



Digital Business

Private Equity: Powering Alpha Via AI, Analytics & Automation

Embedding a data-driven approach that relies on the latest digital technologies, tools and techniques can help to increase the value of portfolio companies and enable them to transform – which can be critical while formulating exit strategies.

Executive Summary

The private equity (PE) industry has had a great run in the last decade and seen rapid growth in assets, with net asset value increasing seven times since 2002.¹ Moreover, fundraising has hit record highs globally as private market capital growth has outpaced public market capitalization over the previous two decades. Limited partners (LPs) have poured money into this asset class, not only for diversification but also to tap growth pockets across the globe.

However, the private markets industry's success is creating challenges as funds pour in in unprecedented amounts. Industry dry powder is at record highs (\$2 trillion).² Company valuations have moved up as PE firms look to invest in attractive, well-run companies. Valuations are rising with deal multiples recording an average of 11.1x, in 2018 from 9.6x in 2015 (see Figure 2, page 4). This is posing a new set of challenges for PE firms. Combine these industry-specific challenges with the larger disruption in business models and business change across industries and the challenge becomes even greater.

PE firms need to deploy unprecedented sums of money, acquire stakes at relatively higher valuations and generate profitable exits, while helping portfolio companies navigate industry makeovers. Clearly, sustaining the success of recent years will be difficult – PE firms will need to work much harder and generate Alpha³ across the portfolio – without betting solely on linear revenue growth to support their exit strategies.

One area that PE firms significantly underleverage is automation, analytics and artificial intelligence (AI), or the 3As. This is surprising, since the 3As are becoming a mainstream phenomenon across industries and geographies, enabling early adopters to propel growth, reduce costs and enhance operational efficiencies. (For more on the mainstreaming of AI, read our white paper “[Making AI Responsible – and Effective.](#)”)

A larger focus on digital technologies, including the shift to cloud and automated processes, is likely to be one of the key game changers for the PE industry going forward. By focusing on the 3As,

the PE industry can create an exciting new avenue for Alpha generation, one that holds significant promise for them as well as their portfolio companies. PE firms that learn from the industry leaders, identify use cases and create a platform for data-driven decision-making, and move decisively in this direction, will stand to outperform their rivals. Companies that do not take a data-driven approach, and by extension a digital transformation, will be left behind.

Interestingly, the value of the 3As will not be restricted to Alpha generation for the portfolio alone. It can be a critical differentiator in the lifecycle of a PE’s investment process too, including deal qualification, bid pricing, due diligence processes and executing exit strategies.

To succeed, PE firms will need to set up a digital transformation office to help portfolio companies and themselves achieve promised outcomes. This paper addresses the need, importance and impact of the 3As for the PE business.



An industry in flux

When it comes to fundraising, private markets have never had it better. Assets under management (AUM) are at all-time highs at \$5.8 trillion, and money is coming in from a wide range of limited partners, especially into private equity.

While this is a resounding vote of confidence for private capital (and private equity) as an asset class, this has also resulted in excess liquidity in the ecosystem, with industry dry powder now at record highs too, as Figure 1 reveals.⁴

