

# The Digital Strength Index

## White paper

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### **Abstract**

Digital is disrupting nearly every industry from automobiles to retail. Corporations are finding that they must put digital at the center of their operations or risk obsolescence. This is exemplified by the popularization of the term **digital transformation** with more and more CEOs and boards approving significant transformation programs. But to date it has been challenging to create an explicit link between digital strength and shareholder value. This often leaves boards to trust the guts of their future leaning CEOs. For this reason, alpha-DNA and Isobar have partnered to create the Digital Strength Index for the Top 1000 public companies in the US. The index is based upon over five years of data gathering, analysis and benchmarking. Between 2012 and 2016, top-ranked stocks based on Digital Strength have grown topline ~10% and beaten quarterly consensus revenue expectations 64% of the time, compared to a decline in topline of ~8% and a revenue beat rate of only 46% respectively for bottom-ranked stocks. Further illustrating the link between digital strength and shareholder value, Leaders and Laggards defined based on this index consistently have significantly different stock price appreciation in the following years. This analysis holds regardless of the growth or digital maturity of the sector.

### About alpha-DNA

alpha-DNA is a boutique research firm that specializes in *growth analytics* leveraging real-time digital information. alpha-DNA's proprietary algorithms assess digital strength of businesses to systematically predict forward looking topline acceleration expectations within a portfolio. The predictive capability has been developed and refined over a broad spectrum of businesses covering Large, Mid, Small, Micro, Nano Cap public companies and private Small & Medium Enterprises. alpha-DNA client engagements span across hedge funds, private equity firms, banks, market research and strategy consulting firms.

### About Isobar

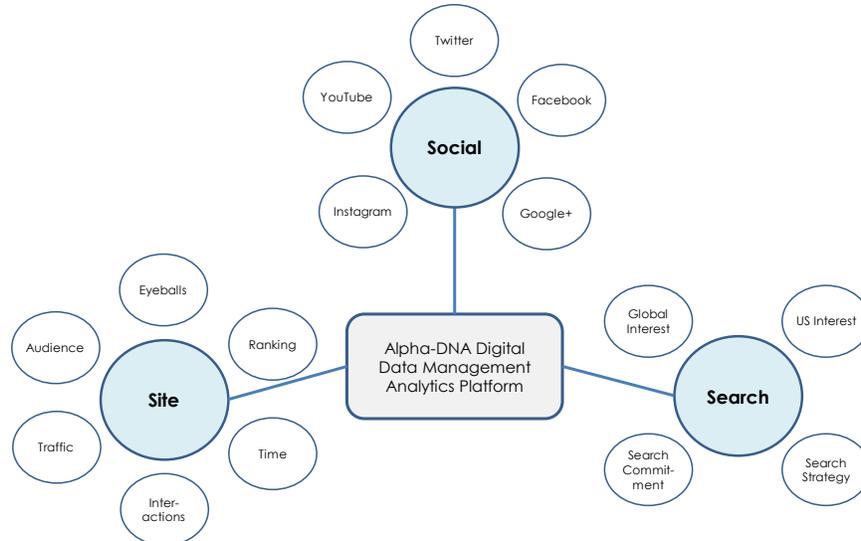
Isobar is a full-service, digital agency with 6,000 people and 85 offices around the globe. Isobar is the only agency named as a Leader on Gartner's Magic Quadrant for Digital Marketing Agencies for the third consecutive time (2015, 2016, 2017) and as a Leader in The Forrester Wave™: Digital Experience Service Providers, Q4 2015. With expertise in large-scale digital transformation and Product and Service Design capabilities, we creatively solve complex client challenges – delivering business results for clients including the US Air Force, Enterprise Holdings, HBO and Bloomberg.

## Introduction

The web, by its very nature, creates real-time and comprehensive data about online consumer behavior. Digital behavior is fundamentally correlated with online and offline consumer demand, both in B2C and B2B contexts. Customers not only buy products and services online, but also compare, research, seek support, recommend, and review them, extending the applicability of online behavior into the offline world. Digital is a primary channel for both generating consumer demand and translating consumer demand into revenue. Digital Strength is a key driver of revenue, and sharp changes in digital strength often times manifest in a company's future revenue performance. However, market expectations (i.e., sell-side consensus estimates) lack contemporaneous company-specific fundamental data. Consumer demand and online engagement metrics across digital sources can better "predict the present" and signal trajectory changes in a company's growth.

