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THE ROLE OF COMPLEX MATHEMATICS IN DRAMATIC MARKETING IMPROVEMENT

The world is moving into a new age of numbers. Partnerships between mathematicians and computer scientists are bulling into whole new domains of business and imposing the efficiencies of math. This has happened before. In past decades, the marriage of higher math and computer modeling transformed science and engineering. Quants turned finance upside down a generation ago. And data miners plucked useful nuggets from vast consumer and business databases. But just look at where the mathematicians are now. They're helping to map out advertising campaigns, they're changing the nature of research in newsrooms and in biology labs, and they're enabling marketers to forge new one-on-one relationships with customers. As this occurs, more of the economy falls into the realm of numbers [1].

Our article is designed to tell producers and distributors that marketing has much to do with complex mathematics though it is not always obvious. We do believe that it makes sense to emphasize a new way of thinking that is radically changing the way marketers do their business. The world of mathematics is giving companies a competitive edge in better understanding customers. Nowadays a lot of companies across all industries capture data create rich client profiles and formulate models of both customers and employees in order to predict their needs, requirements and even future desires.

It is well known that marketers have always wanted to know more about the behavior of their customers and then craft smarter and more appropriate responses to interested audiences. Thanks to mathematics the world of marketing will never be the same again. After all, preferable division and targeting of a client base encourages to improve marketing ROI (Return On Investment) and ultimately increases satisfaction as customers are not bombarded with irrelevant offers.

Fortunately for marketers, advances in information technology (both applications and infrastructure) have made it easier to capture, manage and analyze data so as to piece together a more complete picture of customer behavior and of enterprise operations. For example Google and other companies use mathematics via analytical applications based on complex mathematics in order to sort out "swelling oceans of data" and mine data for insights to better understand customers. Many other companies use advanced algorithms to make sense of unstructured data (emails, documents, call center notes), and optimize online advertising campaigns through the refinement and selection of keywords for search [2]. Google has proved that using mathematics to better understand customers is serious business.

In the early 1980s, marketers are starting to reap the brainpower of mathematicians, physicists and others as they codify their expertise and knowledge

into sophisticated information technology systems and analytical applications. These innovative systems are helping marketers leverage information to better connect with customers and drive the business forward.

Now we understand what skill sets marketers will need in the nearest future to be able to compete in this new world of mathematics and marketing. Maybe it's time for you and for your company to start to treat data as one of your most valuable assets?!

References:

1. Bloomberg Business week Magazine, "Math will rock your world", 2008
2. "Guessing the online customer's next want", by Eric A. Taub, 2010