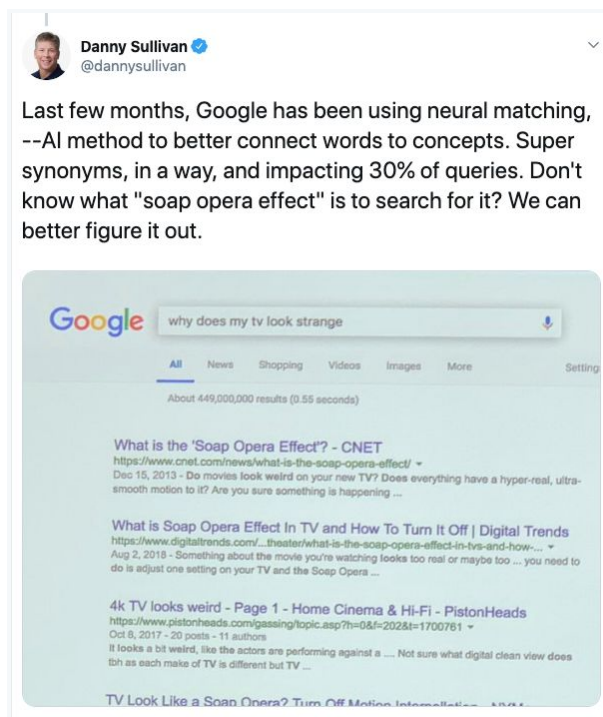
Yet as available data has grown and AI and ML technologies have become better and better at understanding our preferences, Google is turning more and more into a discovery engine able to anticipate our thoughts:



Example of how the Google [Smart Compose](#) can anticipate the users' typing with great precision

Source: ai.googleblog.com

This has become even more evident as Google becomes better and better at understanding human language through [Natural Language Understanding](#) and it manages to recognize images with its Google lenses.



Last few months, Google has been using neural matching, --AI method to better connect words to concepts. Super synonyms, in a way, and impacting 30% of queries. Don't know what "soap opera effect" is to search for it? We can better figure it out.

But how much of Google can already be thought of as “semantic?” According to a September 2018 tweet, by Danny Sullivan - talking about “super synonyms” (the ability of Google to understand synonyms) - he highlighted that at least 30% of queries had been affected by an AI mechanism, called neural matching, which allowed words to be connected to concepts.

And there is no doubt that Google search will also change more dramatically. For instance, in 2018-19 alone Google has gone through two major updates (the Medic and the Core update) that have reshuffled Google’s search results pages substantially.

Toward voice search: A change in consumers habits

The whole [Google value proposition](#) is built on top of users'. Thus if users are changing the way they consume content, Google will want to be on top of that.

In short - I argue - the transition we're looking at is a bridge between traditional search and voice search.

To make sure, voice search isn't just the new buzzword for the SEO industry, in 2018, it is instead a market potentially worth billion of dollars. Tech giants like Amazon, Apple, Google and Microsoft are all battling and investing billion of dollars to win the "voice search business war."

U.S. Smart Display User Base Grew 558% in 2018 and More Than Doubled in Second Half of the Year, Amazon Holds Two-thirds Market Share

BRET KINSELLA on March 7, 2019 at 8:30 am

The installed user base for voice-interactive smart displays among U.S. adults rose 558% in 2018 according to a national survey conducted by Voicebot and Voicify and presented in the [2019 U.S. Smart Speaker Consumer Adoption Report](#). In addition, the relative share of smart speaker owners with a display more than doubled in the second half of the year.

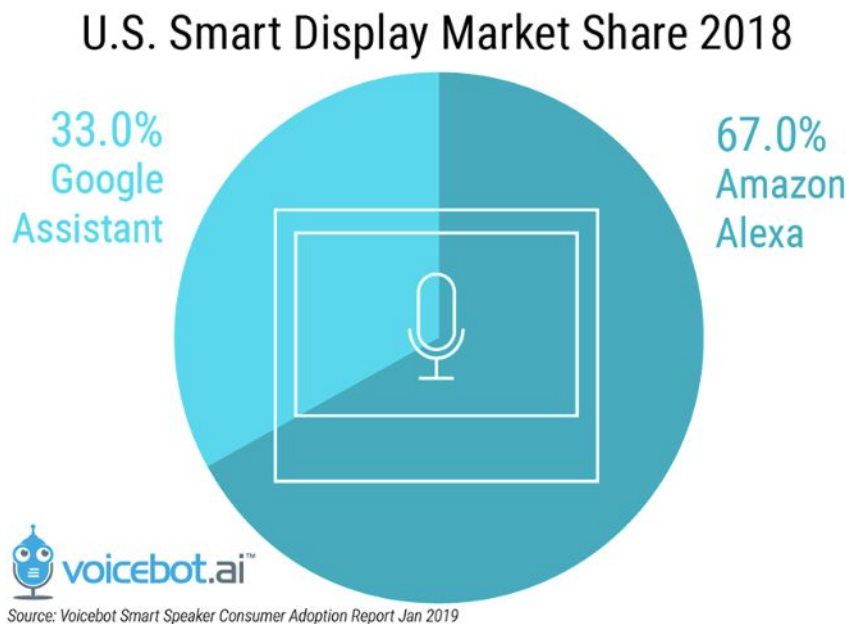
Voicebot survey data indicated about 2.8% of smart speaker owners also had a smart display in January 2018. By late May that figure had risen to about 5.9% and it rose again to 7.1% in early September. What was behind that growth? In the first two quarters of 2018, Amazon frequently offered heavy discounts on its smart displays in anticipation of introducing a second generation display in September and the expectation of competitive products. There were the January announcements of several OEMs committed to introducing Google Assistant enabled smart displays which did launch in July and August. However, the growth accelerated further during the U.S. holiday shopping season when a number of new smart displays first became available such as the Google Home Hub and Facebook Portal. At the end of 2018, 13.2% of smart speaker owners counted a smart display among their voice-interactive devices.

Source: voicebot.ai

The voice search market seems to be growing at such a fast pace, that not being able to become the market leader, would probably means the lost in the "next web era."

And by looking at some current statistics, numbers don't seem to be playing in favor of Google - at least in the US:





Of course, the battle isn't just fought on voice assistants devices, but also and especially on mobile devices that today And Google, with Android might be capturing already a good chunk of it.

How did you lose all your SEO traffic? “Gradually, then suddenly!”

In the novel “The Sun Also Rises,” by Ernest Hemingway, one of his character is asked:

“How did you go bankrupt?”

He replies:

Two ways. Gradually, then suddenly.”

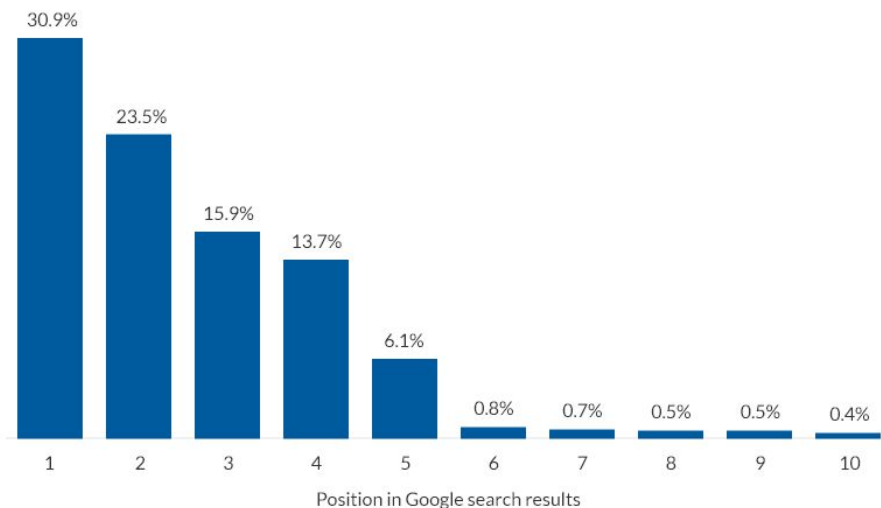
Today, many SEO practitioners keep using old logic to the new Semantic Google and while this is fine (best practices are the foundation of a proper SEO strategy) they might be losing sight of what's happening next.

At the same time, this puts Google into a position of high pressure, which calls up for big moves. That is also why we might be witnessing to faster and faster changes in the SEO world as well. Where things have seemed to gradually change in the last two decades, we might well witness a sudden change in the way SEO works and a big and even stronger shift to voice, visual search and others.

Reshuffling of the queries

However, paid will become more and more expensive for companies, as more small businesses are joining in Google Ads,

Where featured snippets tend to rank



ahrefs

Why does Semantic SEO matter at all?

To understand a search performed by users, search engines need context. Semantic SEO is all about providing meaningful data to search engines so that they can read **unambiguously our content and serve it to answer specific intents of our users.**

In addition, Semantic SEO enriches the context around a piece of content as it allows that content to be contextualized in clusters, semantically grouped into topics, rather than just relying on traditional keywords. In short, a Semantic SEO strategy



makes it possible to connect a word to a concept, thus offering to the search engine a better system to extract meaning and knowledge from web pages. This is at the core of a structured data strategy, and a bottom up approach that allows website owners to keep control on the message they want to convey to users through search engines.

For instance, if I run an e-commerce that sells carpentry, if I write an article about a “horse” by specifying it as a working tool for a carpenter this will make it way easier for Google to rank my content on a keywords related to woodworking, rather than horse riding. Of course, this is one example of how Google might use structured data to extract knowledge and it all starts from a TED talk given by [Tim Berners Lee back in 1999](#).

When did this change start?

If I have to put a date on when Google started to change massively, it would probably be 2012, when futurist Ray Kurzweil arrived at Google, with one mission: make search engines understand human language. From that quest Google has made over the years various update to its search algorithms. In 2013, with Hummingbird and later on in 2015, AI became a major factor for search with [RankBrain](#).

It is important to remark that today Google looks at more than 200 factors that when combined make up to thousands of possible combinations. However, Google’s primary aim is to capture the intent of a user and give it the best possible answer based on the context of the query. Thus, relevance is really punctuated by context.

Therefore, if I type in the search box “Pizza Margherita” I may be looking for something to eat or just the story behind the name of this food. Of course, if I do this search at 8 a.m., I’m probably more interested in learning the story behind the food.

If I do the same search at 8 p.m., I may be looking for something to eat for dinner. But how does the search engine know what is the context? It all starts from reading human language, through [Natural Language Processing](#) (NLP). Before we dive into it, let’s see how NLP works in the first place.

NLP and how Google uses it


To get to earth, and how modern search works I like to start from the moon.






When I type in Google's search box "moon distance," that is what I get:

Moon / Distance to Earth

384,400 km



People also search for


	Sun 149.6 milli...		Sirius 8.611 light years		Europa 628.3 milli...
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You may think this is simple keyword matching, but it is not.




In fact, if I ask "How far is the moon?"
I get the same answer:

Moon / Distance to Earth

384,400 km




People also search for

 Sun 149.6 milli...	 Sirius 8.611 light years	 Europa 628.3 milli...
---	--	--




Google's ability to understand language goes further. If I search "moon distance in meters" that is what I get:

Moon / Distance to Earth

384.4 million m



People also search for

 Sun 149.6 milli...	 Sirius 8.611 light years	 Europa 628.3 milli...
---	--	--

In short, Google knows I'm referring to the same thing and gives me the proper answer even though I'm using different phrases, and even though I'm being ambiguous in not specifying "how far is the moon?" from where.

But if Google isn't looking anymore at keywords (at least for specific queries) where is it getting the results? Google learns through topics. In the context of the Semantic Web those concepts are called [entities](#). An entity has certain key characteristics that make it way more effective than keywords.

Indeed, entities are organised in Giant Knowledge Graphs. And on May 16, 2012 Google announced it was building a Knowledge Graph.

Why did Google need a Knowledge Graph? Inside Google OneBoxes

Manish Rai Jain, Ex-Googler, which worked on building up Google Knowledge Graph from scratch, explained in "Why Google Needed a Graph Serving System"

Google needed to build a graph serving system to serve not just the complex relationships in the Knowledge Graph data, but also all the OneBoxes which had access to structured data. The serving system needed to traverse facts, with high enough throughput and low enough latency to be hit by a good chunk of web search queries. No available system or database was able to do all three.

OneBoxes are Google advanced functionalities

In other words, it is a knowledge base to provide more useful and relevant results to searches using a semantic-search technique.

I'm going to reconstruct how a knowledge graph works, by starting from an entity. But really, what is an entity?

What is an Entity?

According to Wikipedia:

An entity is something that exists as itself, as a subject or as an object, actually or potentially, concretely or abstractly, physically or not.

In the context of Semantic Web an entity is much more than that:

In the Semantic Web an entity is the “thing” described in a document. An entity helps computers understand everything you know about a person, an organization or a place mentioned in a document. All these facts are organized in statements known as triples that are expressed in the form of subject, predicate, and object.

Source: [What is an entity in the Semantic Web?](#)

Why are Entities Way More Effective than Keywords?

For three simple reasons. Entities are:

- connected
- unambiguous
- contextual

Through entities you create meaningful relationships that can be read, understood, and interpreted by search engines. That is what Semantic SEO allows you to achieve. [Entities, in the context of the Semantic Web](#), are really data points that computers can use to analyze and interpret the human language.

Let's take this a step at the time.

How do entities gain context?

Metadata: Data About Data

In its most basic definition, metadata is just data about data.

The concept of metadata is not new. In fact, librarians have been using it for a long time to discover, and manage documents. Imagine, that for each document you're

specifying the author, date, book length, and so on. That is all metadata that helps classify a book. Therefore, it makes it easier to find it later on.

To work appropriately, metadata has to follow a logic of classification that everyone understands. In short, there must be a set of rules that everyone can follow to make the system work. Like in a vocabulary where grammatical rules are arbitrarily selected to create a standard language. Ontologies are the foundation of metadata.

The simplest form of an ontology is a vocabulary. The vocabulary that today makes [Semantic SEO](#) possible is called Schema.org.