Global private capital dry powder (in billions) 2006-2018

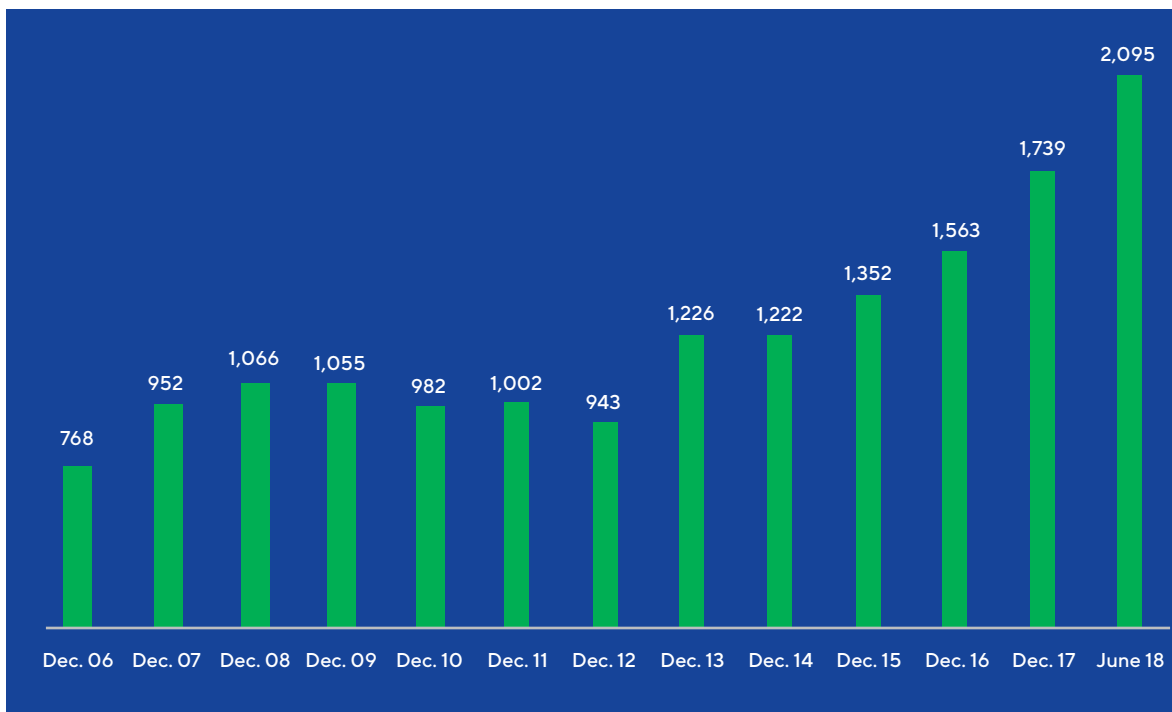
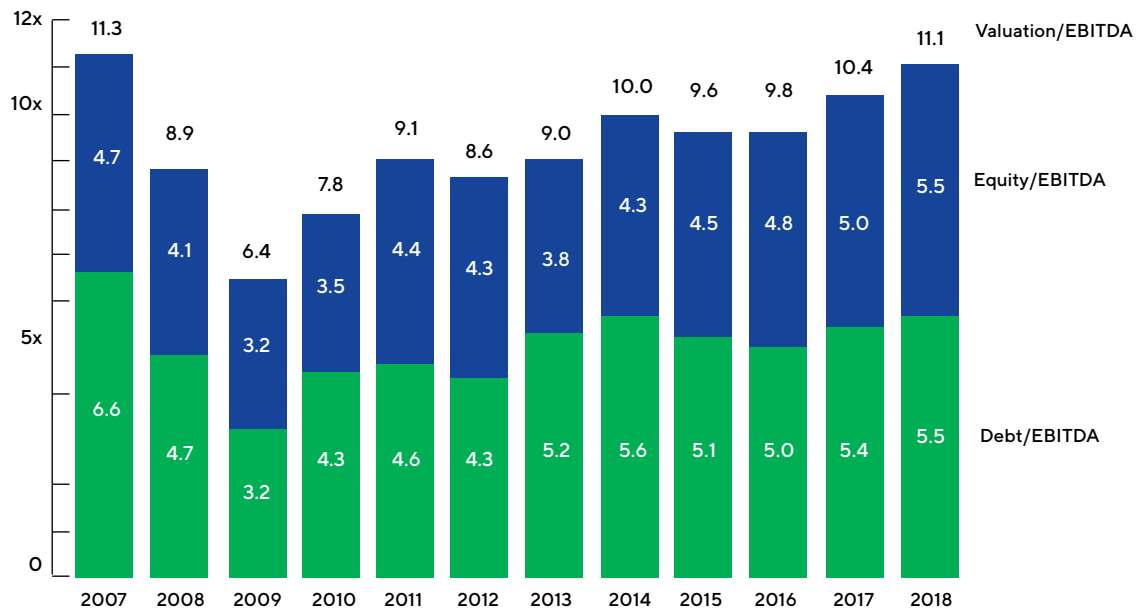


