Chapter VIII

Bringing It All Together (Data Mining on an Enterprise Level)

Up to now we have presented the fundamental building blocks to understanding the concept of data mining and addressed the prevailing applications within the corporate environment including both the “brick and mortar” style and e-commerce spectrums. The process does not stop here however. In order to implement mining on an enterprise basis, firms must overcome some potentially serious obstacles and address key issues.

The more complex nature of data mining generally limits its use to a smaller population of individuals in a given firm, (although this is not always the case). Because of this, a common drawback to the process of effective Mining is the communication of value-added model results to corresponding users of this information. Just as there exists a gap between IT personnel, (those who know the technical side of systems) and the business user, (those who require IT systems to help solve their problems), there also exists a communication gap between the “data miners” and those who need to apply the resulting models to help solve their business problem.

Other issues which must be considered before implementing an organization wide mining approach entails the development of total mining solutions instead of limiting applications to a few business problems. Decision makers must also avoid the trap of relying too heavily on mining results and must remember that these models are not crystal ball providers of perfect knowledge. Because of this, they must therefore monitor actual business performance against projected measures to maintain model effectiveness and accuracy.

This chapter will provide some insights on how to address these key issues in order to more fully capture the added value that mining technology offers to the bottom line of the firm. It will then reintroduce the mining solution space within the realm of business intelligence technology and the corporate IT system to solidify how the technologies can be utilized as a “business intelligence system.”

THE GAP PROBLEMS:
(Communication and Knowledge)

A key term to keep in mind refers to the “communication and knowledge gap”. Data mining personnel generally include sophisticated analysts, many times involving Ph.D. level statisticians, mathematicians and econometricians. This of course is the highest end of the spectrum; However the majority of proficient miners have a good sense of statistics that enable them to create credible, reliable models. This poses a problem, since many decision makers don’t have the specialized expertise nor the time to fully understand the mining process or how to effectively utilize corresponding models. What you have then is the potential for a separation of the business user (those who fully understand the business application) and the miners (those who are one step removed from the real-time environment and are more numbers orientated). This separation could result in deterioration in the overall mining process. The process here not only refers to creating models but effectively implementing their results to enhance firm productivity. The specialized personnel creating corresponding models can sometimes miss critical information that may impact an application. So what seems to be a robust model (statistically sound result), may be too far removed from reality to provide a value-added solution for the business population.

Another problem regarding data mining deployment involves ineffective implementation of value-added mining results to the proper users. Model forecasts, profiles and segmentation results are often buried in the analytical zones of a given enterprise. For example, analysts may create reports and conduct presentations about what mining results imply to business strategy but decision makers fail to correctly implement the process that is required to achieve results. In other words, “the model looks fine but we’ll stick with our way of making decisions.” This may be a function of either not trusting the mining analysis or not fully understanding the process. Regardless of the source of rejection, the bottom line remains that these limitations are a result of a knowledge and communication gap between the mining and non-mining community.
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