Schema Markup: The Gold Standard of the Semantic Web

At the question "What is Schema.org?" that is what Google says:

Schema.org is a joint effort, in the spirit of **sitemaps.org**, to improve the web by creating a structured data markup **schema** supported by major search engines. On-page markup helps search engines understand the information on web pages and provide richer search results.

[FAQ - schema.org](#)
schema.org/docs/faq.html



By adding schema markup to web pages, content is interlinked with data using standard linked vocabularies like schema.org and becomes more accessible.

What is Structured Data?

Structured data is a standardized format for providing information about a page and classifying that content on the page; for example, on a recipe page, what are the ingredients, the cooking time, the temperature, the calories, and so on.

Source: [DevelopersGoogle.com](https://developers.google.com)

Structured data that uses Schema.org as a reference vocabulary and can be embedded in web pages using three formats:

- JSON-LD
- Microdata
- RDFa

Format	Description and Placement
JSON-LD* (Recommended)	JavaScript notation embedded in a <script> tag in the page head or body. The markup is not interleaved with the user-visible text, which makes nested data items easier to express, such as the Country of a PostalAddress of a MusicVenue of an Event. Also, Google can read JSON-LD data when it is dynamically injected into the page's contents, such as by JavaScript code or embedded widgets in your content management system.
Microdata	An open-community HTML specification used to nest structured data within HTML content. Like RDFa, it uses HTML tag attributes to name the properties you want to expose as structured data. It is typically used in the page body, but can be used in the head.
RDFa	An HTML5 extension that supports linked data by introducing HTML tag attributes that correspond to the user-visible content that you want to describe for search engines. RDFa is commonly used in both the head and body sections of the HTML page.

Source: [DevelopersGoogle.com](https://developers.google.com)

Imagine a book supported in three different formats: ebook, paperback, and hardcover. Each has different weights, sizes and so on. So does [Schema.org](https://schema.org).

[JSON-LD](#) is the preferred format by Google. In fact, that is a JavaScript embedded in a <script> tag in the page or head or body. The code encapsulates useful and contextual information regarding the article written using linked data standards.

Information, in the semantic web, is written using *subject–predicate–object* predicates called triples.

What is a Triple?

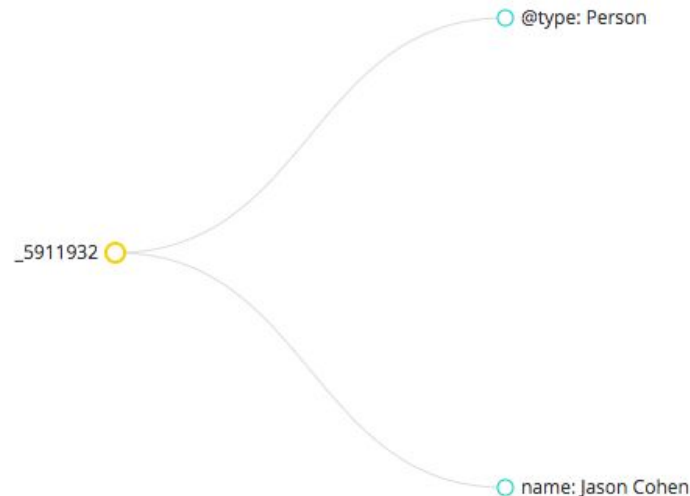
Like an atom in the material world, a triple is the most fundamental part of how information is encoded in a knowledge graph using semantic web technologies. A triple comprises a *subject–predicate–object* expression (Jason is 40 or Jason knows David).

Each entity gets connected to the next through relationships that are expressed with simple triples. Like in reality where from simple local rules, arise complexity. By mixing up billions of triples, you get the Semantic Web.

For instance, those below are two triples expressed in JSON-LD:

```
{  
  "@type": "Person",  
  "name": "Jason Cohen"  
}
```

“This entity is a person” and “The name of this entity is Jason Cohen.” Which, visually (using an online tool called the [JSON-LD Playground](#)) will look like the following:



Within each triple we can add more information in the form of *subject-predicate-object* and using a particular Schema type and its associated properties, so that we can make each piece of information truly accessible to machines.

Why is JSON-LD the best format for structured data?

The advantages of using JSON-LD are the following:

- It does not affect the performance of the page because it can be loaded asynchronously
- It is injected in the page without impacting on the existing HTML structure and tags
- It is easy to be reused by web developers as it follows the JSON syntax
- It leverages on linked data

That is also why Google incentivizes websites owners to use structured data on a web page in the form of [JSON-LD](#). This format allows entities, therefore concepts to become linked.

However, that information can still be ambiguous. For instance, in the example above Jason Cohen can be either *the founder of WP Engine* or the *American*

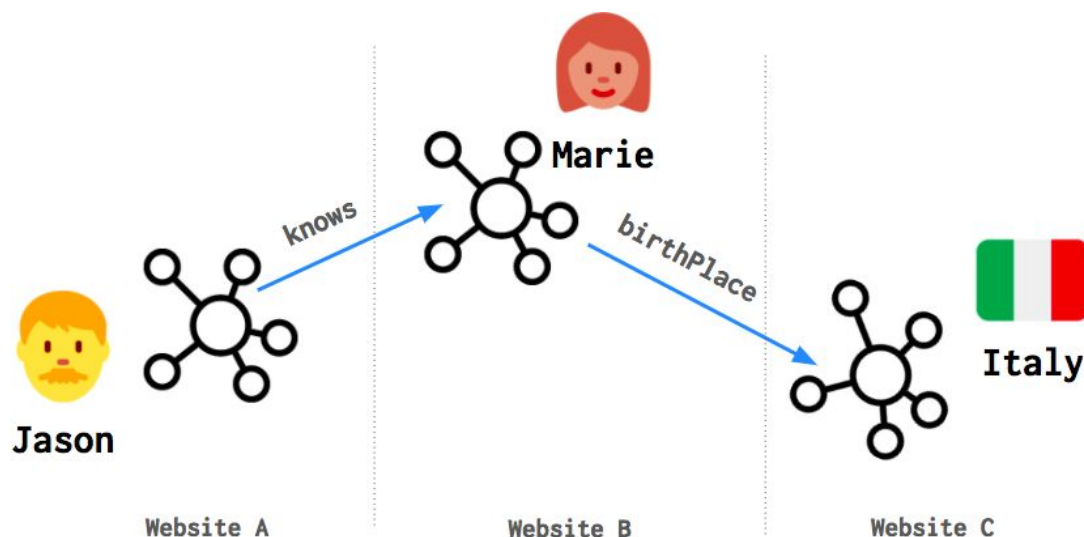
filmmaker. I'm referring to the former obviously but how do I make a search engine understand that?

Once again, linked data (a semantic web standard for publishing data) is the answer.

Why is Linked Data so Important?

Schema is the vocabulary used to help search engine understand the content of webpages. Linked data is a method for publishing structured data using vocabularies like Schema that can be connected together and interpreted by machines.

Using linked data, statements encoded in triples can be spread across different websites. On Website A we can present the entity *Jason* and the fact that he knows *Marie*. On website B we can provide all the information about Marie and on the Website C we can find information about Marie's birthplace.



