

## From competing on the analytics to competing on models

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### ABSTRACT

On May 2005, Davenport Cohen and Jacobson published a working paper that a few months later appeared in HBR: Competing on analytics, one year later the book was released. This research was both chronicle and trigger of what has been called the analytics revolution or the data revolution. New positions have been invented such as data scientist and data engineers and a whole new cycle of hype around machine learning in particular and AI in general started. Analytics is presented now as the modern source of competitive advantage, is that so? Models allowed us to understand the world through the use of stylization and abstraction, that way we were able to precisely delineate ideas and complex systems that were later implemented in the real world. The Holy Grail has always been to be able to translate these models into fully automated systems with little need of human intervention and plastic enough to allow experimentation and rapid change. Advances in Cloud, AI and IT are making this dream real. Platforms such as Amazon, Uber, Facebook, Instagram or WhatsApp are examples of this, fully automated models. The implication are numerous, practically infinite scalability, zero marginal cost and no decreasing returns on scale together with the extensive use of network effects and feedback loops among others. Competition moved first from execution to analytics and now to model implementation. With it, the competences needed in companies to successfully compete in this new environment together with the meaning of R&D and experimentation changed dramatically. Innovation has always been a key driver of progress and growth, but now in environments with total plasticity and perfect execution, innovation is more relevant than ever. This new world is however full of challenges, code glitches, bandwagon effects, strange emergent behaviors are some of the unintended consequences of systems that act and decide on their own with non-human logics.

### INTRODUCTION

We've all heard about the power of a killer app. Innovative technologies from companies like American Airlines (electronicreservations), Otis Elevator (predictive maintenance), and American Hospital Supply (on-line ordering) have significantly increased their founders' earnings and reputations over the years. These lauded—and coveted—apps gathered and utilised data in unprecedented ways, upsetting customer expectations and optimising operations. They turned technology into a strategic weapon by transforming it from supportive tool.

Companies on the lookout for killer applications typically spend all of their resources on the one area that promises to give them the most competitive advantage.

In essence, they're turning their companies into killerapp armies and crunching their way to victory. Organizations compete on analytics not just because they can (the corporate world is awash in data and data crunchers), but also because they should. Business processes are one of the last remaining reasons of differentiation in an era when numerous businesses sell identical products and employ similar technologies. Competitors in analytics are wringing every last drop of value out of those processes. So, like other businesses, they know what things their customers desire, but they also know what prices they will pay, how many items each client will buy in a lifetime, and what triggers will cause them to buy more. They understand compensation expenses and attrition rates, just like other businesses, but they can also compute how much personnel adds to or subtracts from the bottom line, and how salary levels connect to individual performance.

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And analytics competitors execute all of these things in unison, as part of a larger strategy championed by top management and pushed down to decision makers at all levels. Employees who are hired for their numerical skills or who have been trained to realise their importance are armed with the most up-to-date evidence and quantitative tools.

Marriott International is an analytics competitor that is at the top of its game. The company has perfected its system for determining the best price for guest rooms over the last 20 years (the key analytics process in hotels, known as revenue management). Its ambitions have grown much larger in recent years. Marriott has expanded its quantitative knowledge to areas such as conference facilities and catering through its Total Hotel Optimization programme, and has made related technologies available to property revenue managers and hotel owners over the Internet. It has created mechanisms to improve products to frequent customers and estimate the risk of those consumers defecting to competitors. When certain local conditions cannot be predicted, it has given local revenue managers

the power to override the system's suggestions (like the large number of Hurricane Katrina evacuees arriving in Houston).

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