Willful Disruption: The Many Ways Google Disrupts

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Google (and its parent company Alphabet) is known as a disruptor. However, to really understand its strategies and leverage lessons that can be learned from Google, chief information officers should work with their chief strategy officers to look at the various intentions of the company's actions.

Key Findings

- Although innovation has driven much of Google's disruptive outcomes, significant Google strategies are defensive in nature.

- Disruptive strategies do not need to be innovation- and offensive-oriented to succeed. Google is a good example of this.

- Google's serendipitous culture provides an environment conducive to innovation and disruption.

Recommendations

CIOs who are building or expanding digital businesses should work with their CSOs to:

- Look beyond innovation at defensive, serendipitous and other strategies to leverage disruption in your organization and business.

- Encourage serendipity to change culture and to let things happen and take advantage of the outcomes. Develop a culture where failure is embraced and is used as a learning experience.

- Use bimodal approaches to facilitate leveraging serendipity where appropriate. Take advantage of offerings from Google and other providers that facilitate operating in Mode 2.

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Analysis

With so much focus and press on innovation and disruption as strategies to leverage in the move to digital business, much attention gets placed on high-profile companies that have succeeded in this manner. Google is one of the companies most admired and associated with innovation and disruption. Although there is much to be gleaned from possible emulation of the company's efforts, many organizations rightly recognize that they aren't Google and don't have the same resources. However, by understanding Google and its intent and multiple disruptive strategies, organizations can better identify what can be leveraged from the strategies of Google and other well-known disruptors. Part of Google's strategy is to enable customers to leverage their capabilities to this end.

Google launched in 1999 as competition for existing internet search engines such as AltaVista and Yahoo. These engines' technological strength had been hamstrung by exploding content volumes and determined abusers' "engine spamming" techniques that intensified the difficulty of returning relevant results to users' queries. These search companies faced significant challenges in sorting out the best business models for developing revenue based on such advertisements. Google's fresh technological approach, massive scale (which led to very swift response to queries) and focus on search (as opposed to a broader-spectrum media offering) all gave it necessary advantages.

In August 2015, Google founders Larry Page and Sergey Brin announced the creation of a new management and governance structure. They created Alphabet, an umbrella company headed by Page as CEO and Brin as president. The company has two main arms:

▪ *Google:* Contains the bulk of Alphabet's business, including search/advertising and its cloud/ enterprise efforts; headed by CEO Sundar Pichai

- *Other Bets:* Contains a variety of projects that could evolve into stand-alone businesses (e.g., Google Fiber, Calico, Nest Labs, Verily Life Sciences, GV, CapitalG and X)

The Alphabet structure provides greater transparency and accountability into Google's various businesses. Google and its investors can now more easily track the trends, successes, failures, investments, costs and revenue for each endeavor.

Other Bets (somewhat scaled down in scope from some original goals) will align especially well with disruption. Focusing the company's core businesses in another organization will help enable its newly strengthened enterprise push, but we should not expect innovation and disruption to be limited to Other Bets.

Despite its size, Google feels like a hyperactive entrepreneurial firm rather than a strategic corporate giant. It rapidly innovates in multiple areas simultaneously, running hundreds or thousands of experiments daily to determine effects on user behavior and making decisions in near-real time on what iteration to develop and test next. This is true for both enterprise and consumer services. Much of Google's innovations and disruptions have been designed primarily for consumer markets and make their way into enterprises via consumerization. This continues even with the company's recent direct emphasis on enterprise. The scope of this note is Google's consumer and enterprise endeavors.

A vast proportion of Google's revenue derives from advertising. Much of its strategy is focused on protecting and enhancing this core business. Therefore, many of Google's strategies target rivals, such as Apple and Microsoft, and provide Google with positive impacts that drive people to the use of online resources where it can capture their attention in advertising channels. These strategies benefit Google, but in processes that do not necessarily lead to a direct revenue impact for it.

Google Disrupts in Many Ways

Google is known for being disruptive from its search origin, and today, it is considered one of the most disruptive companies in the world. For many of its innovations and activities throughout its history, it has behaved and disrupted in different ways.

In "Willful Disruption: An Intent-Based Model for Analyzing Digital Disruption," we outline the five major types of disruption: Offensive, Defensive, Serendipitous, Destructive and Self-Disrupting.

Google has developed many innovations, but many of its disruptions emanate from defensive and serendipitous behavior. Table 1 shows the categorizations of many of Google's intents. Note that the emphasis indicators are an assessment of intent, not outcomes. The approaches related to a specific offering also may change over time.

