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The Human Advantage in an Age of AI As we realize how often humans fail to decide well, many call for machines to take over. Already AI is taking hold in many organizations, and used in many decision contexts. Others want us to decide more from the gut, and follow our instincts. As we face pressing challenges and crucial decisions, individually and as a society, Mayer-Schönberger offers a far better alternative: to focus on a cognitive superpower all humans possess, but rarely use: our ability to frame. It's far more than seeing things through a different perspective or being creative. Driven by 3Cs – causality, counterfactuals, and constraints – human framing enables us to "see" a reality that does not yet exist, and to play the game of life a few moves ahead. Done well, this gives us far better alternative options for our decisions – letting us innovate not by "thinking outside the box" (we never can, because we are always inside a mental box), but by harnessing the power of framing. Using fresh examples and cases, combined with insights from cutting-edge research, Mayer-Schönberger offers a strategy for every one of us to improve their decision-making.

Reinventing Capitalism Our economy thrives because of markets. But conventional markets are stymied by information bottlenecks, forcing us to condense information and at times engage in inefficient transactions. Thanks to digital technologies, new "data-rich" markets have emerged. Far superior to conventional markets, they take over. It's the real secret that drives the success of Google, Amazon, Uber, and Airbnb. Over time, it will not only supersede conventional markets, but also devalue the role of money and conventional corporations. That may be a blessing, as long as we stop market concentration and ensure wide-spread innovation. There are straight-forward strategies to thrive in this new data economy, as Mayer-Schönberger – having advised innumerous corporations and organizations – knows and will share.

Big Data: A Revolution That Will Change How We Live, Work, & Think In his best-selling book, *Big Data*, Mayer-Schönberger tackles what big data is, how it will change our lives, and what we can do to protect ourselves from its hazards. Data's value has changed; it used to be that organizations collected data for a specific purpose, gathering as little as necessary because it was so expensive. Now affordable and easily analyzed, data can be collected without a specific goal and is leading organizations to surprising insights and advances. In this presentation, Mayer-Schönberger argues that big data analytics are revolutionizing the way people see and process the world—and each other. A revolution on par with the Internet, it changes the way we think about business, health, politics, education, and innovation. He explains why data is so powerful and how it also poses fresh threats, from the inevitable end of privacy as we know it to the prospect of being penalized for things we haven't even done yet.

Information Privacy: Memory & Forgetting In The Digital Age An advocate of the right to be 'forgotten' in the form of expiration dates on personal information, Mayer-Schönberger looks at the surprising phenomenon of perfect remembering in the digital age and reveals the importance of the human capacity to forget. While digital technology empowers people as never before, the perfect record it creates holds unforeseen consequences. In this talk, Mayer-Schönberger explains why information privacy rights and other fixes cannot help us and proposes an ingeniously simple solution—expiration dates on information—that may. He also explains how big data can help protect privacy in this increasingly digital age, as it can be used to identify and analyzing trends without accessing a person's sensitive identifying information.

INDUSTRY CUSTOMIZATION: Marketing/Direct Marketing. Data is a quintessential tool for marketers. Until recently, capturing data was time consuming and costly, and so we collected only as little as possible. In the age of big data this changes. Vastly more data is being captured and can be analyzed almost in real time. This enables us to look at seemingly small changes that may make a huge difference. For instance, Google tested over 40 shades of blue to find the best border color for its search screen, using hundreds of millions of data points. The winning color, identified by big data analysis, was only slightly different than the one a human expert has selected. But choosing the big data result rather than the human suggestion brought Google many, many millions of extra revenue. This is the essence of big data marketing: it is not the naked consumer; it is vastly improved predictions on how to sync marketing messages with consumer preferences to extract value. **Healthcare.** Data and machine learning will transform health care. Now, most of research and treatment is based on limited data based on the "average patient." In the future, we can personalize healthcare and provide the optimal treatment to an individual by using the optimal drug and dosage for his genetic code and body metabolism. Through individualized health monitoring we can identify illnesses earlier and intervene faster and at earlier stages. Machine learning and data analysis helps medical researchers unlock much of the hidden value in the medical data we collect but so far fail to understand. As we combine more data health sets through big data analysis, our understanding of the human body will be transformed—and so will be our ability to provide health care. Yet to achieve big data's full potential, we also must address important ethical dilemmas. **Financial Services.** Almost all financial services are based on an element of prediction—whether a loan will be repaid, a stock price will increase, an insurance policy will have to be paid out. In the age of small data, these predictions were based on complex models of the world that often turned out to be wrong. In the 1990's, the international financial system almost crashed because of a faulty mathematical model. With massive data and machine learning we now have a powerful alternative available; we can predict much better. New products and services can emerge that we would never have thought of. This opens up new revenue stream for financial services companies, as well. **Education.** Education can greatly benefit from data analysis at nearly all levels. For example, by analyzing the rich data that gets captured through electronic books and online courses for the first time in history, authors will know what works (and what does not) in their textbooks, teachers will understand which of their problem sets raise questions with the most students, and schools will learn what teaching materials to choose to optimize the educational experience of their pupils. We have long tried to measure

quality in education, but the dearth of relevant data made it challenging. With machine learning and comprehensive data collection, our analysis becomes easier and cheaper and offers powerful new insights, improving our decision-making and fostering innovation.