Each page contains the structured data to describe an entity and the *link* to the entity that could be described on a different website.

Using on WordPress, semantic plugins like WordLift, you can link one entity with another much like you do with web pages. But how can you make sure that search engine understands unambiguously that you are referring to the CEO of WP Engine and not to the movie director?



There are really two ways:

- **Implicitly**, the search engine could grasp that on Torque we are more likely to refer to the CEO of WP Engine (and this is what *context-vectors* are used for)
- **Explicitly**:
 - by reading a linked data attribute called @id (a unique identifier for the entity that might be already known by the search engine) or
 - by reading any sameAs link for the entity that points to a known dataset. The purpose of these links is to tell machine that the entity is equivalent of another entity in an open encyclopedia like Wikipedia or directly into the Google Knowledge Graph

How Can I Link Entities With One Another?

According to [Schema.org](https://schema.org) the sameAs property is:

URL of a reference Web page that unambiguously indicates the item's identity. E.g., the URL of the item's Wikipedia page, Wikidata entry, or official website.

It is like you're saying to the search engine "this is the same thing as the one you find at this address." Today only between 10,000 to 50,000 domains use this property. That is also why you can make a difference for your SEO strategy by using it.

However the sameAs property alone might not be enough if you need to query the data that you're publishing (or simply if you want others to query the data that you're publishing across multiple datasets).

You need something more. You need to publish data following the so-called [five-stars open data scheme](#) introduced by Berners-Lee that requires you to link every piece of data with other data.

Here is where the `owl:sameAs` property comes into play.

Why is it Important to Publish 5-stars Linked Data?

There are four simple principles to follow when publishing data on the web (and yes, structured data is open data as it is fully accessible).

1. Use URIs as names for things (this is the unique identifier that we introduced above)

2. Use HTTP URIs so that people can look up those names (this means that the ID of every entity shall be accessible via HTTP URI)
3. When someone looks up a URI, provide useful information, using the standards (Behind these URIs we need to publish data using a linked data standard called RDF)
4. Include links to other URIs. so that they can discover more things (and here is where we need to add `owl:sameAs` property).



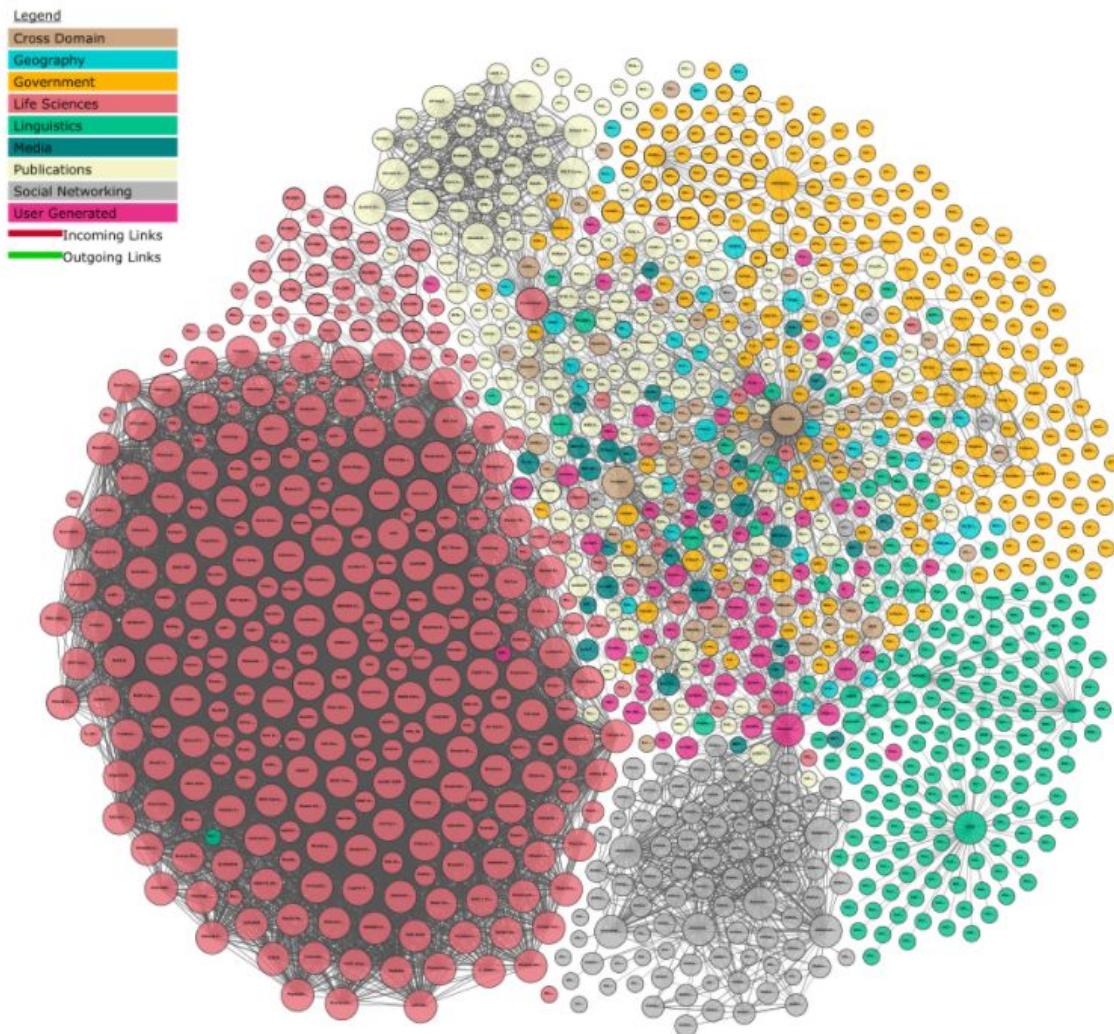
To simplify a 5-stars open dataset is simply a way to publish metadata (using [linked data](#) standard) that makes it readable and accessible by machines.

That is why by connecting a piece of text, written by a human with an open dataset created by a machine, our content becomes fully accessible and machine-friendly.

Once again Semantic SEO is about helping machine understand our content by using open web standard to describe it.

Some of the primary datasets that implement the 5-stars linked data schema are foundational for the machine learning algorithms behind semantic search engines like Google and Bing as well as digital personal assistants like Alexa, Cortana, and the Google Assistant.

These datasets (like DBpedia, Wikidata, Geonames just to name it a few) are all interlinked together to form a Linked Open Data Cloud.