Table 1. The Many Ways Google Disrupts

Original Intent	Focus	Organization Emphasis	Examples
Offensive	Innovation	◕	▪ Search ▪ Machine Learning ▪ Autonomous Vehicle Technology
Defensive	Competition	●	▪ Android ▪ G Suite ▪ Chrome ▪ IaaS
Serendipitous	No specific goal	◔	▪ Buzz ▪ Wave ▪ Maps ▪ Photos
Destructive	Anarchy	◔	▪ Fiber ▪ Project Wi-Fi ▪ Project Fi ▪ Project Loon
Self-Disruptive	Transform business	○	
Legend: ○ = Low; ◑ = Medium; ● = High			

Source: Gartner (April 2017)

Google's strategies and disruptive intents are very broad. The list presented in Table 1 is in no way comprehensive but rather represents some prominent examples.

Search (Offensive)

The original Google search service was launched into an established internet search and directory landscape. At the time though, search was not universal, and it was struggling with ways to monetize via advertising and was in the process of ruining the experience with tacky banner ads and distractions. Google's clean, simple, user-friendly interface with a low-key approach to advertising provided a better search experience along with a business model that worked for Google and its users.

Machine Learning (Offensive)

Google has been investing heavily in machine learning and especially deep-learning technologies for years, but most of the results have been behind the scenes enabling more-intelligent search, presenting advertisements based on users' click behavior or filtering spam from Gmail inboxes. Machine learning enables Google to continuously optimize users' online experience.

Google Maps and Google Photos are examples of truly world-changing offerings. Much of the reason for their capabilities and success are their leveraging of advanced artificial intelligence (AI) and machine learning technologies.

Autonomous Vehicle Technology — Waymo (Offensive)

The company's self-driving vehicle innovations (today represented by Alphabet's Waymo offerings) were among the first efforts to disrupt the automotive and related industries via autonomous vehicles. Although early in its life cycle, this disruption will lead to many secondary disruptions (see "Disruptions and Disruptors: Use Digital Business Lenses to Uncover Secondary Disruptions"), and it has tremendous long-term disruptive potential.

Google Glass and Augmented Reality (Offensive)

Google Glass, as an early implementation of augmented reality, created tremendous buzz. Although it ultimately fell short of expectations for many reasons, ideas and concepts from this effort show up in other implementations and will continue to do so. The associated hype and ensuing backlash raised awareness of head-mounted displays (HMDs), as well as of AR and virtual reality (VR; see "Top 10 Strategic Technology Trends for 2016" and "Top Strategic Predictions for 2017 and Beyond: Surviving the Storm Winds of Digital Disruption"). Glass at Work is an update to the original device.

Android (Defensive)

Android was not an attempt to make something better and to make money. It was designed to disrupt Apple's ability to completely dominate the smartphone market with the iPhone (and the effect such a market would have on Google's advertising and other businesses).

The Android OS dominates the consumer mobile device market, reaching a varied range of users at many price points. Numerous OEMs in every region support the platform, releasing a wide range of devices priced from more than $600 to $40 or less in emerging markets. Android-powered hardware dominates the global smartphone market in volume and share. In the third quarter of 2016, its share grew to 88%, with an installed base expected to have reached 2.7 billion users by the end of 2016.

G Suite (Defensive)

G Suite (formerly Google Apps) was launched during the time that Microsoft was very seriously investing in search and advertising. Microsoft had just acquired aQuantive for $6 billion and had aggressively bid for Yahoo (over $30 billion). Google put significant efforts into Google Apps, primarily to disrupt Microsoft and its advertising efforts. It was not an attempt to enter an established software market with a for-profit offering to compete traditionally. It was a disruptive

strategy used against Microsoft to distract the company and put pricing pressure on one of its primary revenue sources — Microsoft Office. Microsoft gradually lessened its ambitions in advertising (mostly due to having to focus on other issues such as Windows transitions), and Google has focused more on traditional enterprise opportunities. Today it is a more usual competition between the two companies that comprise today's duopoly in the cloud office market.

G Suite is a rethought and redesigned approach to personal and team productivity. Its resulting success has forced Microsoft to invest heavily in Office 365, with a particular emphasis on consumer attributes and new technology.

Chrome Browser (Defensive)

The Chrome browser was launched primarily to protect Google's search and advertising businesses from effects what was, at the time, a Microsoft monopoly in desktop OSes and browsers. Chrome's intent was to ensure that Microsoft could not use that position to attack Google's advertising profits. In addition, Google was looking to jump-start innovation in browsers overall, and it succeeded in both cases.

Chrome has been the most popular web browser on the internet for years, and has recently become the most used browser in enterprises as well.

