Chapter 3
Moneyball for Knowledge Management

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ABSTRACT

Moneyball is Michael Lewis's story about the use of statistical analysis and modeling by the Oakland A's baseball team to maximize games won per payroll dollar. When new techniques—analytics and evidence-based decision making—get such visibility their time may have arrived. Such analytic techniques have been known for some time as Management Science or Operations Research, but they are possibly not very well known by the Knowledge Management (KM) community. So, how will KM avail itself of this emerging capability? This chapter addresses emerging analytics by focusing on their use in the next generation of maturity models for KM.

INTRODUCTION

In the Post-Industrial Knowledge Age, organizations must leverage modern advances in rigorous data analysis to gain data-based wisdom. Such now-proven techniques can provide substantial benefit over traditional, less analytical and more subjective than objective methods to make informed decisions and improve operations in all types of organizations. (See Weidner, 1974, for an early application of time-series analytics to business operations.) There is a wealth of untapped knowledge residing in the massive amounts of data and information now available to leaders. (See Weidner, 1973, for a sample of historical, data-storage constrained analytics – exponential smoothing.) This *Big Data* is enabled by Information Age technologies and especially the recent emphasis on the *Internet of Things*. Proof of such benefit now exists in even baseball – *Moneyball*. With a successful movie about America's favorite past time as an advertising campaign, algorithmic, evidence-based techniques were sure to be noticed. Will such awareness end as the movie goes to DVD, or are the times ripe, even grasping for such techniques? Hopefully, such techniques will emerge simply because their time has come. An underlying aim of this chapter is to accelerate this emergence by providing a compelling rationale and beneficial uses.

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The chapter highlights how the healthcare profession has made amazing strides in algorithmic, evidence-based models. Can modern business be far behind? The discussion includes how these models can benefit modern learning organizations, specifically how robust maturity models can be designed to be algorithmic and evidence-based rather than the many existing attempts that are just ad hoc and anecdotal. Such maturity models can, like their healthcare cousins, be both diagnostic and prescriptive.

Since the early-mid 1990s, many successful Knowledge Management (KM) initiatives have capitalized on text-based repositories and much-improved search engines. The emerging collaborative technologies of the last decade enable us to tap into and foster tacit knowledge creation and sharing based on traditional, experiential knowledge. Now, organizations are able to exploit reams of numerical information to uncover the embedded knowledge, also known as data-based wisdom. Soon, many Information Age organizations, even those just dabbling in KM, will find that if they are not adding data driven initiatives to their traditional collaborative ones, using analytics to exploit inefficiencies created by the lack of the right knowledge derived from such information, and funding and deploying the resultant tactics and strategies, they might as well cede ultimate success to the true learning organizations that regularly do these things. If such organizations do not prove their agility, and begin to pay attention to the newly emerging field of analytics and evidence-based decision making, they will become increasingly uncompetitive, especially in the key performance areas of human capital, customer satisfaction and all forms of innovation that result from deep knowledge of one's own operations and those of competitors.

This chapter traces the evolution of algorithmic, evidence-based wisdom in disciplines outside business – Healthcare and Psychology. It will trace also, analytics in business from early Operations Research (often referred to as Management Science) of the mid-1900s to modern Big Data and improved analytics enabled by information management and technology. Finally, these historical tracks and their intersection will inform where analytics is likely to go as it enriches KM, the emerging discipline which enables successful, transformed organizations in the post-industrial, knowledge age.

CONSIDER THE MEDICAL PROFESSION

Not too long ago the medical profession was still in the proverbial Dark Ages. Doctors used leeches for all manner of infirmities; they could not cure major diseases such as polio; and, they used aspirin, known for thousands of years for its pain relief attributes, solely for pain relief - just to mention a few 'Dark Ages', pre-Scientific Method applications. (See Key Terms & Definitions for a compelling story about Dr. Ignaz Semmelweiss, Chief of Obstetrics, who in the 1840's battled these "Dark-Age forces" to save lives in his maternity ward.) Today, polio has essentially been eradicated, aspirin is a major tool against heart attacks and strokes, and even leeches and maggots have proven to have some very specific and beneficial uses, though describing such exceeds the scope of this chapter.

The review commences with the medical profession because of their leading sophistication with analytic, evidence-based applications. The medical story has two distinct categories or phases: advancements in medical knowledge (evidence-based wisdom) - how laypeople now have a keen understanding of beneficial life-style choices, and the amalgamation of such evidence into an algorithmic, evidence-based outcome model, which is freely available on the Internet. The second part focuses on another branch of medicine – psychology, in fact a relatively new branch called Positive Psychology.