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DATA DRIVING INNOVATION℠

DATA ANALYTICS:

CRITICAL FOR DRIVING TODAY'S AUTOMOTIVE DECISIONS

BLACK BOOK WHITE PAPER

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Data Analytics: Critical for Driving Today's Automotive Decisions

Overview

Data analytics is playing a large role in helping automotive companies improve efficiencies within operations, accelerate new revenue potential, and obtain competitive advantages over other companies within the automotive space. There are several types of analytics objectives to consider to help make better and informed decisions for manufacturers, data purveyors, remarketers, lenders and dealers.

The effective use of analytics requires technology to handle and process large quantities of data. In many scenarios, the availability of data analytics platforms and analytics tools has fostered environments where processing power can scale to handle large amounts of data compiled from a wide variety of sources – not to mention sources initiated in locations other than headquarters.

The ability to mine and analyze disparate has been a large reason why many in the media have waited for a used-vehicle pricing "bubble" to form[1], yet prices have remained largely in check despite accelerated depreciation and inventory pressures from an increase in off-lease supplies. Automotive businesses with a direct link to these areas are better equipped to analyze data to help make more intelligent decisions on pricing, inventory, and geographic distribution, all in an effort to preserve profit potential.

In this paper you will ascertain a better understanding of the role data analytics are playing in the broader automotive industry, specific types of analytics being utilized, as well as individual examples of how data analytics are already being used to make smarter decisions.

What Does Data Analytics Mean?

Data analytics is the process of discovery, interpretation, and communication of meaningful patterns in data to improve business performance. Analytics often includes studying historical data to research potential patterns, to quantify the effects of certain decisions or events, or to evaluate the performance under a particular scenario.

As an example, descriptive analytics helps companies evaluate trends that have already taken place, as well as suggesting reasons why a trend formed a certain pattern. Descriptive analytics is often used to evaluate and scrutinize historical depreciation patterns that can help a variety of automotive companies with their current and forward decision-making on pricing, inventories, and portfolios.

Complex predictive and prescriptive modeling analytics can help automotive companies anticipate business challenges and make smarter decisions based on data visibility that impact profit potential or loss mitigation, elevating customer service levels and customer retention opportunities. With predictive analytics, historical data sets such as vehicle and segment pricing performance are mined for trends indicative of forecasted behaviors and patterns.

Leveraging data analytics requires companies to invest in resources such as data storage, analytic applications and data scientists. There are several types of data analytics applications depending on the purpose, some of which include data mining, text analytics, business intelligence and data visualization.

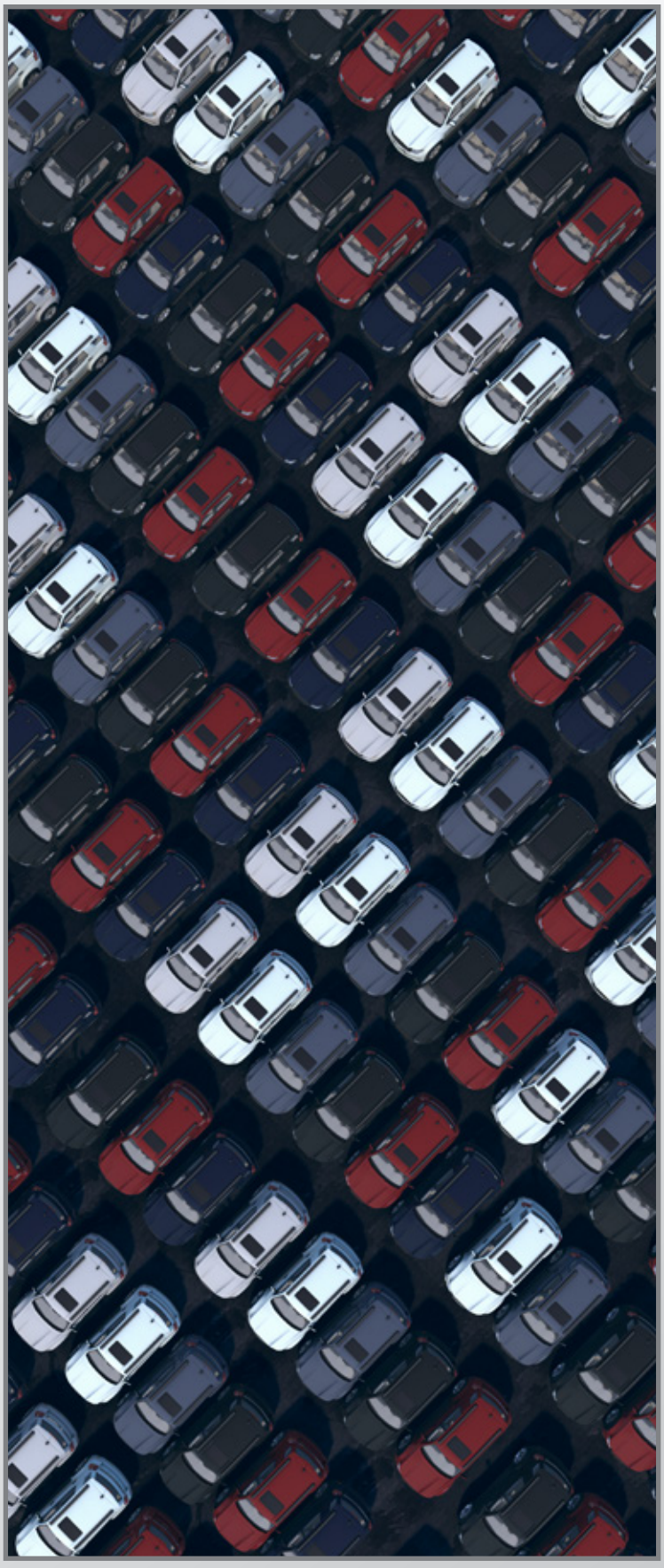
How Data Analytics Are Being Used in Automotive