Figure 1

Deal valuations have soared as too much money chases relatively few quality assets (see Figure 2).⁵

Private equity deal multiples continue to rise

Global median private equity multiples, 2007-18



Data source: PitchBook

Figure 2

Originating deals that provide a profitable exit after five years will be increasingly difficult as entry-level valuations are already high and it is unclear if these high valuations can be sustained over the next decade. Betting on sustained, linear growth in revenues is also likely to be simplistic and almost naïve in an era with ongoing business model changes, the entry of new players across industries (aided by technology), and the massive digital overhauls by incumbents – as well as aggressive plans by well-funded digitally native startups.

Therefore, PE plays are increasingly focused on ensuring that portfolio companies continue to maintain and accelerate profitable growth, optimize processes and expand their business footprint. This is where sharpening Alpha generation strategies becomes so critical.

To do this, portfolio companies must apply digital technologies such as cloud, automation, machine learning (ML) and AI to deliver the highest Alpha in their investment portfolios.

The age of analytics

Technology acceleration over the last five years has provided proper impetus for PE firms to consider applying the 3As to their businesses:

- Analytics and cloud infrastructures are available on demand, making it possible to scale up and down quickly.
- Costs are variable and payable on usage (or some other metric) basis.
- Open-source platforms and libraries are reducing the cost of technological experiments, negating the upfront investment required in expensive licenses.
- Industrialization in processes, including data sciences, have reduced the reliance on people and cut model building time by up to 90%.
- Mainstream applications of varied types of analytical techniques on diverse data sets – structured, unstructured, and the Internet of

Things (IoT) – are available.

- The availability of new and alternative data is on the rise, which adds to the potency of analytics models.

This has created a perfect storm for 3A adoption. Over time, we expect 3A interventions to be mainstream in all top, proactive PE firms. By getting out ahead, these firms should lead the pack in portfolio value creation.

Investments in 3A initiatives do not require high investments upfront, barring some core investments, and experiments can be set up quickly by leveraging cloud infrastructures that allow for quick data uploads, analysis and modeling. (Note: This paper does not address the “how” part of the equation – i.e., how PE firms can execute a plan to leverage data and create insights.)



There are caveats, however:

I An important prerequisite for 3A intervention is the availability, quality and sanctity of the data available in an organization. This is typically a challenge in most companies as data sits in disparate systems, is widely accessed and distributed across departments, lacks a governance framework to ensure quality, has inconsistent definitions, etc. This is a challenge that cannot be wished away, but firms that want to compete on data and analytics need to address this problem head on. Addressing data quality problems need not always be a multimillion-dollar project but one that can be addressed in pockets, on a case by case basis.

Companies must also take this opportunity to start capturing new data, digitizing existing data and incorporating alternate data sources (free or paid) into the ecosystem.

I Not every cloud, ML, or automation project will succeed. Success is a function of many variables including the use case itself. However, success rates have improved as the industry has matured, especially in functional areas that have been tackled many times over, such as campaigns, risk, fraud, collections, etc. Challenges often arise in new problems and while working with new data sets; those need to be carefully selected to ensure success. In our experiences, we have found the overall return on investment (ROI) of 3A investments to be very high.

The monetary value of the 3As

The 3As can add value across the PE investment lifecycle through:

- I Deal identification and conversion.**
- I Portfolio value creation.**
- I Exit strategies.**



By instituting a data and insights-driven decision-making culture, the portfolio company can transform and remain fit for growth long after the PE firm divests its stake. This legacy, by itself, can be a compelling pitch for a potential company to be a part of a PE's portfolio.

Deal identification and conversion

Intelligent process automation (IPA), robotic process automation (RPA) and analytics can make the job of sifting through mountains of data to identify potential targets more time and cost efficient during deal identification. Evaluating customer perception of products and services, market penetration, and growth potential of a target company is now a lot easier as the web offers a treasure trove of data to analyze for insights.

