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Data science for business and decision making pdf

This week's news in the US, in Europe, and in the Middle East is a stark reminder of the fallacy of rational decision-making. Whether we read about business, economy or society, every day seems to carry its own conspicuous and weak decision-making. Jack Zenger and Joseph Faulkman have cited several reasons why decision-makers fail, including negligence, lack of expectation, indecision and isolation. Are fake news, false facts and manipulated opinions the cause or result of bad decisions? [ii] The most important thing is what can be done to improve our decision-making skills for our organizations, customers and careers? To lead in a time and a space where data is confused with facts. Making better decisions, rather than cluttering up data, is the ultimate goal of improving governance. We currently produce approximately 2.5 quintillion bytes of data every day – more data in the last two years than in the previous history of mankind. [iii] Klaus Schwab suggests that we have entered into the Fourth Industrial Revolution, in which value is determined by our ability to capture and analyze this huge amount of data. [iv] To date, there is little evidence that this revolution has led to better solutions than in the past. Data science is about transforming data into impactful actions to address major organisational challenges. What leads to improved decision-making? In the science of decision-making, we learn that the main challenges to effective governance are perceptions of the complexity, ambiguity and uncertainty of the environment in which we make decisions. In cognitive sciences, we are taught that our pre-concepts and prejudices distort the way we see the problem and bind us the ability to offer innovative solutions. In management schools, we are trained to recognize the complexity of real problems today disobeying the logic of the best way. Finally, in business, we feel that the culprit is not only our own choice, but often those that are taken around us. What is a better solution? In line with David Snowden's work on mind-making[v], we believe there is a clear distinction between good, better and great decisions. Good solutions are possible in a deterministic environment where the right answer can be found by looking at the available data. Unfortunately, most business decisions are made in a 100-year environment where the right decision cannot be derived from the available data – however, better decisions are possible by reducing the causes of uncertainty. Finally, we refer to great solutions, which are the ones by which context, challenges and solutions allow us to review the nature of the process of decisions. Although machine learning is currently marketed as a mystical elixir, it is nothing more than a technological tool used the nature of the problems we face. Supervised training is a specific approach to problem solving, where we know that the answer is in the data, the challenge does so. The lack of training is set in a challenge where there is no single exact answer, but we believe that studying the data will allow us to challenge models of potential responses. Semi-supervised learning is a third approach where we know the answer, but we try to calibrate decision-making processes to achieve more reliable results. In any case, information technology provides us with a mirror on how to think about the challenges around us. How can studying data science help us become better at decision-making? Business analytics are four steps designed to help people make better decisions in the context of their work. To begin with, we need to scan the environment (physical and digital) to understand the nature of the problem we are trying to solve. The second step is to study the quality of the data we need to work with. The third step is to apply the right methodology for data research and formulation of solutions in response to the types of problems we are trying to solve. Finally, we need to turn data into stories that will motivate our teams and communities to take appropriate action. Data science is less about theory than about practice, integrating these basic solutions into the way we work. The practice of data science is the heart and soul of the Institute for Business Analysis. Bai Summer Programme 2018 will explore critical data usage skills to improve decision-making management. Our unique summer session will provide four dozen participants from the UNITED States and Canada, Europe and Asia with a deep understanding of the practice of using analytics – how to evaluate the data in hand, how to apply the appropriate methodologies for specific types of personal and professional challenges, and how to translate the data into collective action. Lee Schlenker is professor of business analysis and digital transformation, as well as director at the Institute for Business . His LinkedIn profile can be viewed in www.linkedin.com/in/leeschlenker. You can follow us on Twitter at [i] Zenger, J. and Folkman J. (2014). 9 Habits that lead to terrible decisions. Harvard Business Review [online] Schlenker, L. (2017). What will better solutions mean for you?. Medium[iii] Watson Marketing, (2017), 10 Key Marketing Trends for 2017, Schwab, K. (2017). The fourth industrial revolution. 1st and t. Random House Inc.[v] Snowden, D. and Kurtz, C.F. (2003). Taking the Senses into a Complex and Complex World, IBM Systems amalgamation of an increasingly complex world, the huge dissemination of data the pressing desire to remain at the forefront of competition has led organisations to focus on using analytics to make strategic business decisions. Business analytics allows managers to understand the dynamics of their business, anticipate market changes and manage risks. Instead of going gut-to-gut in maintaining inventory, pricing decisions or hiring talent, companies adopt analytics and systematic statistical reasoning to make decisions that improve efficiency, risk management and profits. Data and analysts disrupt existing business models and ecosystems. The proliferation of new data sets and the introduction of massive data migration capabilities undermine existing information and technological silos. From using detailed data to customize products and services to scaling digital platforms to matching buyers and sellers, companies use business analytics to enable faster and fact-based decision-making. In fact, studies show that data-based organisations not only make better strategic decisions, but also enjoy high operational efficiency, improved customer satisfaction and stable levels of profit and revenue. Recent studies have also shown that data-focused organizations are twenty-three times more likely to acquire customers, six times more likely to retain those customers and nineteen times more likely to be profitable as a result. Specialists in analytical medicine today have a wide range of analytical capabilities and techniques. These range from the most basic techniques, descriptive analysis, which include preparing the data for subsequent analysis, to predictive analysis that provide advanced models for predicting and predicting the future, to the highest view of analyses called prescriptive analyses that use machine-based learning algorithms and dynamic rules to provide interpretations and recommendations. With their diverse cases and applications, it is no longer a surprise that these techniques are already finding their way to customers, the workforce, the supply chain, finances and risk strategies at the organizational level. Data is the new oil, and the best way for companies to access and understand it is to digitize their processes. Digitizing customer interactions can provide dull information that companies can use in strategy, sales, marketing and product development. Detailed and detailed data can allow