

The Inconvenient Truth about Customers

- White Paper 100

Customers have always changed to follow new opportunities but, in today's world, they also change in other *measurable* ways. Prior to last summer (2008) opportunities were more stable and consequently, so were Customer perceptions and needs. However, today, to preserve value, Customer perceptions also change, as they adapt-to changing conditions, and emerge with niche needs that can quickly eliminate suppliers. 'Knowing your Customer' is now a dynamic issue. Today's most successful Customers are moving targets and staying on-target is now problematic. Do your present methods accurately predict these emerging niches and help keep you on-target?

Jonah Lehrer, in his new book "How We Decide", discusses these above observations based on several modern discoveries of neuroscience, "For too long, people have disparaged the emotional brain, blaming our feelings for our mistakes. The truth is far more interesting. What we discover when we look at the brain is that [*emotion and reason*] depend upon each other. If it weren't for our emotions, reason wouldn't exist at all." These conclusions may, at first, seem strange.

By way of explanation, Lehrer continues, "When it comes to the new [*neocortex*] part of the brain, evolution just hasn't had time to work out the kinks [*in our "short" 6 million year evolution*]. The emotional brain [*R-Complex, Limbic System*, http://en.wikipedia.org/wiki/Triune_brain], however, has been exquisitely refined by evolution over the last *several hundred* million years. Its 'code' has been subjected to endless tests, so it can make fast decisions based on little information... The result is that the uniquely human [*neocortex*] areas of the mind depend on the primitive mind underneath. The process of thinking *requires* feeling, for feelings are what let us understand [*intuit*] all the information we can't *directly* comprehend. Reason without emotion is impotent."

In an MIT Technology Review (8/25/09)... "New Measure of Human Brain Processing Speed"... "... a new way to analyze human reaction times shows that the brain processes data *no faster than* 60 bits per second." See: <http://www.technologyreview.com/blog/arxiv/24030/>. Note: This is not a new result, simply a recent test, i.e., this has been confirmed many times since the early 1950's. The above *emotional code* is the core reason why *only* 60 bits-per-second are needed for us to process, and then react to, the world. In our modern age, *billions* of bits-per-second are expected (even in cell phones!). That is, our extremely low (brain) data rate reflects our enormous, encoded (subconscious) knowledge of the world: this encoding allows a tiny data rate to keep us (our perceptions and our reactions) in sync with the *real* world around us.

As an example of this "emotional" coding, Lehrer discusses how a ballplayer 'decides' to hit a fast ball in the 1/3 second it travels to home plate! Clearly, mind and body cannot *consciously* respond *this* fast. In another [example](#) (Doyne Farmer: July 1994 interview "Cracking Wall Street" for Wired magazine), players do not catch fly balls by first solving physics equations! No mathematical model, describing the trajectory of a fly ball, has ever been used by any ballplayer to: A) Arrive at the correct field position, B) Hold the glove in the right position, and C) Catch the fly ball.

Tested over several hundred million years, this code "reflects a vast amount of invisible analysis", *subconsciously* processing *all* sensory data, then *consciously* provides us an *intuitive* response. There's a gunshot, we duck! A pitcher throws a fast ball: we 'decide' to hit it (in 1/3 second). An outfielder hears our bat crack and "knows" where to run to catch our fly ball! Most startling, see Bruce Lee play ping pong with nunchucks <http://www.youtube.com/watch?v=8Nf68nsx6b4&NR=1>. The key feature of our emotional code is its simultaneous response to *many* sensory inputs. For a new analysis paradigm to mimic this several hundred million year old code, it must also *simultaneously* process *many* inputs: Scarce Ideas has developed this type of analysis paradigm.

Scarce Ideas can apply these ball and ping pong analogies to predict Customer changes by understanding how your Customers 'hit and catch balls' in today's more complex world. Prior to last summer, we were all playing softball. However, given today's increased complexity, the business world's now playing Lee ping pong... not softball! The old curse says: "May you live in interesting times"; clearly, this curse is now upon us. However, how has business responded? Recent questionnaires have probed Customer needs and promised to tune your products and services to better fit the needs of your rapidly changing Customers. Can Customer surveys deliver on this promise? Yes, they can, but do yours?

For a practical example of survey / analysis effectiveness, see [Fast Company](http://www.fastcompany.com/magazine/137/why-america-is-addicted-to-olive-garden.html), July/August 2009, with the lead article "Why America is Addicted to Olive Garden". Clarence Otis, the CEO of Darden Restaurants, the company that owns Olive Garden, says, "You hear people in the restaurant industry say, 'I have a feel for the business'. On the continuum of intuitive restaurants versus systematized, analytical restaurants, we're very analytic. The direction of our business is based on understanding Customers." The article goes on to state, "Over the past year, Darden's 22-member Customer-insight team invited 16 million Customers across its six chains to answer guest-satisfaction questionnaires. The company won't disclose results but claims the feedback predicts shifts in traffic at individual locations." You can read the complete article at:

<http://www.fastcompany.com/magazine/137/why-america-is-addicted-to-olive-garden.html>

Scarce Ideas offers new technology services that sense, then help you respond-to, Customer changes using Survey (*Preference*) Data. However, our services also use this Preference Data to re-interpret your existing Customer (*Database*) Records. This synergistic combination of data sources is further discussed in this introductory White Paper, i.e., combining Survey and Database Records to develop a more complete, predictive understanding of your Customers. In particular, Preference Data acts like a window on Customer perceptions: it foresees Customer decisions.