## Digital Data

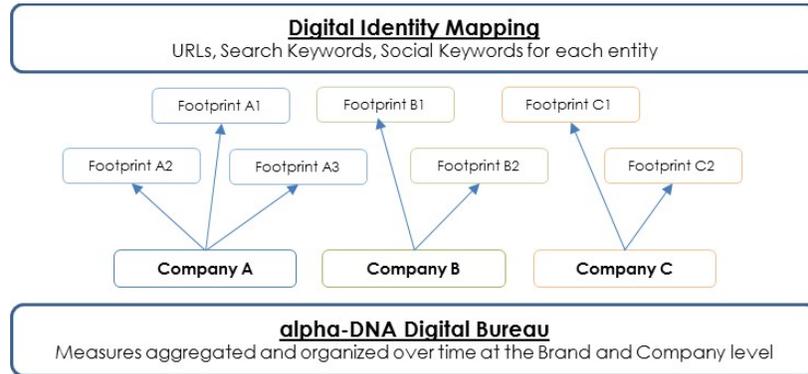
alpha-DNA collects many different types of digital performance measures, from multiple commercially and publicly available data sources. The data is broad-based and includes various data types across web site, search and social platforms. Data is sourced from multiple providers for the same type of measures to reduce noise; and data sources are continuously re-evaluated and appropriately re-weighted over time. In terms of scale, on a monthly basis, alpha-DNA tracks more than 75 billion digital consumer interactions to hone in on change in velocity across businesses.



## Digital Bureau

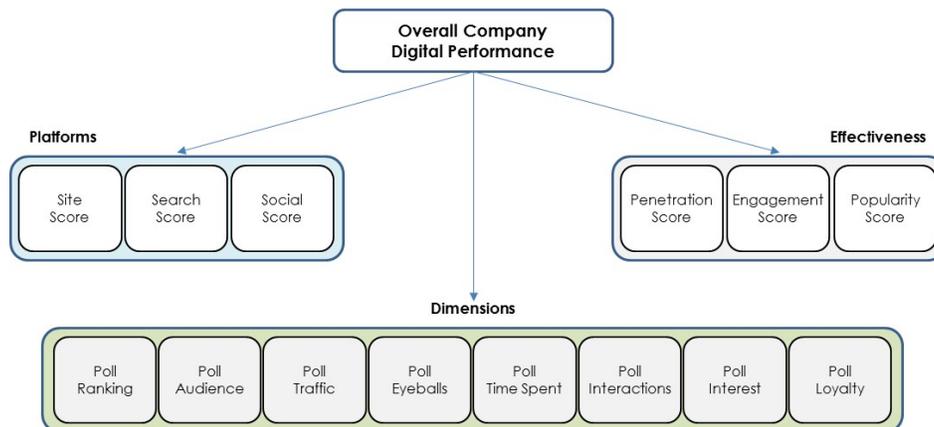
alpha-DNA defines digital identities for the Top 1000 public companies by building, maintaining and updating a proprietary Digital Bureau of companies and brands. Entity definitions for a company need to be updated continuously, often times manually, and cannot be bought off the shelf. Raw digital data is then cleaned and aggregated into time series associated with each digital entity. Furthermore, aggregating all the digital entities owned by a company to

represent a single Stock Ticker has its own weighting and algorithmic complexities. This unique dataset is a key component of the Digital Strength Index's value.



### Digital Performance

alpha-DNA has developed a proprietary scoring system to rank the Top 1000 companies every month on their overall performance strength across digital platforms (site, search, social, app) and consumer effectiveness (penetration, engagement, popularity). A “poll of polls” approach is used to combine many different digital dimensions sourced from multiple datasets to create weighted performance scores.



### Constructing The Digital Strength Index

alpha-DNA algorithms systematically establish empirical relationship between digital consumer interaction trajectories and revenue change for each of the Top 1000 companies, looking back 2 to 3 years in history for each Stock every month starting in 2012. More than 2400 model formulations are considered for each Stock Ticker at any given point time (i.e., monthly) to make a robust assessment.

The Digital Strength Index is composed of 5 key dimensions:

1. Magnitude : Size of a company's digital presence
2. Share : Share of digital relative to share of total revenue (offline + online)
3. Momentum : Sequential digital acceleration in recent times
4. Growth : Forward looking topline growth rate projections

5. Trajectory : Correlation of digital demand trends to overall revenue trends

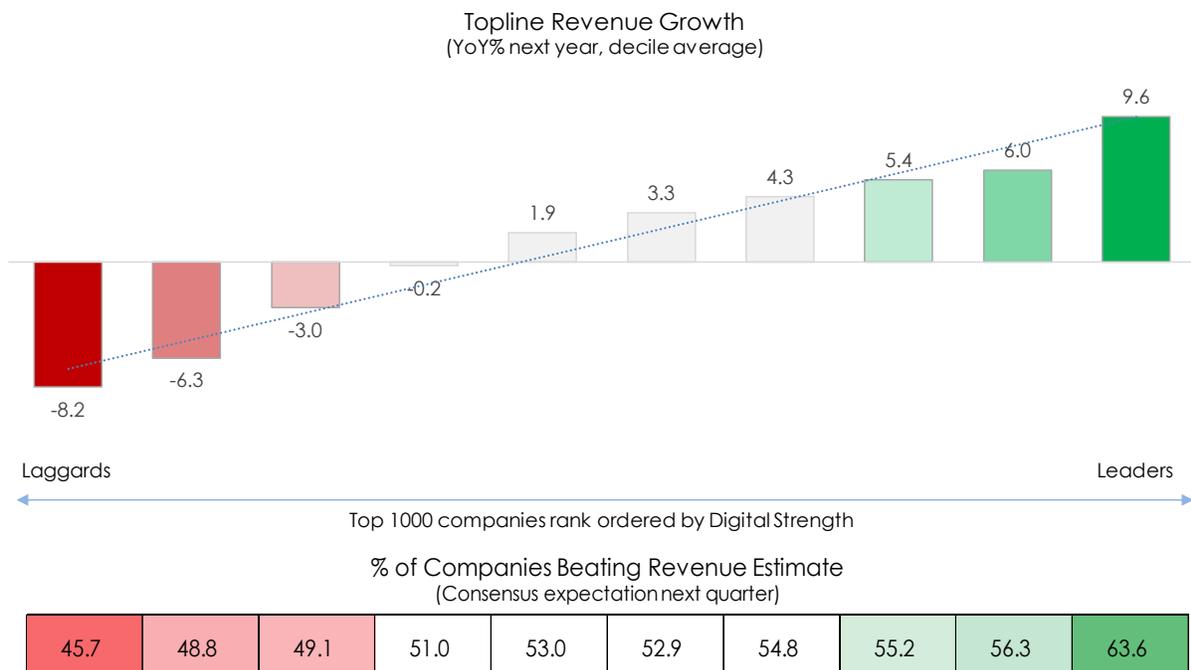
There are several challenges to overcome when building the Digital Strength Index. Digital behavior continues to evolve over time – the last 15 years have seen dramatic shifts in web surfing, intelligent search, consumer reviews, blogs, mobile applications and social networks. It is critical that the algorithms be able to adapt seamlessly to the ever-changing types and sources of trackable digital consumer behavior over time. Given no single source represents a pure measure of customer demand in today’s exploding landscape of digital content, the Digital Strength Index takes into account measures of similar types of consumer behavior from multiple datasets.

alpha-DNA went live with a research service to institutional investors in Q3-2014. Some of the largest hedge funds with multi-billion dollars of assets under management subscribe to alpha-DNA’s Digital Revenue Signal as an additive measure to improve their investment decisions on a daily basis. alpha-DNA also propels a series of proprietary trading strategies from this unique digital data platform.

**Historical performance**

The Digital Strength Index, as a predictive signal, correctly rank orders both future long term topline growth rates among the portfolio of Top 1000 companies and the percentage of companies beating their short term quarterly consensus expectation for Revenue, thereby creating the systematic ability to discern Leaders and Laggards in the broad market, across Sectors and within Peer Groups.

The top decile stocks ranked based on our Digital Strength Index, as a group, have grown revenue ~10% on average in the following year compared to a decline in revenue of ~8% for the bottom decile stocks, with the growth rates being largely monotonic across deciles.



Furthermore, top-ranked stocks based on Digital Strength Index have beaten quarterly consensus revenue expectation ~64% of the time, compared to a revenue beat rate of only ~46% respectively for bottom-ranked stocks.

Industry and Growth Variances

The Digital Strength Index correctly predicts performance across industries, regardless of their digital maturity (i.e., sectors like Energy where digital may comprise a smaller percentage of revenue) and whether that industry is growing or declining.