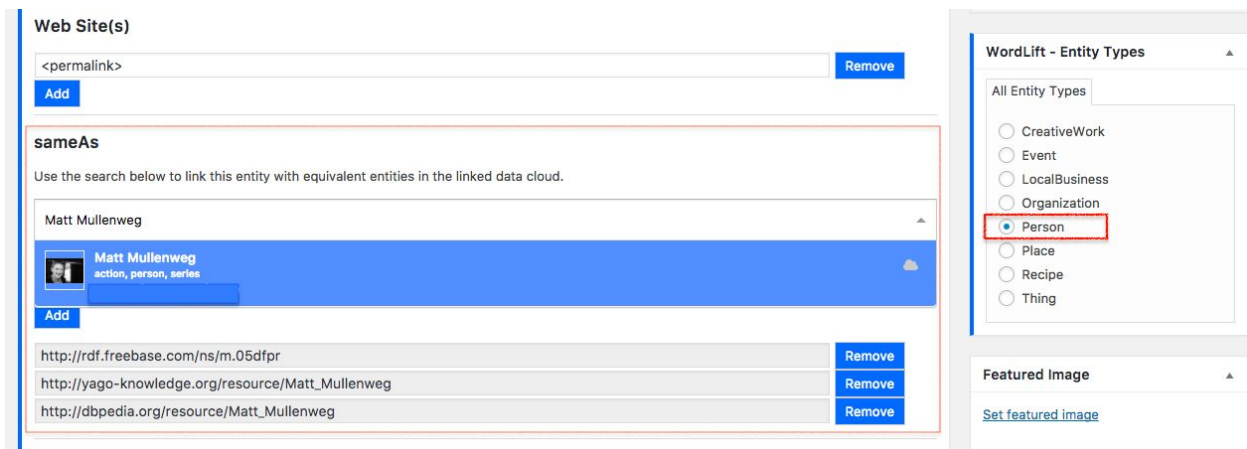
Source: *lod-cloud.net*

When you add structured data to your WordPress website using a plugin like [WordLift](#), that structured data gets published as open linked data. In short, your WordPress website, and the metadata of your own content becomes part of that Linked Open Data Cloud. Thus by adding an additional layer to the Semantic Web your WordPress website also becomes part of it!



How Can you Link Entities from your WordPress Site to the Linked Open Data Cloud?

Imagine we want to explain to a search engine Matt Mullenweg is and link the page I have for him on my blog with entities in the LOD cloud. How do I do that on my WordPress website?



The screenshot shows the WordPress WordLift interface. On the left, the 'Web Site(s)' section has a text input field with the placeholder '<permalink>' and a 'Remove' button. Below it is an 'Add' button. The 'sameAs' section is highlighted with a red border. It contains a search bar with 'Matt Mullenweg' entered. Below the search bar is a blue card for 'Matt Mullenweg' with the labels 'action, person, series' and an 'Add' button. At the bottom of the 'sameAs' section, there are three rows of URIs with 'Remove' buttons: 'http://rdf.freebase.com/ns/m.05dfpr', 'http://yago-knowledge.org/resource/Matt_Mullenweg', and 'http://dbpedia.org/resource/Matt_Mullenweg'. On the right, the 'WordLift - Entity Types' panel is shown. It has a tab 'All Entity Types' and a list of entity types: 'CreativeWork', 'Event', 'LocalBusiness', 'Organization', 'Person' (which is selected and highlighted with a red box), 'Place', 'Recipe', and 'Thing'. Below this panel is a 'Featured Image' section with a 'Set featured image' link.

As you can see above, I used WordLift within my WordPress to create a page about Matt Mullenweg. That page is set up as a Schema Entity Type “person”. To make it clear who I am talking about I run a search using [WordLift](#) that taps into giant graphs published in LOD and in a snap I can get the reference to the entity of Matt Mullenweg on Freebase, Wikidata, and DBpedia.

Once I update the page, the Schema sameAs, and the owl:sameAs properties are automatically added by WordLift and made available to search engines.

We can now use the [Structured Data Testing Tool](#) of Google to see how the search engine sees the page:



