Applied Marketing Science, Inc.

AMS VOICES

An Idea Sheet from Applied Marketing Science

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"Listening In" Helps Uncover Unmet Needs

In many industries, customers use the Internet to gather product information. To help customers navigate the maze of product information, many websites in the automotive, travel and health industries, for example, now provide "virtual advisors." Monitoring these advisors can help identify *unmet needs* and significant business opportunities.

At MIT, Glen Urban and John Hauser are exploring new marketing research methods to uncover, understand, and evaluate customers' unmet needs. Their methods complement existing approaches by "listening in" to ongoing "dialogues" created when customers use the Internet to search for information and advice about their purchases.

The "listening in" methodology consists of five components – a Bayesian virtual advisor, an opportunity trigger, a virtual engineer, a design palette, and a market-sizing mechanism.

1. The Bayesian virtual advisor recommends specific products based on customer responses to questions in which they express their desires for particular features and uses for the product.

2. The opportunity trigger monitors customers' dialogues with the virtual advisor to automatically identify situations in which existing products do not fulfill the customer's needs.

3. Once an opportunity is identified, the customer is invited to begin a dialogue with a virtual engineer (VE). The VE explores the opportunity through a series of questions, some of which are open-ended.

4. Next, customers with unmet needs are given a design palette (DP) that allows them to "design" their own product. The DP is based on sophisticated engineering models that capture feature interactions and costs. Once the DP is complete, the customer returns to the virtual advisor to receive recommendations.

5. After monitoring sufficient numbers of customers, the data is aggregated with a method called P-matrix clustering. This method groups customers by their needs and provides a rough estimate of the size of the opportunity; that is, the percent of customers who have the indicated unmet needs.

Urban and Hauser have tested their methods with Monte Carlo simulation and applied them to the U.S. pickup truck market. These simulations demonstrate that the method is relatively robust with respect to errors that customers might make in expressing their needs. The initial "proof-of-concept" application was based on over 1,000 respondents who were recruited from an Internet panel to complete the various tasks of "listening in." Three segments of customers with unmet needs were identified, potentially representing billions of dollars in incremental sales. The proof-of-concept application ran independently of more traditional market research at a major automotive firm. The traditional research confirmed one opportunity, which specified a "top-of-the-line truck with high maneuverability"; the other two segments are still being explored.

"Listening in" is designed to be flexible. The virtual advisor, the opportunity trigger, the virtual engineer, and the design palette can all be updated as new vehicles enter the market and as qualitative research leads to hypotheses about desirable new features. The real advantages of "listening in" are that it piggybacks on data that are already being collected, and can monitor customers continuously for market segments whose needs are not being satisfied by existing products.

To learn more about "listening in" and other virtual customer methods, visit http://mitsloan.mit.edu/vc.

— Bob Klein

Zeroing In On Defects

When I was a little girl, I entered a "zero defects" contest sponsored by General Electric. I still remember vividly how my father, an engineer in the aircraft engine group at GE, told us to think of something representing "zero defects," draw a picture of it, and submit it to the contest. I think I drew a picture of a linked chain.

Now the term "zero defects" is closely intertwined with the Six Sigma management movement – and General Electric was one of the movement's early pioneers. In fact, even today on GE's website, they reiterate the central idea behind Six Sigma: "if you can measure how many 'defects' you have in a process, you can systematically figure out how to eliminate them and get as close to 'zero defects' as possible." And if you could reduce these defects down to six "sigmas" – or standard deviations of variation – from the desired mean, this would translate into an incredible 99.9997% production yield – pretty darn close to "zero defects"!

Today, Six Sigma is being adopted by companies in record numbers. And while the term was originally coined from the world of statistical process control, it is now used more broadly to apply to all kinds of processes, some of which – such as new product and service design – could never possibly achieve that level of conformity to specifications. But the underlying principles remain highly relevant:

1. Identify the core processes and key customers;
2. Define customer requirements;
3. Measure current performance;
4. Prioritize, analyze and implement improvements; and
5. Expand and integrate the Six Sigma system.

This systematic approach is precisely what AMS has been advocating since its founding in 1989 – long before the term "Six Sigma" was even invented! While traditionally viewed as specialists in Voice of the Customer studies and QFD, AMS has in fact actively participated in many Six Sigma processes. Our proven VOCALYST® methodology is used both for "identifying key customers" (part of #1 above) and "defining customer requirements" (#2 above). And performance measurement (#3 above) requires ensuring that the right things are being measured – an area in which VOCALYST excels.

Once we have identified the full set of customer wants and needs, we often employ QFD, or "Quality Function Deployment" to link customer wants and needs to the detailed specifications that define the product or service. Just as in #4 above, QFD forms the basis for choosing appropriate metrics and identifying areas ripe for process improvement or new product development. While the jargon surrounding quality improvement has changed with the Six Sigma movement, most of the concepts remain the same – closely resembling the approach that AMS has advocated for more than fourteen years.

Though I didn't win the "zero defects" contest, I can marvel at the fact that some thirty-odd years later, the term "zero defects" is still in vogue at GE – and practically everywhere else, it seems. So I guess what they say really is true: The more things change, the more they stay the same.

— Michelle Harris with Greg Fitzgerald

AMS Voices is a forum for new ideas in management. It is published by Applied Marketing Science, Inc., leaders in using Voice of the Customer technology to develop superior products and services. We'd like to hear from you. If you have an issue you would like addressed, or have other comments, please contact us:

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