The chart below provides a sector breakdown of average performance of leaders, laggards and the mean. For example, while Energy had some very tough years during the 2012-2016 period, companies identified as digital leaders (at the beginning of the analysis period) outperformed laggards by 8.5% even while the industry as a whole declined 11.5% on average which is greater than the stratification in Consumer Discretionary / Retail which is visibly in the throes of disruption.

Topline Revenue Growth, breakdown by Sector  
(YoY% next year, average)

<b>Health Care</b>	3.6	8.8	17.6
<b>Telecom Services</b>	6.7	6.4	9.1
<b>Consumer Discretionary</b>	0.8	4.6	6.0
<b>Information Technology</b>	(1.5)	3.3	9.1
<b>Consumer Staples</b>	(2.8)	1.7	4.1
<b>Utilities</b>	0.5	1.3	3.8
<b>Industrials</b>	(1.1)	0.3	3.3
<b>Materials</b>	(5.0)	(2.8)	3.1
<b>Energy</b>	(14.4)	(11.5)	(5.9)
	Bottom 30%	Average	Top 30%

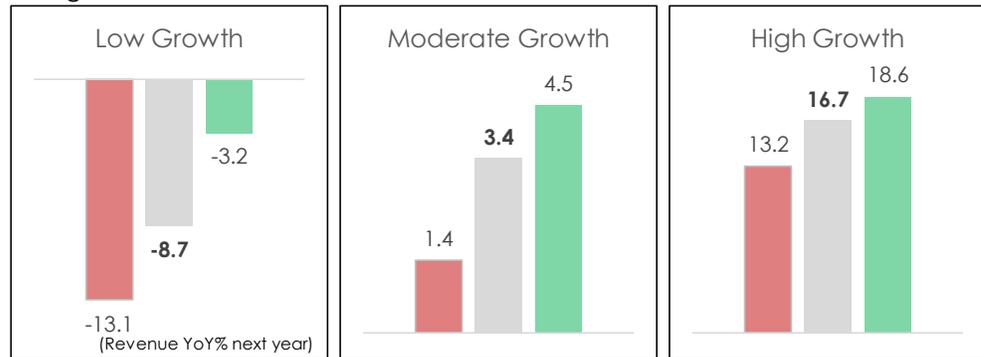
Top 1000 companies rank ordered by Digital Strength

Digital strength is not merely a reflection of current overall company growth trends. Digital performance, more often than not, is a leading indicator of future performance among companies with similar current growth rates. To illustrate, we first segment the Top 1000 companies into comparable cohorts based on their current growth rates (Low/Moderate/High growth sub-groups) and then track the relative future performance of digital leaders and laggards within each sub-group separately. Across the growth segments, we see material

difference in topline revenue performance, anywhere between 300bps – 1000bps, highlighting the power of digital strength as a true differentiator.

### Growth Segment

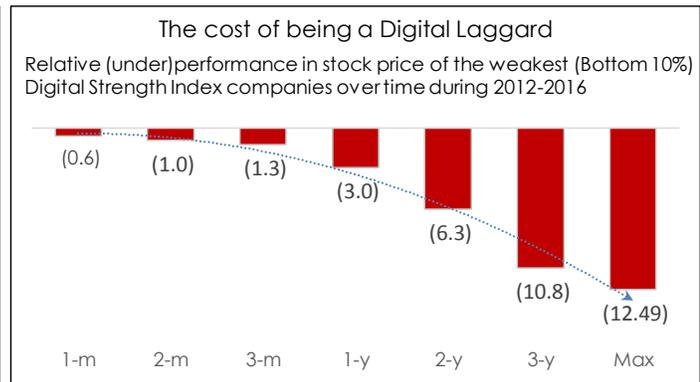
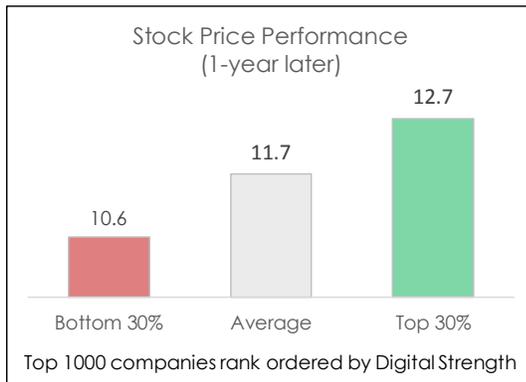
Top 1000 companies grouped into Low/Moderate/High growth segments based on current expectation of topline revenue growth in the upcoming period



### Digital Strength

Bottom 30% Average Top 30%

Lastly, and most importantly, is there an explicit link between Digital Strength and shareholder value? In our portfolio of the Top 1000 companies, during the 2012-2016 period, those with the strongest digital trajectories, as a group on average consistently out-performed on stock price in the subsequent year compared to the group of digital laggards. Digital enabled topline growth is inherently indicative of better quality revenue and future cashflow strength, and the financial markets clearly value digitization with higher P/E multiples. Companies lagging their peers in terms of digital performance often continue to slide down the vicious cycle of value erosion.