Data analytics applications allow automotive companies to leverage data mining tactics for the purpose of analyzing trends, discover customer behaviors, expose models that uncover and react to specific historical trends, and then enhance the decision-making process by injecting an analytical model within specific operational functions.

As an example, automotive dealers, manufacturers, and lenders are now studying specific data sets over the past several years to analyze which vehicle segments react to varying times of the year, such as the spring selling season, summer sales patterns and new inventory arriving in the fall. What's more, data is being scrutinized by region to determine remarketing pricing that can impact profit potential as well as days-to-turn ratios.

Muddying the waters further, the automotive calendar has become blurred, meaning the spring selling season is no longer confined to just the spring, while new model inventories make their arrival throughout the year, not just the fall. As a result, data is being utilized, analyzed, and scrutinized further in order to get increased visibility into sales, pricing, incentives, lease return, and inventory trends, down to the exact day in many cases.

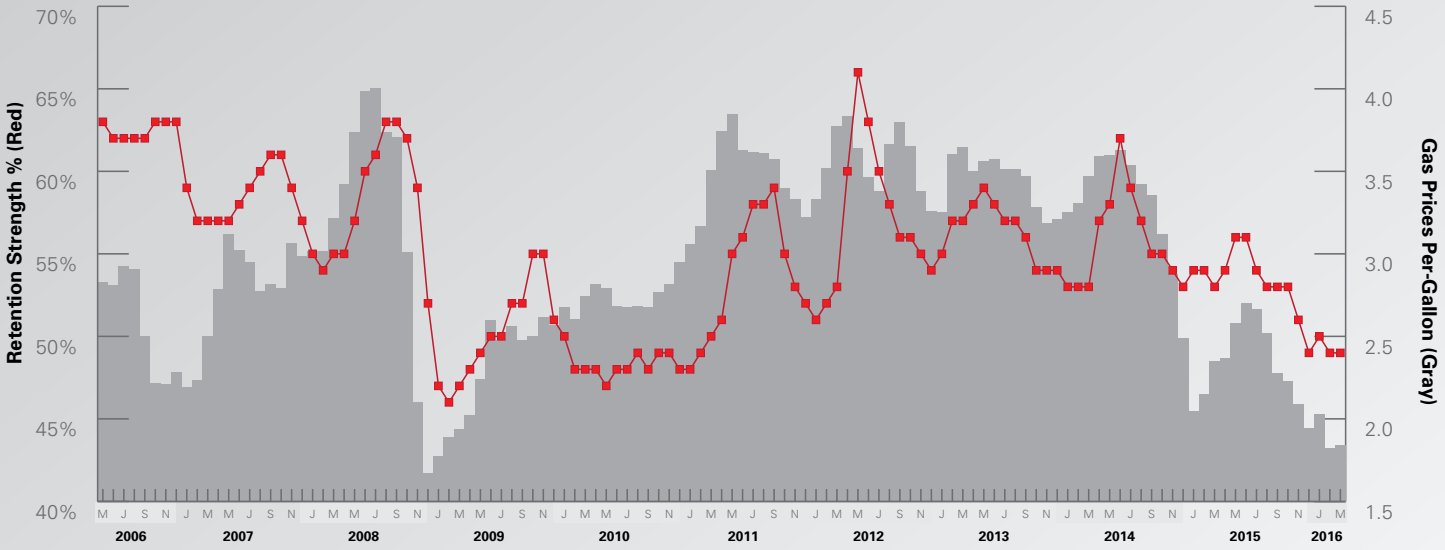
Data and analytics are being employed by automotive companies throughout the world, with strategies focused on cost-reduction, profit maximization, operational efficiencies, and smarter decision-making. Here are a handful of specific examples how advanced analytics are being used to accomplish these goals.