The internet provides real customer feedback on brands, products, services, competitive positioning, pricing, etc. and can be an invaluable tool as originating partners make investment decisions. Besides, firms can also evaluate the digital readiness of the target company in the pre-investment phase by studying their digital presence, performance and effectiveness. If these lag behind competitors in an industry that is shifting to digital, then these findings provide a fact-based view into business's potential upsides.

On a similar note, the ability to crawl and extract data from the web and apply natural language processing (NLP) to a variety of data sources can automate legal due diligence on promoters and directors of target companies.

Two Six Capital, a San Francisco-based firm, has helped PE firms in the U.S. to determine appropriate and stretch valuations during investment due diligence.⁶ In competitive bid scenarios, analytics and data science can help estimate the upper limit of the bid value based on potential revenues that a PE can generate from existing customers, based on different metrics such as customer lifetime value (CLTV), average revenue per user (ARPU), product penetration, etc. This can provide a distinct information edge to the PE firm, as it seeks to win deals with a highly competitive bid, while at the same time not being saddled with the winner's curse (i.e., overpaying). Although most PE firms perform such analysis, a robust data-driven approach will lend more credibility to the bid.

Deal conversion probability can increase if the PE can pitch its ability to help the promoter/management transform the company on the back of the 3As. While valuation, equity dilution, deal structure, etc. matter enormously (and a growth partner is invaluable), any company management and board will value an investor that helps it navigate its digital transformation. By instituting a data and insights-driven decision-making culture, the portfolio company can transform and remain fit for growth long after the PE firm divests its stake. This legacy, by itself, can be a compelling pitch for a potential company to be a part of a PE's portfolio.

Portfolio value creation

Almost all large PE firms have operating teams/ value optimization groups that seek to increase the value of portfolio companies. Value creation has traditionally been obtained via interventions such as inducting management expertise, providing access to new markets, launching new product lines, offering access to new channels, enabling strategic partnerships, funding growth, automation and vendor

consolidation, and more. While leading PE firms are now looking at digital as a value creator, it is fair to say that they are still in the infancy of this journey. Several large firms have set up experimental teams and are testing the business impact.

This tentative approach is surprising given the impact that digital is having across the industry, but we expect PE firms to wake up rapidly to the possibilities of the 3As. Figure 3 illuminates the reasons why.⁷

Insight-driven use cases create value by either supporting growth (topline) or reducing costs (bottom line)

Use cases	Reference impact*		Use cases	Reference impact*
	Sales impact	Retail impact		
Assortment optimization		1.0 ppt	Predictive maintenance	20-50% of call center costs
Cross-and upsell	2.0%		Marketing spend effectiveness	5-10% of marketing costs
Churn prevention	1.5%		Demand planning	20-30% of warehousing costs
Pricing	2.0%	1.0 ppt	Fraud prevention	1-5% of fraud loss
Stock and replenishment optimization	2.0%	0.5 ppt	Bad debt management	10-20% of bad debt loss
Promotion optimization	1.5%	1.0 ppt	Workforce planning	10-20% of service costs
Space and shelf optimization	1.5%		Supply chain optimization	10-30% of logistics costs

Impact values not additive and only achieved in case of investment and change management

+ Based upon 100+ reference cases; realization over 1-3 years

Source: McKinsey Advanced Analytics

Figure 3

While use cases for the 3As across industries and processes are numerous and diverse, they can broadly be classified into three domains – revenues, cost and efficiency.

Revenue generation

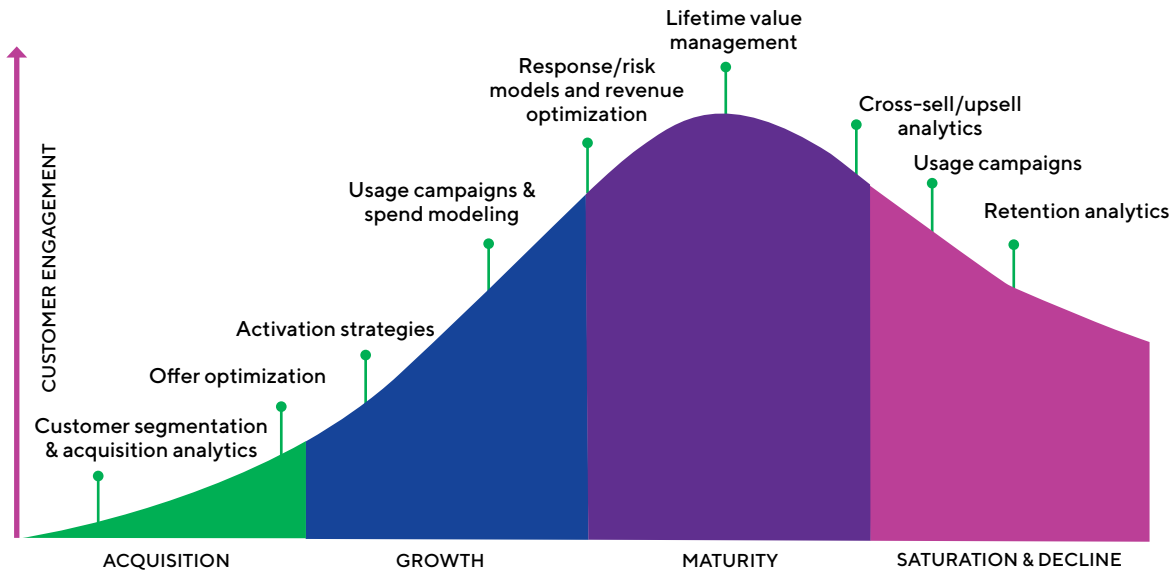
Several market researchers such as Gartner indicate a distinct shift to digital in marketing spend, where measurement and attribution of revenues is relatively better, customer behavior is collected in real time, and organizations benefit from more granular data.⁸ All of the above requires firms to capture the clickstream data, build architectures to leverage real-time use cases and apply analytics to segment and personalize experiences.

Netflix and Amazon have famously leveraged

algorithms to render personalized content to consumers to boost sales and up- and cross-sell more products by leveraging adjacencies. As business shifts online, more data is available for analysis and it is possible, with the right intervention, to identify consumer segments and understand their browsing and purchase behaviors. Digital has made real-time targeted marketing possible, since customers can be individually identified and served.

3A interventions are powerful across the entire sales and customer lifecycle journey (see Figure 4).

The impact of 3As across the customer journey



There is scope for optimization in each step of this (sample) journey. Analytics can enable effective segmentation, and help organizations understand promotion effectiveness, consider optimal product mix, and optimize multichannel marketing budgets to understand the who, what and why of customers.

Figure 4

We worked with a North American-based specialty retailer to enrich customer data, link taxation data with customer demographics and improve campaign effectiveness, leading to a 14% improvement in response rate. We have helped clients across the spectrum:

- A leading North American insurer improved qualified prospect identification by 45%.
- A financial services company provided personalized campaigns and targeting to 97% of known customers.
- A global automotive manufacturer drove higher cross-sell and upsell business by analyzing consumer behavior patterns.

If a PE firm has to start small, then personalization is the place to start. It provides direct topline impact and therefore valuation impact for a portfolio company and PE respectively. PE firms that do not help their portfolio companies in each of these areas are leaving a lot of growth, and money, on the table.

Cost & loss reduction

Automation is typically the biggest levers in cost reduction, especially in process-intensive activities. While robotics and automation have been adopted by large manufacturing for decades, IPA and RPA have gained steam in recent years in most people-based processes.

In a study on the deployment of IPA across Industries, McKinsey identified a 20% to 25% annual run-rate cost efficiency, an increase in straight through processing and an ROI that's often in triple digits.⁹ IPA has truly arrived, especially with the advent of advanced programming languages, AI-enabled natural language processing (NLP) and natural language generation (NLG). Well-established

companies such as Automation Anywhere, Blue Prism and UI Path (among others today) offer robust platforms and solutions.

Take finance processes as an example. Several companies with whom we work have reaped benefits of automation in the process of handling invoices, processing them, marking them for payments, making decisions on early payments (based on early bird discounts, etc.) such that the entire procure-to-pay process can be optimized. Firms leverage analytics to optimize spends, identifying anomalies and excess payments, as well as to avoid penalties.