## Conclusion

Based upon five years of empirical data, digital strength is a strong predictor of future revenue and shareholder value. The data also shows that digital leaders outperform digital laggards in all industries versus simply those with visible disruption occurring (e.g., retail, media). It is also important to note that being a digital laggard may represent a fundamental business model challenge (e.g., retail store video rental with Blockbuster) but those business model challenges can be addressed (e.g., Netflix successful pivoted from mailing DVDs to content streaming) with a proper digital transformation strategy. It is also important to note that being a "modern" company does not inoculate you from disruption as LinkedIn's eclipsing online recruiting pioneer Monster illustrates. Even Digital Strength as defined by our own index does not inoculate companies from digital disruption. It is possible to gain digital strength through outsized offline and online media spending which drives traffic to web, mobile and social channels. While

effective in the short term and a part of any long term digital strategy, companies should seek fundamental digital transformation as a more sustainable form of competitive advantage.

Core to any sustainable transformation strategy is understanding the different nature of digital investment. Most digital businesses have a heavy investment and relatively low customer acquisition early on which is followed by near infinite scalability fueled by the economics of software development and the ubiquity of cloud computing. Take Wealthfront and Betterment, for example, two disrupters in the wealth management industry. While it is capital intensive to build functionality, once it is built there is virtually no limit on the number of customers they can add. Contrast this with a traditional wealth management player who is dependent on a linearly scalable broker field force. Companies feeling that they have time to address industry disruptions and to catch up with digital leaders may find that time evaporating in a geometric rather than linear fashion. And companies on digital transformation journeys are apt to give up too quickly if they utilize the same models for measuring success as their current businesses.

In summary, CEOs and boards should strongly consider Digital Strength as they contemplate the investments required to transform their businesses in the digital economy. While success may follow a different investment profile and metrics than they are used to, Digital Strength will translate into revenue increases and improvement in shareholder value

#### About Arun Muthupalaniappan

Arun is Managing Partner at alpha-DNA. Through his 20+ year career, he has led data-centric capabilities transformation across Fortune 500 brands, with a successful track record of designing and monetizing information based strategies across consumer finance, retail, e-commerce and advertising businesses. Prior to founding alpha-DNA in 2014, Arun was Senior Vice President, Global Analytics & Research at The Western Union Company. He has also held leadership roles at Sears Holdings, GE Capital (Analytics Center of Excellence) and STARCOM (Media Research). Arun holds a Masters degree in Marketing from MICA and a Bachelors in Business Administration from Loyola College.

#### About Rod Fertig

Rod is a Partner and co-founder of alpha-DNA. Rod has spent over a decade leading Customer and Digital analytics transformation inside large global Financial Services businesses. Rod is passionate about creating structure around unstructured digital data, making it truly actionable for improved high-value decisions. Prior to alpha-DNA, Rod was Vice President, Global Analytics & Research at The Western Union Company where he led their digital analytics, pricing strategy, and account-based relationship optimization teams. He has also held roles at Capital One where he was responsible for credit risk management and policy, offer strategy, and customer value optimization. Rod has a B.S. Economics degree from Duke University.

#### About Jeff Maling

Jeff is co-CEO of Isobar US. Jeff has spent his 20+ year professional services career helping clients create breakthrough customer experience strategies. Jeff is a firm believer that great digital experiences have the power to transform business processes and disrupt industries. Jeff was a founder/owner of pioneering digital agency Roundarch, which became Isobar US in 2011. He also actively serves clients including: BNY Mellon, LEGO, Umpqua, Royal Caribbean and the US Air Force. Prior to Isobar, Jeff was a leader in Deloitte Consulting's CRM practice and

Accenture's financial services practice. Jeff has an MBA in finance from the University of Chicago, and an MA and BA in history from Tufts University.