Analytics Example 1: Gas Prices & Compact Cars

Conventional wisdom says that Compact Car vehicle retention becomes stronger as the price of gasoline rises and vice versa as prices drop. And a quick look at comparing retention data and fuel prices dating back to 2006 would confirm this (Example 1).

Compact Car Three-Year Retention in Relation to Gas Prices



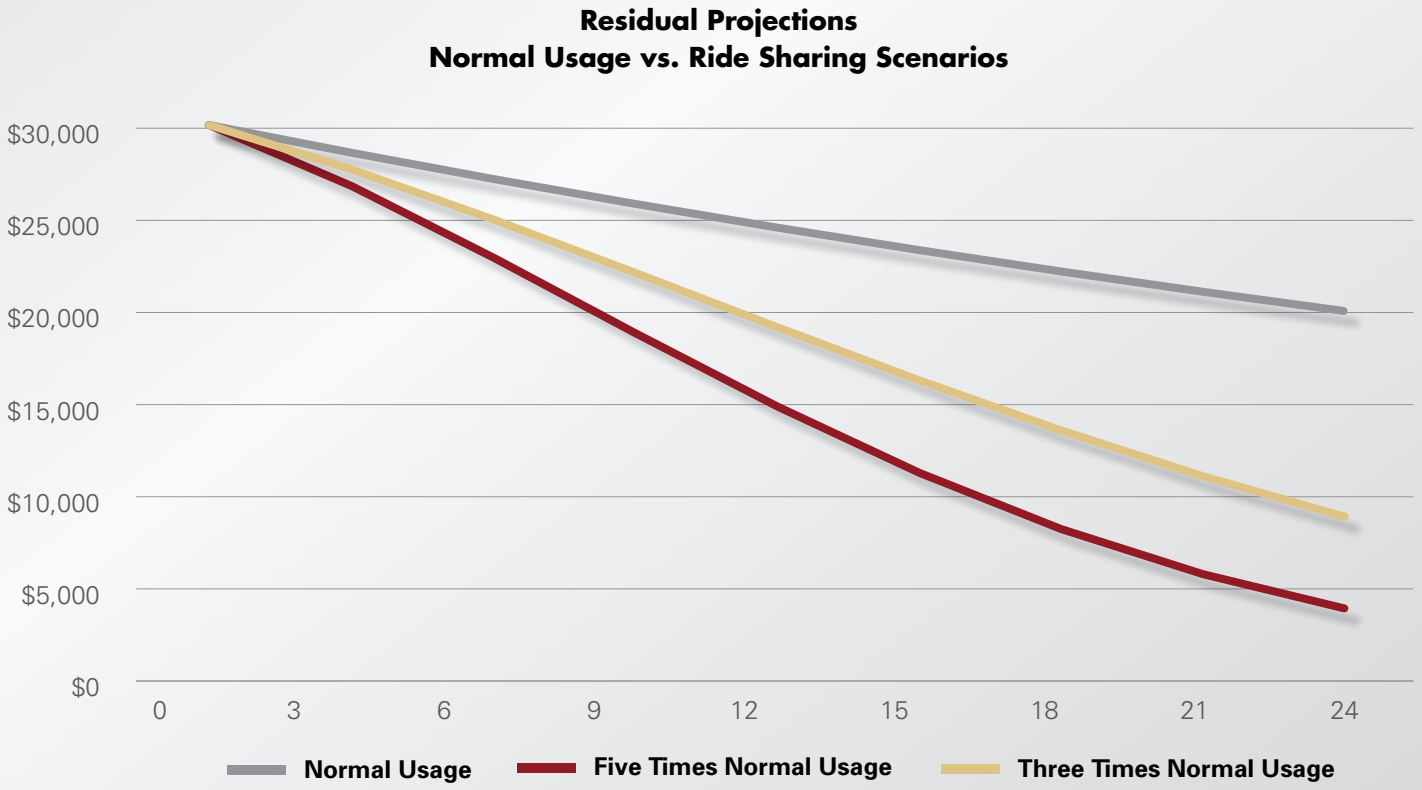
Analytics today enable automotive audiences to further analyze this relationship and quantify the severity of retention value change when fuel prices change. There are multiple factors that impact the retention value of a model or a segment: Economic factors drive overall demand; credit availability enables that demand to be met; segment supply impacts pricing strength; and gas prices influence vehicle segment preferences. Having a better understanding and visibility into the impact of these factors can help automotive audiences better determine incentives, retail prices, remarketing strategies, and portfolio inclusions during the quarter or year.

The chart in the example shows why advanced analytics are needed today. Generally, Compact Car retention values change in concert with gas prices, but not always by the same ratio. Understanding multiple factors influencing retention values is important. As gas prices increased in early 2011, Compact Car retention values increased, but did not peak. Despite relatively stable gas prices thereafter, the retention value increased to its maximum in Spring of 2012. This sharp increase was driven by higher demand as the economy took hold. Also of note is the time period in late 2014, when gas prices dropped sharply but Compact Car values held relatively well due to lower supplies. The retention value later dropped in 2015 when supplies increased.

Analytics Example 2: Residuals in Ride Sharing Scenario

Ride sharing has grown precipitously over the last five years. Today, it is estimated that approximately 50 million people have taken more than 2 billion rides since Uber's inception, according to the company itself[2]. According to an article in Forbes[3], Uber's fleet of vehicles topped 160,000 at the end of 2014.

The rise of more everyday vehicles into ride sharing programs means we are putting more miles on our cars every day. What kind of impact might this have on vehicle depreciation over time? Example 2 provides an illustration of how ride sharing programs may have an exaggerated impact on depreciation for vehicles in certain segments where there is an increased likelihood of vehicles used for those programs.



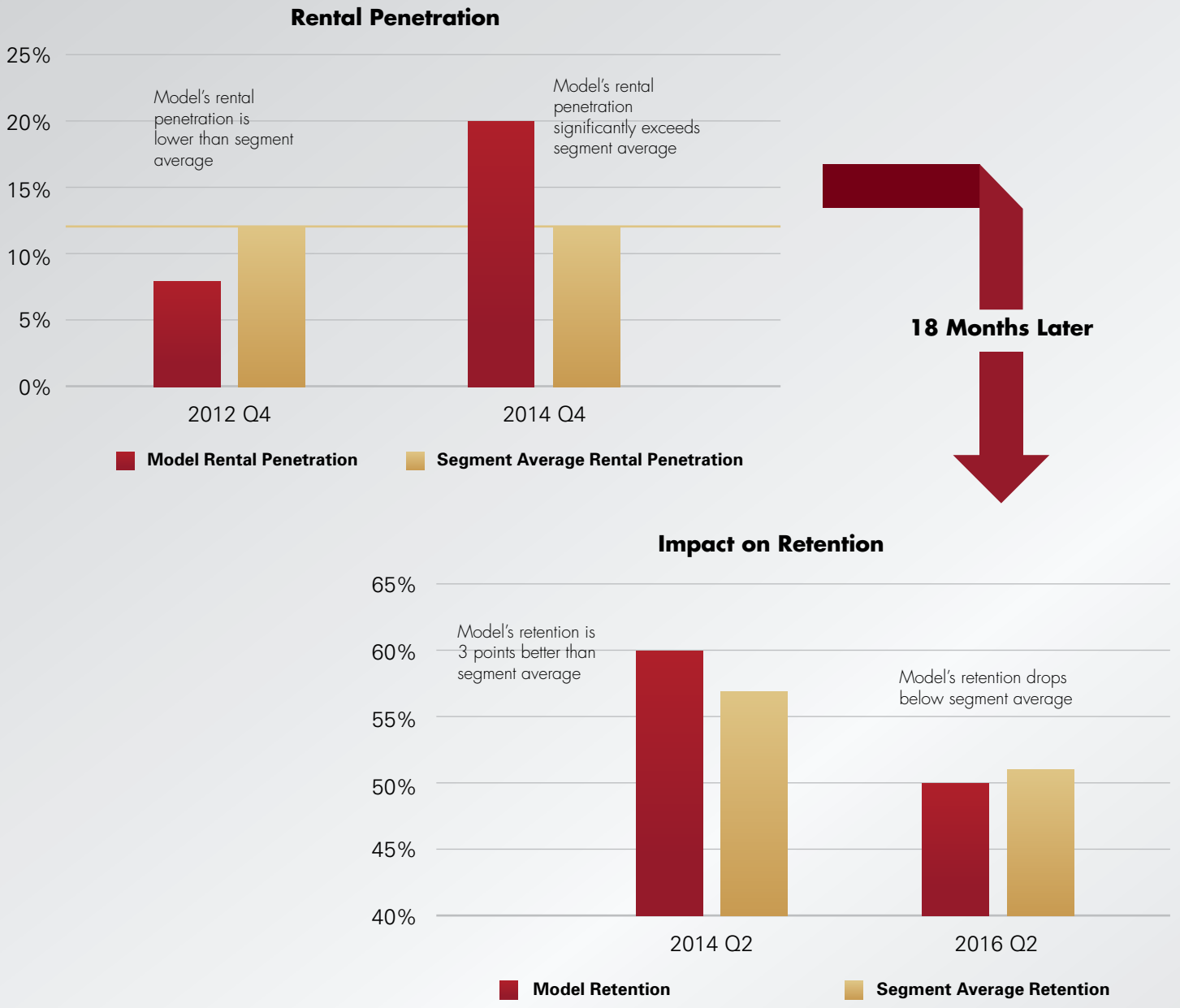
Based on data analytics, a new vehicle valued at $30,000 would see drastic changes to its depreciation, depending on how much it was used as a ride sharing vehicle. Twenty-four months later, a vehicle of this value would be worth $18,000 when average miles were factored into its usage with no ride sharing. However, if the same vehicle that saw three times its normal usage or five times its normal usage, its 24-month residual would drop to $7,350, or $3,500, respectively.

All automotive segments involved in retail, remarketing, lending, and even at the OEM level regarding overall brand/model retention would be interested in this type of data analytics to better understand the impact increased ride sharing might have on ongoing depreciation levels.

Analytics Example 3: Impact of Channel Stuffing

Periodically, "channel stuffing" takes place in the automotive industry – where model inventories are unnaturally forced into certain channels (i.e., excessive lease penetration, dealer daily rental, fleets, rental companies, etc.) and a high level of promotions or incentives are offered as a catalyst to help move inventory. Moving new vehicle inventory in such a ways results in over-supply of used vehicles impacts residual value retention. Example 3 takes a look at an analysis of the impact a certain model vehicle has on its retention rate, in comparison to its vehicle segment (e.g., Mid-Size Car) when an abundance of that particular vehicle is moved into the rental market.

One particular model saw just 8% rental penetration during Q4 2012, below its segment average of 12%. Eighteen months later when the used rental supply hit the market, its retention rate (value as percent of original MSRP) was 3 points better than segment average retention. When that same vehicle moved to a 20% rental penetration rate in Q4 2014, it saw its retention rate drop 1 point below segment average retention. Channel stuffing in this example resulted in an overall relative drop of 4 points in retention value for this model in comparison with segment trends.



Summary

Data analytics are being utilized throughout the automotive industry to help provide better visibility into vehicle prices, usage, inventories, incentives, and a host of other areas, all for the purpose of helping OEMs, lenders, dealers, data purveyors, and remarketers make more profitable decisions. Analytics go beyond the analysis of daily, weekly, or monthly pricing data. Instead, automotive audiences are relying on analytics as a way to customize analysis around specific and unique industry needs that can impact profit potential and balance sheets. The ability to mine specific data sets, with unique and custom analysis and trend interpretation, is enabling automotive audiences to maximize profit potential, reduce losses, and mitigate risk at every step of the automotive value chain.

Black Book Analytics is made possible through access to vehicle insight that is timely, independent, and accurate. Black Book's suite of values includes wholesale, trade-in, and retail values that are updated on a daily basis. Black Book offers the industry's most innovative vehicle data analytics technology, which lets industry professionals evaluate different vehicle options to see how each would impact a specific business needs in real time. Black Book's Analytics can also help with loss forecasting, which includes historical trending and depreciation curves to measure the impending risk of downward or upward movement in specific vehicles and vehicle segments.

Collateral data from Black Book is made available with detailed analytics provided in a variety of file formats, through online portals, and on desktop or mobile platforms. For more information, please visit BlackBook.com/Solutions/Visual-Analytics or call 855-371-7532.

Appendix

1. "Where's That Used Vehicle Price Plunge?"; Automotive News; August 22, 2016
2. "5 Benefits of Carpooling Using Uber"; Uber Newsroom; September 19, 2016
3. "The Numbers Behind Uber's Exploding Driver Force"; Forbes; May 1, 2015

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