Similarly, processes covering client onboarding, Know Your Customer (KYC), reconciliations, claims, and more are people-intensive with multiple manual interventions, all of which are prime candidates for automation. With increased sophistication in optical character recognition (OCR) technologies, image recognition and NLP, combined with rule-based automation, there is significant scope in optimizing costs in manual processes. The biggest impact, though, is in fraud reduction, whether it's claims fraud in insurance or various kinds of fraud perpetrated in banking. Fraud algorithms help prevent hundreds of millions of dollars of potential fraud annually.

We helped a large multinational manufacturing conglomerate that manages 80,000 invoices annually to reduce errors in manual processing and slash handling time by 50% by employing an RPA solution. We also worked with a digital advertising agency to design and implement an NLP-based automation tool to create ad extensions, identify appropriate ad placements and improve effectiveness. The client recorded a 10% improvement in click-through rates and 50% productivity gains. These are the type of 3A initiatives that PE firms should bring to their portfolio companies.

Operational efficiency gains

Improved business efficiency results from the reduced friction in the end-to-end lifecycle of various processes. For example, PE firms need to instill in portfolio companies that:

- Client onboarding should be convenient, easy and quick without compromising on KYC and customer validation requirements.
- Collection processes must increase the propensity to recover past dues while ensuring customer care and legal compliance.
- Call center operations should be customer-centric and retain high net promoter scores (NPS) while reducing operating metrics such as mean time to resolve (MTTR), average hold times and the number of agents.
- Supply chain networks should work seamlessly so that movement of goods are streamlined without capacity buildups in fleets and people and without excess inventory or stockouts.
- Financial services firms must identify and mitigate multiple dimensions of risk without compromising customer experience, convenience and speed.
- IT teams need to provision an infrastructure that is scalable, robust, secure, and resilient with minimal latency, yet be democratic (for information access), allow self-service, and be cost-effective.

Automation, analytics and AI play a large part in addressing these seemingly conflicting objectives. OCR and image recognition algorithms ensure that

onboarding processes are streamlined while a single master data management (MDM) platform brings together all customer and product information to avoid duplication. Financial services companies tackle financial exposure (funded and non-funded) by running risk and purchase propensity algorithms in real time via cloud platforms, thereby ensuring in-context offers for customers. Similarly, cloud-based microservices-based architectures allow for quick access, scalability and security while keeping costs in check.

A recent McKinsey report on the impact of analytics in contact centers concludes that companies that leverage advanced analytics:¹⁰

- Reduce average handle time by 40%.
- Increase self-service containment rates by 5% to 20%.
- Cut employee costs and boost conversion rate on service-to-sales calls by nearly 50%.
- Improve customer satisfaction and employee engagement.

We worked with a life sciences firm to optimize its entire procure-to-pay processes and weed out inefficiencies in the process through a combination of automation, analytics and AI. The client improved invoice straight-through-processing rates by 68%, optimized finance processes and enabled prioritization of payments to avail early payment discounts, leading to several million dollars in savings.

As noted above, reducing operating costs through the 3As are disciplines that PE firms can and should bring to their portfolio companies.

Exits

The cumulative impact of applying the 3As across these three themes is the overall improvement in growth rates, costs and operational processes. All of these have a direct impact on company valuation.

All other things being equal, a company that displays stronger digital maturity (in its use of cloud, analytics and AI) will command a higher valuation premium compared to its counterparts. This is evident in the market valuation trends. A June 2019 article in *Harvard Business Review* noted:¹¹

- A 7% to 21% positive valuation impact for companies that have implemented digital initiatives over those that did not.
- Valuation benefits of going digital improve over time, rising by 4% to 12% over the two years following the launch of digital initiatives.
- An investor can make a 5% risk-adjusted annual return (or Alpha, in finance speak) on a trading strategy that considers whether firms report digital activities.



The time is ripe for PE firms to institute an in-house digital transformation office that will have a mandate to drive digital change in all portfolio companies.

Looking forward: Green shoots in the PE industry

The good news is that some leading PE firms have begun investing, albeit in a very small way, in analytics, AI and automation. True North, an India-based and India-focused PE firm, took the lead in the first quarter of 2018 when it created Actify Data Labs, a subsidiary with a \$10 million investment to focus on the 3As exclusively for its portfolio companies.¹² This was possibly the first instance of a PE firm making a large dedicated investment in this space in India if not globally.

In our experiences, many large PE firms are at an experimentation phase and are making small investments to gauge the impact on portfolio operations. In November 2018, Temasek Holdings announced the setting up of experimental pods to focus on AI and blockchain technologies, which it sees as long-term trends impacting multiple industries and geographies.¹³ Conversations with

PE firms indicate that many have begun creating small seed teams or are in the process of setting up such seed teams dedicated to digital initiatives. We see this as a trend that will gain momentum and become mainstream over the next 18 to 24 months.

The PE industry needs to find new ways to generate Alpha and add value to its portfolio companies beyond the traditional routes that it has taken so far. The time is ripe for PE firms to institute an in-house digital transformation office that will have a mandate to drive digital change in all portfolio companies. This office will focus on the entire digital spectrum, from the shift to cloud to process redesign, while focusing on the 3As as a key lever.

PE firms that are able to reinvent their roles and relationships with portfolio companies are likely to achieve a higher degree of success.

Endnotes

- ¹ Private equity includes buyouts, large PE firms and late-stage VCs. Private markets also includes private debt, real estate and mezzanine funds, among others.
- ² <https://www.investopedia.com/terms/d/drypowder.asp>.
- ³ Alpha refers to the excess returns generated by the investment manager, over a reference rate of return/benchmark index.
- ⁴ Naomi Feliz, "Alternatives in 2019: Private Capital Dry Powder Reaches \$2tn," Preqin Insights, January 28, 2019, <https://www.preqin.com/insights/blogs/alternatives-in-2019-private-capital-dry-powder-reaches-2tn/25289>.
- ⁵ "Private markets come of age," McKinsey Global Private Markets Review 2019.
- ⁶ Mary Kathleen Flynn, "Private equity firms embrace big data: Two Six Capital, Oak Hill, Clarion," Mergers & Acquisitions, September 20, 2018, <https://www.themiddlemarket.com/news/due-diligence-meets-big-data-two-six-capital-oak-hill-clarion-among-pioneers>.
- ⁷ "Achieving business impact with data," Digital/McKinsey, April 2018.
- ⁸ The Gartner CMO survey 2018-19 (a survey of 600 marketing leaders) noted that marketing technology (or martech) now accounts for 29% of all marketing expenses, up from 22% just two years ago. Roughly 14% of all a CMO spend is on personalization, while 25% of the total budget is on areas such as paid search, organic search, web and mail.
- ⁹ "Intelligent process automation: The engine at the core of the next-generation operating model," McKinsey Global, March 2017.
- ¹⁰ "How advanced analytics can help contact centers put the customer first," McKinsey & Company, February 2019, <https://www.mckinsey.com/business-functions/operations/our-insights/how-advanced-analytics-can-help-contact-centers-put-the-customer-first>.
- ¹¹ Suraj Srinivasan and Wilbur Chen, "Research: Investors Reward Companies That Talk Up Their Digital Initiatives," *Harvard Business Review*, June 18, 2019, <https://hbr.org/2019/06/research-investors-reward-companies-that-talk-up-their-digital-initiatives>.
- ¹² Swaraj Singh Dhanjal, "True North floats subsidiary focused on analytics, AI, commits \$10 million investment," *livemint.com*, January 17, 2018, <https://www.livemint.com/Companies/qFYBacYQcqqQsQ7Uzn4q4I/True-North-floats-subsidiary-focused-on-analytics-AI-commi.html>.
- ¹³ Joyce Koh, "Temasek Will Explore AI and Blockchain Deals," *Bloomberg.com*, November 21, 2018, <https://www.bloomberg.com/news/articles/2018-11-22/temasek-to-explore-ai-blockchain-deals-with-experimental-pods>.

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Digital Business

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