Google Structured Data Testing Tool

http://test.wordlift.it/vocabulary/matt-mullenweg/

```

1 <!DOCTYPE html>
2 <!--[if IE 7]>
3 <html class="ie ie7" lang="en-US">
4 <![endif-->
5 <!--[if IE 8]>
6 <html class="ie ie8" lang="en-US">
7 <![endif-->
8 <!--[if !(IE 7) & !(IE 8)]><!-->
9 <html lang="en-US">
10 <!--<![endif-->
11 <head>
12 <meta charset="UTF-8">
13 <meta name="viewport" content="width=device-width">
14 <title>Matt Mullenweg | WordLift Test</title>
15 <link rel="profile" href="http://gmpg.org/xfn/11">
16 <link rel="pingback" href="http://test.wordlift.it/xmlrpc.php">
17 <!--[if lt IE 9]>
18 <script src="http://test.wordlift.it/wp-
19 content/themes/twentyfourteen/js/html5.js"></script>
20 <![endif-->
21 <meta name="robots" content="noindex,follow" />
22 <link rel="dns-prefetch" href="//fonts.googleapis.com" />
23 <link rel="dns-prefetch" href="//s.w.org" />
24 <link href="https://fonts.gstatic.com" crossorigin rel="preconnect" />
25 <link rel="alternate" type="application/rss+xml" title="WordLift Test &rsquo;
26 <link href="http://test.wordlift.it/feed/" />
27 <link rel="alternate" type="application/rss+xml" title="WordLift Test &rsquo;
28 <link href="http://test.wordlift.it/comments/feed/" />
29 <script type="text/javascript">
30 window._wpemojiSettings =
31 {
32 "baseUrl": "https://s.w.org/images/core/emoji/2.3/72x72/",
33 "ext": ".png",
34 "svgUrl": "https://s.w.org/images/core/emoji/2.3/svg/",
35 "svgExt": ".svg",
36 "source": "wpemoji",
37 "url": "http://test.wordlift.it/wp-includes/js/wp-emoji.js?ver=4.8-RC2-40880",
38 "twemoji": "http://test.wordlift.it/wp-includes/js/twemoji.js?ver=4.8-RC2-40880"
39 };
40 (function() {
41 var jsonp = document.createElement('script');
42 jsonp.type = 'text/javascript';
43 jsonp.src = 'http://test.wordlift.it/wp-includes/js/wp-emoji.js?ver=4.8-RC2-40880';
44 document.getElementsByTagName('script')[0].parentNode.appendChild(jsonp);
45 })();
46 </script>
47 </head>
48 <body>
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Person

ID: http://data.wordlift.it/testwordlift/entity/matt_mullenweg

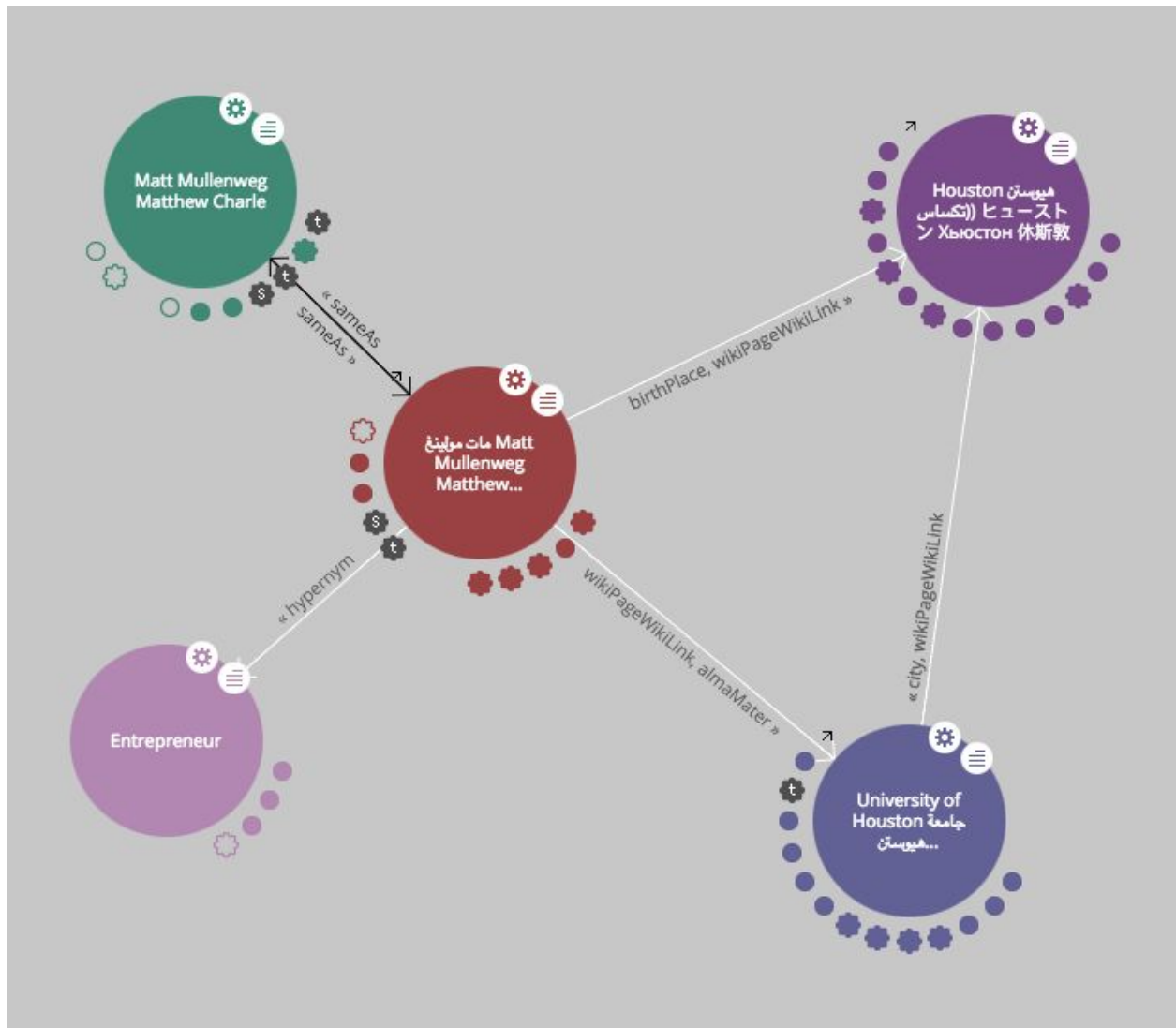
@type	Person
@id	http://data.wordlift.it/testwordlift/entity/matt_mullenweg
description	Matthew Charles "Matt" Mullenweg (born January 11, 1984 in Houston, Texas) is an American online social media entrepreneur, web developer and musician living in San Francisco, California. He is best known for developing the free and open source web software, WordPress, which powers 16% of the web and is now managed by The WordPress Foundation...
mainEntityOfPage	http://test.wordlift.it/vocabulary/matt-mullenweg/
name	Matt Mullenweg
sameAs	http://rdf.freebase.com/ns/m.05dfpr
sameAs	http://yago-
sameAs	knowledge.org/resource/Matt_Mullenweg
sameAs	http://dbpedia.org/resource/Matt_Mullenweg
url	http://test.wordlift.it/vocabulary/matt-mullenweg/

The structured data has been created without writing a single line of code and now Google can crawl and index that page way more efficiently. However, there is also more to it.

As we saw earlier by using 5-stars linked data now my data is interoperable with other datasets and published also off-page in an RDF-based knowledge graph.

Putting it all together with a knowledge graph

In the context of Semantic Web, a knowledge graph is a way of representing knowledge. In short, you start from a few triples and those triples are put in relationship to build a graph. For instance, let's have a closer look - using Semantic Web technologies - at the Matt Mullenweg entities on my blog:



Source: [LodLive](#)

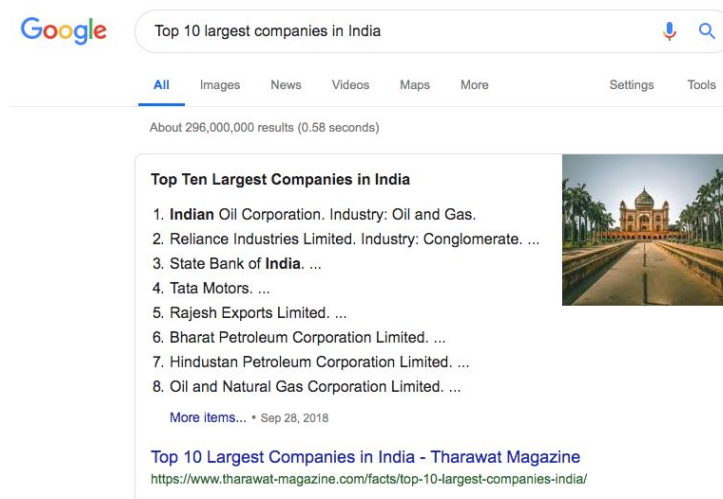
As you can see we have a set of triples that tell us a story: Matt Mullenweg, also named Matthew Charlie, was born in Houston and attended the University of Houston. He is an entrepreneur.

A knowledge graph doesn't speak any particular language. Language is human; a knowledge graph gets expressed in open linked data, which is the language of machines.

Imagine your entire website built upon a large [knowledge graph](#) made of all the metadata that describes the thing that you write about. That knowledge graph becomes part of a larger graph that comprises the new web. That is the power of Semantic Web.

Make your content [enter position zero!](#)

Below you find some examples of Featured Snippets that some of our clients have implemented with the help of structured data and knowledge graph published using WordLift:

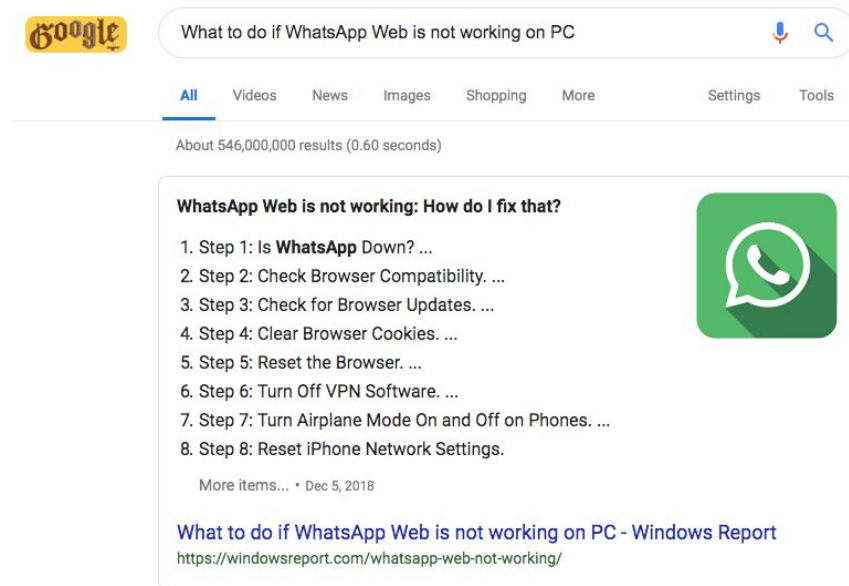


A featured snippet from Tharawat Magazine

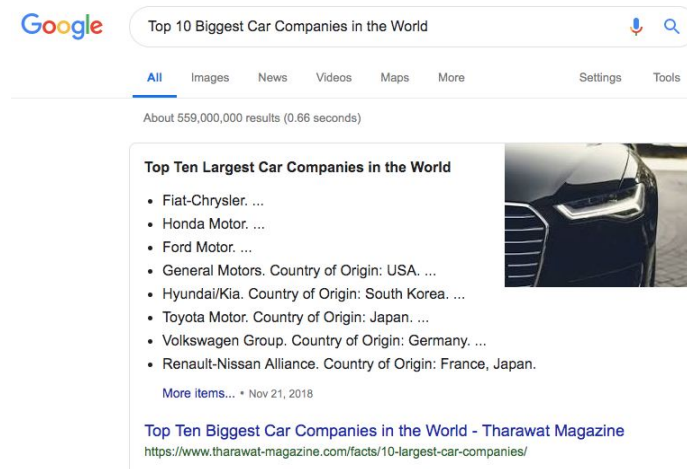


A featured snippet from Iceland Travel





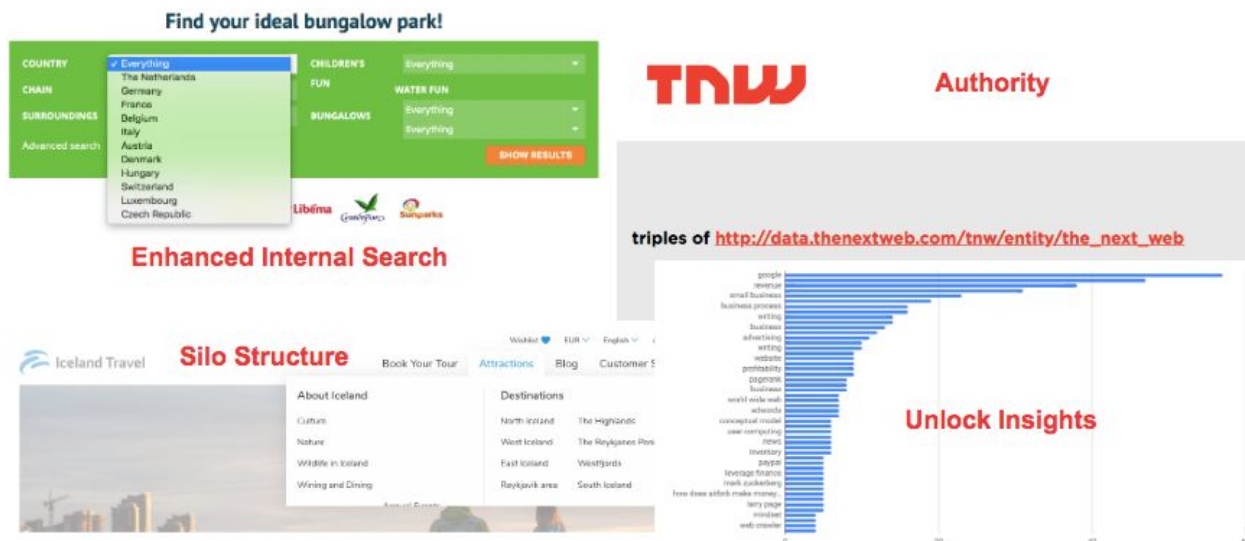
A featured snippet from WindowsReport



A featured snippet from Tharawat Magazine

What else can I do with a Knowledge Graph?

The improvement in search results is the short term payoff of implementing a Knowledge Graph. However, there is much more to that:

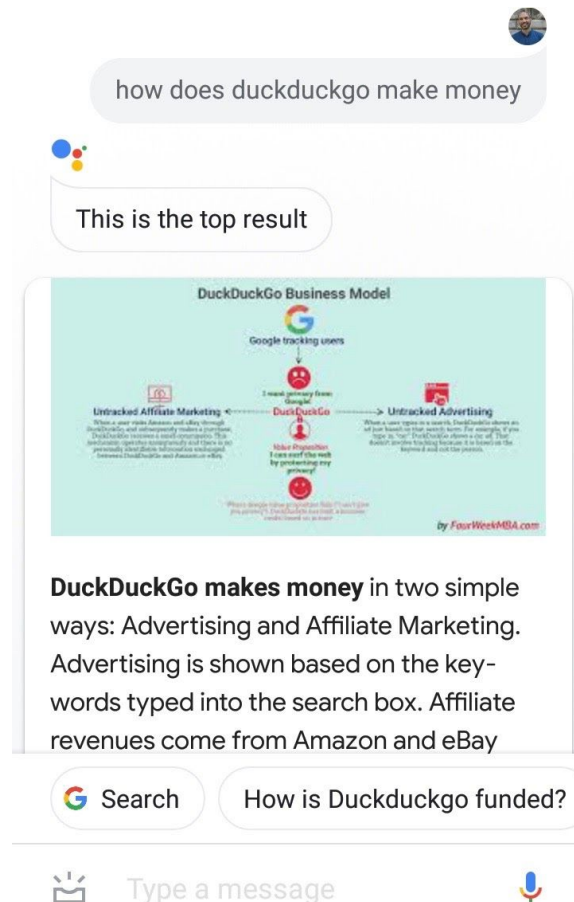


A Knowledge Graph technology within a website can be also used to improve the internal navigations of users. For instance, by creating a faceted navigation that allows users to better find relevant content within the site. It can help better structure the content, and to create a sort of “open linked silo structures” where isn’t just the content linked, but also the metadata that describes it organized efficiently. In addition, Knowledge Graphs are first of all repository of metadata, stored as triples (simple phrases) that can be turned in insights to understand the gap between the content you’re producing and what you should produce instead to gain visibility.

And last but not least, voice search!



A featured snippet on the SERP becoming an answer within the Google assistant



Google using its search results assets to power up voice search

What's happening next? Beware of fraggles

Have you ever heard of 'fraggles'?

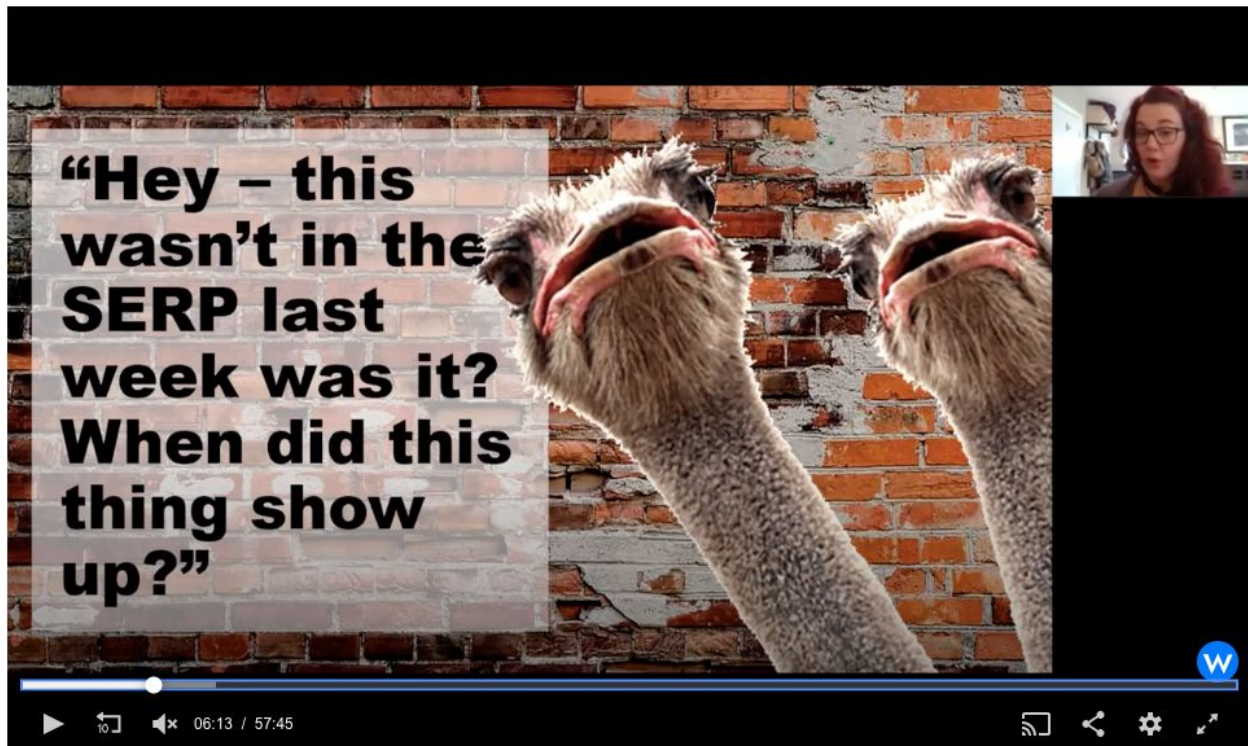
The concept of fraggles has been designed by Cindy Krum, and they are a mix between fragment and handle. As a bookmark, the handle is used to allow you to click on a word or an object and scroll down the page, while a fragment is just an element of a page, or a piece of text that probably occurs in the form of an answer.