Preference Data reflects (can assess) the state of the emotional mind discussed in Lehrer's book; see page one (1). This helps predict (then, uses) Customer-needs to tune your existing products/services, and suggests new products/services to satisfy truly new Customer-needs. That is, while gauging your present products, this service can also suggest viable new products.

Of course, new product viability must more-than-balance your internal, new product development cost against projected profits, i.e., via the estimated value new products would offer Customers.

Reacting to complex Customer perceptions and decisions may seem as-complex-as the Customer perceptions and decisions themselves. However, our new technology services operate outside the normal range of today's analysis and routinely handle such complexities. That is, Scarce Ideas does not require your Customers to behave *linearly* (a frequent, unfortunate analysis assumption!), we thrive on the non-linear, chaotic behavior that better characterizes human complexity.

This new analysis paradigm (**ECAT**, see below) decodes dynamic, complex Customer behavior and is nearly ideal in Business, Marketing, Venture Capital and Scientific venues where such methods, though highly effective, are usually assumed to be too complex to apply. Let Scarce Ideas help prove otherwise by helping you create new profits using these new technologies.

ECAT (Emerging-Customer Analysis Technology), mentioned on the Home Page, delivers these above promises/goals. **ECAT** discovers the new, self-organized categories Customers form as they emerge from the complex process of adapting to changing conditions. These so-called *emerging* categories are the market targets your present products may satisfy, but can also define new products you *could* design to meet new market targets: more on this below. These categories define the total set of emerging opportunities as well as all existing, stable opportunities.

The idea of 'self-organization' is simply the *normal* way people (and Nature) react to complex situations. That is, in response to complexity, people naturally form unique Categories ('groups'). Where, each such group contains Customers having *similar* preferences (needs), i.e., it is these uniquely similar Customer preferences that *define* the uniqueness of each Customer group.

To detect *emerging* (and, stable) groups, Scarce Ideas *simultaneously* processes Preference and *existing* Customer Database Data. Synergistically, in keeping with Lehrer's observations, Preference data reveals the emotional, predictive aspect of Customer decisions, while Customer Database data reveals the normal (historical) facts about past actions of these same Customers.

As an added feature, our technologies do not force you to limit your number of variables (columns), nor do we require your variables to behave in any particular way. This offers new freedom in your ongoing quest to understand and predict the activities of your Customers.

However, the major inconvenient truth about Customer Categories is... they are transient things. That is, they continuously emerge from new market data, live for awhile then dissolve into *newly* emerging Categories... as data changes. For example, categories-of-old like Olds buyers, Buick buyers, Chevy buyers, etc., are now seeing the end of their classic run as buyers shift to more practical ownership reasons such as economy, safety, reliability, maintenance, etc.

However, the 2008 financial meltdown, driven by toxic paper, government rules, energy costs (exacerbated by Asian *demand*) and sleeping industry giants has combined broad-based, hyper-change with major economic and community dislocations due to lost profits and jobs. Still, the chaotic-order, arising from these recent events, estimates the new categories your Customers can create... self-organize... in their desire to satisfy similar needs they had satisfied under last year's (pre-summer 2008) market conditions. That is, under all conditions, Customers always decide best how to use the limited resources available and affordable under the market conditions they personally, directly experience. Truly, these are complex questions, but they are readily analyzed and described by **ECAT** technology services.

If you've had no experience with self-organization, you can see self-organization create-and-run a live, very familiar activity... *flocking birds*. You can watch this amazing, dynamic example at: <http://www.premise.org/main/boids/>

This site simulates the flocking of birds including take-offs and landings. As you watch, note nothing actually repeats: they *quasi*-repeat in truly realistic ways. These artificial birds are called 'boids'. Observing real flocks of birds, most think the *lead* bird is a 'leader', though actually not! Surprisingly, if the lead bird suddenly disappeared, the flock continues unchanged! Why? Flocks are self-organized: all birds *jointly create the flocking pattern*... each bird observes their neighbor(s) then, reacts to those local observations, i.e., the *flock* is robustly *self-organized*. If you wish, you can read about the three (3) rules each boid follows, that *jointly create* a flocking pattern, by Googling: "boids 3 rules". Three (3) simple rules fully self-organize this (above) flocking demo.

Similar to how birds flock, Customer perceptions, and resultant decisions, create self-organized flocks (niches) among all Customers. Using **ECAT**, Scarce Ideas discovers and reveals these Customer niches. The common preferences of flock 'members' can be used to target niche Customers while, the size of a niche is the Volume (and Dollars!) of each (flocking) opportunity. Consistently, the range-of-values, among each of your many variables, reveals the unique identity of each niche, i.e., defines the needed products/services that each **Emerging-Customer** (and stable) opportunity 'decided' to pursue. As you may suspect, **ECAT** uniquely preserves each Customer, i.e., *all* facts about *each* Customer survive **ECAT** analysis *intact*. **ECAT** creates no averages. Each flock member is robustly (Legally) traceable back-thru to your original datasets; something neural networks cannot (Legally) deliver in Banking, Investment and Credit applications.