IT’S NOT ABOUT BIG DATA:

IT’S ABOUT BIG DATA “COMPRESSION”!

AMA - ECMI - EMAC
Marketing & Innovation
Symposium

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The “Faucet of Big Data” Is Turned On: And, We Are Never Going Back!

GPS Location
(“action and space”)

Social Network
(“mine and others”)

Eye Tracking
(“fast and frequent measurement”)

Data Fusion
(“Many Variables”)

nielsen
The More We Learn, The More We Forget
“Smart Data Compression”
Sampling: The $\sqrt{N}$ is Your Friend

Big Data Just Became Smaller Data
Meta-Analysis: $1 + 1 < 2$ is Your Friend

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Big Data Just Became Smaller Data
Getting Rid of Old Data: Time is Your Friend

Big Data Just Became Smaller Data

Data Aggregation: The Information in the Margins is Your Friend

Big Data Just Became Smaller Data And You Did It On Purpose!

Data Fusion: Grabbing Information “When you can” is Your Friend

Function Approximation: Math Is Your Friend

---- = Truth
Computation = 36 Hours

---- = Approximation
Computation = 2 seconds

Time Just Became Smaller


The Next Frontier: Statistical Sufficiency/Data Compression is Your BEST FRIEND!

Recency (R): the last time the customer purchased.
Frequency (F): number of purchase occasions.
Monetary Value (M): average dollar value spent.

Data = [date stamp, amount] for each transaction

Three Numbers (R, F, and M)
Be Careful, You May Be Throwing Away Valuable Information

Do these Customers Look the Same to You???


Clumpiness Matters: Be Careful!
What Does The Future of Data Compression Look Like?

Answer: I don’t know, but here is what my future looks like

* Fast Computational Methods
* Data Sufficiency
* Aggregate Information Analyses (Link to Privacy)
Thanks!
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