Do you know why are they are so important? Google is starting to rank the bits and pieces of a page independently from each other. So the rankings are not just about



the page anymore, but Google is ranking the bits on the page - aka the fraggles. In fact, as we're going towards a big shift - from specific "results" to "answers" - Google needs to find the right match to our queries.

Want to know more about how fraggles and Mobile-First Indexing can impact SEO? Watch [Cindy Krum's webinar](#) on the WordLift Academy.



About Cindy Krum

Cindy is best known for her technical expertise, she's a thought leader in the search industry and a book author.

Summary and Conclusions

Throughout this article, we saw that the Semantic Web is here. A few players already are using semantic technologies in the digital marketing space. They are getting tremendous results from SEO and findability standpoint. That is the birth of a new field, within the SEO industry, commonly referred as Semantic SEO.

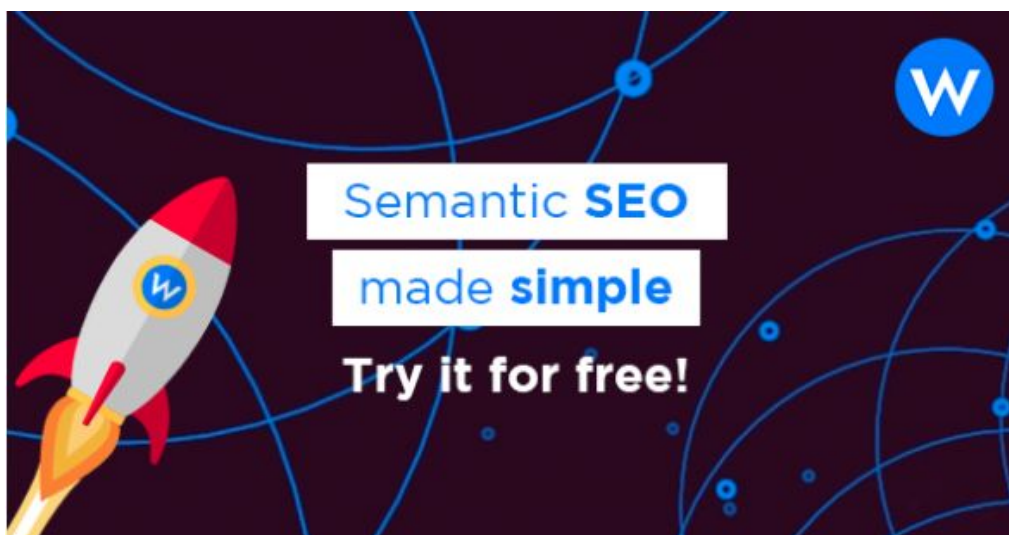
Although, backlinks are still the foundation of the web. Keywords are losing relevance, and they will lose it even further over time. Semantic SEO allows you to structure your content around triples and topics and to gain control over context-vectors that search engine use to rank your content against a particular search intent.

Data is encoded into properties defined within a set of linked vocabulary like Schema.org.

When you add linked data to your WordPress website using a plugin like [WordLift](#), you add structured data that can be quickly read and understood by search engines. From that linked data, machines can extrapolate relationships and context, in a word: topics and meanings.

When that structured data is published in a knowledge graph using semantic web standards, your WordPress website “joins” the Linked Open Cloud. Being part of the Semantic Web means making data accessible to machines and allow them to compute it for providing better answer and for improving the quality of the traffic that they will bring you.

It also means that you’re back in control of your content: you’re now publishing content but also the metadata that is required to market and to monetize this content. Your SEO strategy is now Semantic and all you need to do is just a simple plugin that you will find featured in the WP Engine solution center.



Author's bio:

Gennaro Cuofano: Part of the *growth team* at [WordLift](#). Gennaro helps the company accelerate its growth while focusing on business development and innovative content strategies. He is also creator of the [FourWeekMBA.com](#).

Andrea Volpini: CEO of [WordLift](#) with 20+ years of experience in content management, SEO and web publishing. In 2017, after many years of research, Andrea decided to follow his passion for AI and co-founded WordLift, a first-mover in the emerging Semantic SEO industry.

Maria Silvia Sanna: Digital Communication specialist at [WordLift](#), Maria Silvia is the heart and soul of the content marketing for the *blue* plugin. A passionate blogger ([cupofbrain.it](#)) and esteemed marketer she is in deep love with movies, great content and Italian food.