Cloud IaaS (Defensive)

In cloud infrastructure as a service (IaaS) today, Google is pursuing a strategy that is defensive, but not in a traditional way. Having entered the cloud IaaS market late, it is focusing on multicloud approaches, leveraging open source and portability as its differentiators. Gartner refers to it as a new disruption called "migrateability." Rather than focus on long-overpromised portability (as with the 100% portability promised by Java and other approaches), the current focus on containers and related technologies is delivering on migrateabillity. Migrateability results from learning from the eventual success of Java (not providing 100% promised portability, but rather providing an "insurance policy" that is enabled by delivering 80% portability, which facilitates migrateability). Today, Google Cloud Platform (consisting of its IaaS Google Compute Engine, its platform as a service [PaaS] AppEngine and other offerings) is challenging the IaaS leaders and emerging as No. 3 in the market.

Google's Culture and Serendipitous and Destructive Approaches

Google is known for "throwing things against the wall to see what sticks." As a result of its massive infrastructure capabilities and efficiencies (available as a result of its ability to index the entire web and monetize it via an enormous advertising network), Google is able to leverage its huge hyperscale infrastructure to do experiments at massive scale. Some of these have resulted in highly visible efforts that were pulled from the market quickly (e.g., Google Wave and Google Buzz). Others have resulted in tremendous success (e.g., Google Maps and Google Photos), partially as a result of the serendipitous approach.

One of the reasons we believe Google leverages a serendipitous approach is its focus on innovation, but in ways that create a culture for it to thrive. Efforts such as "20% time," which allows engineers to work on pet projects for 20% of their time are good examples.

Google's constant reinvention of search and other offerings is to some extent an example of self-disruption.

Google's efforts in networking have been designed to shake up (in a somewhat destructive manner) the networking industries to increase innovation and competition. In addition to the currently inactive Google Fiber wireline efforts, Alphabet has multiple efforts in the networking arena (Project Fi, Google Wi-Fi and Project Loon):

- *Project Fi:* Google's mobile virtual network operator (MVNO) service, in partnership with Sprint and T-Mobile U.S., piggybacks on Google's wireless infrastructure to offer cellular service to Google's customers. Project Fi maximizes the use of the Wi-Fi network for both phone calls and data, and at a much lower monthly price than the four incumbent U.S. carriers. It, along with other activities, has contributed to less control by wireless carriers and lower prices.

- *Google Wi-Fi:* This is Google's Wi-Fi hot spot network offering. After debuting to much fanfare more than a decade ago, the service today is largely instantiated as the Wi-Fi provider for Starbucks in the U.S. (Google replaced AT&T as the coffee chain's wireless network provider).

- *Project Loon:* Loon is Alphabet's solution for bringing internet access to rural and remote areas. It uses the 2.4GHz and 5.8GHz bands, which means it is compatible with existing Wi-Fi devices. After a long development cycle with the balloons used for the network, the project started carrier trials in Indonesia and Sri Lanka in 2016.

How You Can Leverage Google's Disruptive Strategies

CIOs formulating strategies for leveraging disruption can learn from practices of established disruptors such as Google. Utilizing defensive and serendipitous approaches can be just as effective as more prototypical offensive- and innovation-driven approaches.

Disruptor-inspired activities can be useful not only in examining market-oriented external strategies, but also in encouraging internally focused cultural change. Coupled with bimodal principles, organizations can be inspired by disruptors without having to completely adopt their ways. In this way, they can be much better prepared for the transition to digital business. Utilization of the principles of Bimodal IT can be very helpful in this endeavor. Google's offerings (and its overall approach) are well-suited for both Mode 1 and Mode 2 efforts and are particularly well-suited for Mode 2 type efforts.

It is also useful to assess risk of adopting Google's offerings according to what disruptive mode they originate from. Those originating from offensive or defensive strategies are less risky, while those originating from serendipitous or destructive modes are more risky. That risk pertains to the potential that Google will lessen investment in the effort.

CIOs should start to think of Google as an "enterprise partner," especially with regard to their transformation and innovation strategies. Much can be learned from Google's approach for its own innovation and disruption efforts.

Gartner Recommended Reading

Some documents may not be available as part of your current Gartner subscription.

"Willful Disruption: An Intent-Based Model for Analyzing Digital Disruption"

"Disruptors and Disruptions Are Reshaping the Digital Landscape"

"Disruptions and Disrupters: Using Digital Business Lenses to Uncover Secondary Disruptions"

"Vendor Rating: Google"

"Understanding Alphabet and Google, 2017"

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