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Derived Importance Can Be a Contrived Disaster—Correlation Really, Really Doesn't Mean Causation

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For thirty years, academic researchers have published over 60 studies on the relationship between marital status and personal happiness. The conclusion? Marriage works wonders. Since married people have been found to be happier than singles, the state of marriage must be a "causal agent" contributing to a couple's bliss.

But now a large-scale, 15-year longitudinal study involving more than 24,000 people challenges this long-held belief that "The state of marriage" makes people happy. This new study shows that most married people were happy and satisfied with their lives **long before** they actually got married.

Now some might question overturning a long-held belief supported by over 60 studies based on the results of one opposing study, but we wouldn't. You see, those 60 studies were driven primarily by cross-sectional correlation analysis—essentially comparing all marrieds versus all singles at a single point in time and observing who's happier. Seeing a high correlation between marriage and happiness, researchers “derived” the importance of marriage to happiness and incorrectly concluded that marriage lead to happiness.

But as anyone who has ever taken an introductory statistics class will tell you (because professors drill it into their head), correlation **does not equal** causation. It’s a plain fact that evidence of a relationship reveals nothing about the cause of the relationship; derived importance is by no means an exception to this inescapable truth. Nevertheless, researchers not only in the social sciences, but also in marketing, continue to act like it is, particularly in studies of brand positioning and of customer satisfaction.

Too many marketing researchers have been telling companies that they don’t have to query respondents to find out what’s really motivating: all positioning and satisfaction research requires is correlation analysis. As part of a sample survey researchers pull out a list of 30 or more product and/or service attributes and benefits and ask respondents to rate different brands on each dimension. For a soft drink, as an example, a researcher might ask how satisfied a respondent is with taste, carbonation, youthfulness etc. The survey then goes on to ask about the likelihood of purchase and/or overall preference for each of the same set of brands.

The next step is to run correlations between each attribute/benefit (or factor) and the dependent variable of purchase interest or behavior.

Ceteris paribus, the attributes and benefits that yield the highest correlations with likelihood of purchase and/or overall preference (positive or negative) are labeled the “Most Important.” Thus, they’ve derived the importance of the attributes and benefits.

Yet the winning attributes from this analysis may really be losers and vice versa. See the six illustrations from the soft drink category below for further insight into this problem. But as an example, for a soft drink, the presence or absence of carbonation or an energy stimulant such as taurine, the image of youthfulness or a health claim might be revealed to be unimportant (when, in fact, they can be very powerful), while a red and blue can and a consumer hotline might be (incorrectly) revealed to be the drivers of preference.

Conclusion: Beware of traditional correlation-based measures of derived importance. They're liable to bring you toward a contrived disaster. It can be a path to the wrong strategy.

<u>Six Illustrative Problems with Derived Importance</u>

A Soft Drink Case

Price of Entry Example:	**Reverse Causality Example:**	**Irrationality Example:**	**Unfamiliarity Example:**	**Spurious Correlation Example:**	**Innovation Example:**
If an attribute or benefit is so important that everyone wants it and every brand delivers it (e.g. carbonation in a soft drink)	If an attribute or benefit is associated with market leadership because consumers believe the best <u>must</u> offer it (e.g. a global consumer soft drink hotline which offers advice on ingredients and recipes)	If an attribute or benefit is intangible (e.g. youthfulness in a soft drink), some consumers have trouble rating brands high or low on this dimension – in part because it's irrational to apply animate descriptions to inanimate objects	If an attribute or benefit is relatively unfamiliar, never heard of before (e.g. the "Taurine" in *Red Bull*)	If an attribute or benefit is not important but big brands have it (e.g. a red and blue can for a soft drink) and small brands don't	If an attribute or benefit is breakthrough, innovative and, therefore, no brand currently delivers it (e.g. a health claim for a soft drink)
↓	↓	↓	↓	↓	↓
All companies achieve high scores	Big brands get high scores; small brands low scores	Scores are low and randomly distributed across brands	All companies achieve low scores	Big brands get high scores; small brands low scores	All companies achieve low scores
↓	↓	↓	↓	↓	↓
Correlation will be zero: implication - no importance	Correlation will be high; implication - high importance	Correlation is weak; implication – no importance	Correlation will be zero; implication - no importance	Correlation will be high; implication - high importance	Correlation will be zero: implication – no importance
↓	↓	↓	↓	↓	↓
Yet if you strengthened a brand on a "price of entry" dimension, the brand <u>might</u> perform better; take it away and the brand would suffer badly	Yet if you took this characteristic away, no one would care and monies could be better spent on something else	Yet if the dimension is highly appealing, as is the case with youthfulness, and the brand is positioned as delivering on this dimension, the brand would benefit.	Yet if the dimension is or could be highly appealing, and the brand offered it, the brand would benefit	Yet if you strengthened the big brand on this dimension, nothing would happen; strengthen the small brand and you would create brand confusion	Yet if the dimension is highly appealing, and the brand offered it, the brand would benefit – it would be a successful new product