companies to micro-target their customers and customize their products and services. Additional internal digitisation generates data that managers can use to improve their operations, including routing and allocation of resources and planning, capacity planning and production. These trends also cause many companies to converge their Business Intelligence units and Research operations on a common basis of Analysis. Both communities now use statistical and mathematical techniques to attack strategic business problems and systematize the decision-making process. Data analytics, with its extensive use and diverse applications, is now emerging as a key element in strategic business decision-making. By allowing businesses to make user-oriented marketing decisions to help them address key operational inefficiencies, analytics has fundamentally changed the perception of the importance of data. Advanced statistical models support this cause by providing valuable insights from non-standard data sets and allowing companies to explore new business territories. The next few sections explore the huge and varied opportunities that data and analytics provide to businesses today. Making the most of consumer models: In an increasingly customer-oriented era, organizations have accumulated a wealth of consumer information and data. In order to remain competitive, it is imperative that organisations use these consumer ideas to shape their products, solutions and redemptions. Research from McKinsey shows that organizations that use their consumer insights strategically outperform their peers by 85 percent in sales growth margins and more than 25 percent in gross profits. It is therefore important for managers to take into account the strategic importance of consumer information. A comprehensive and precise understanding of customers through careful market segmentation can offer managers an insightful account of the buyer's habits and preferences. For example, a telecom company can use advanced and predictive analytical models to reduce customer numbers and measure the effectiveness of marketing campaigns. Similarly, the online retailer can understand its presence on the web by searching for answers to questions such as a combination of new and returning visitors, bounce rate and average session duration. Such questions give a crucial insight into what types of content on what channels and formats are likely to have the greatest impact on key user segments. In addition, model data can generate valuable customer data that can be used for direct marketing costs. For example, a car seller examined the history of its purchasing and behavioral services users and found that many of its high consumer segments were much more likely to rely on product distributors for product recommendations and less likely to be influenced by handouts and commercial collateral. This in turn helped marketing redistribute budgets. Therefore analytics enables managers to gain competitive intelligence under market conditions, guide users more successfully and optimize processes. Using data to drive efficiency: While organizations spend significant time analyzing user data and opportunities to monetize the first line, line, it is imperative to focus on improving productivity and productivity. Data and analytics can play a huge role in reducing inefficiencies and streamlining business operations. For example, reporting and analysis boards can identify data correlations and provide managers with detailed data to perform cost estimates, benchmarking, and pricing segmentation. Similarly, the use of analytics to measure key performance indicators in areas such as operational performance, product innovation and workforce planning can lead to calculations to resolve complex business scenarios. Business analytics can also improve the way organizations attract, retain and develop talent. For example, a consultancy group in Asia recently decided to go through a major restructuring process. As part of this initiative, management wanted to identify employees with high potential to succeed and gain a greater understanding of key performance indicators. The analysis team started by streamlining data points such as professional history, education, productivity, age, marital status and demographics. After running the collected data, although several regression models, the team was able to identify the profiles of the employees who had the best chance of success in certain roles. Research and analysis also suggested the key roles that have the greatest impact on the company's overall growth. As a result, the company restructured around key functional roles and talent groups. Another area where data analysis is the provision of unique value is supply chain. Supply chains are great places to look at strategic opportunities and advantages, partly because of their complex nature and partly because of their significant contribution to the company's cost structure. By using the analyses, companies can not only identify hidden deficiencies in existing structures in order to generate greater cost savings, but also analyse significant investments and solutions along the supply chain by carrying out risk modelling and assessments. Managers can then immerse themselves in specific opportunities for improvement, such as inventory management, channel management, procurement and logistics. Risk management through analysis: Organisations today are at huge risk of structured data - such as databases and unstructured data - such as websites, blogs and social media channels. By using risk analysis, companies may find themselves in a better position to quantify, measure and predict risk. Managers should see risk analysis as an enterprise-to-business approach and develop ways to retrieve data at different levels and functions of the organisation in one central platform. By establishing a standard baseline for risk measurement and management, companies will be able to include risk considerations in their core strategic decision-making process and predict the likely are leading this analytical space by discovering new ways to use data for transactional and behavioral users. In fact, they routinely go beyond conventional structured information such as credit rating reports and also look for unconventional sources of information such as customer loyalty data as well as government information. By collecting such massive data sets, banks can increase the accuracy, reach and predictability of their credit risk models. From identifying high-risk payments before they are executed to predicting the likelihood of a customer paying off mortgage payments, risk models are leading by providing advanced and valuable insights. Companies should therefore focus on improving and exploring operational business models. Advanced data models will make business decisions more uniform, improve data quality and provide more flexibility to address unconventional data requirements. As they become smarter, managers will be more ingestible in dealing with uncertainty and strategic decision-making. The conclusion: In this volatile data outage environment, business managers need to look through two lenses at the same time. First, they need to identify opportunities for high risk and reward, such as entering new markets and changing existing business models. Secondly, they need to keep their focus on incorporating analytics into the business decision-making process. By embedding data analysis into their core strategy, business managers can streamline internal business processes, identify the development of consumer trends, interpret and monitor emerging risks, and build mechanisms for constant feedback and improvement. This will stimulate analytical transformations that will allow companies to gain a competitive advantage and remain at the forefront of digital disruption. REFERENCES: Interruption. References: