Prediction Markets for Concept Testing:

An innovative way to improve the speed and accuracy of online concept tests

PRINCIPLE CONTRIBUTOR
Jared Heyman, Founder and President of Infosurv

YOU WILL LEARN

- Why prediction markets deliver accurate concept tests more quickly than traditional methods
- How prediction markets work
- Why prediction markets are more cost effective than traditional methods
- When to utilize a prediction market for your research

Executive Summary

Quantifying the potential success of products, packages, and creative materials has always been challenging—particularly in the accelerated pace of today’s markets. Tried and true methods such as monadic concept test surveys produce valid results, but this approach can be cumbersome, costly, and time consuming.

Prediction markets have been hailed by leading academics like Wharton’s Justin Wolfers as well as popular best-selling commentators like Wisdom of Crowds’ author James Surowiecki as the way to achieve accurate insights into the future of your concept—at a fraction of the time of other methods.

This paper shows you how to harness the proven power of prediction markets for online concept testing.
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What if there were a better way to do concept tests?

Approximately $24.6 billion is spent on market research annually—much of it on new product, packaging, and advertising concept testing. Accurate concept tests make smart market researchers seem like time travelers, pulling the future forward and revealing which new products, creative designs, and product development ideas will pay off.

But as you know, predictive accuracy comes with an investment—often a substantial one. Fortunately, we’re at a turning point regarding best practices in concept testing. Both academic and empirical evidence mount in favor of harnessing what bestselling author James Surowiecki has named “the wisdom of crowds” through the intelligent use of prediction markets.

This paper is your guide to the latest research, evidence, and methods regarding more effective and efficient concept tests. We reveal how and why prediction markets are becoming a preferred research method for accurate concept testing and why forward thinking corporations like Google, Hewlett Packard, and Eli Lilly rely on it for strategy and direction. We look at iCE, the on-demand prediction market from Infosurv, and discuss how it frees companies to engage in faster, more effective concept testing.

Of course, new methods in market research, just as in all scientific endeavors, have to be rigorously tested and validated before they become mainstream. Once you read this paper, we think you’ll agree that the balance is tipping in favor of prediction markets and you should consider a prediction market for your next concept test. Let’s take a look at why.

The development of prediction markets

So just what is a prediction market?

Prediction markets are speculative markets created for the purpose of making predictions. Assets are created whose final cash value is tied to a particular event or parameter. The current market prices can then be interpreted as predictions of the probability of the event or the expected value of the parameter. (2)
A well-known example of a prediction market is the New York Stock Exchange (NYSE), where investors trade equity shares in public corporations. The share price of a corporation may be interpreted as a predicted value of their future earnings – an extremely accurate prediction in fact.

When celebrated New Yorker financial columnist James Surowiecki wrote the book, *The Wisdom of Crowds*, he shattered the conventional wisdom that a small group of experts is smarter than the masses. He pulled from a wide variety of sources to deliver the idea that the aggregate wisdom of a crowd is better than a poll of a trusted few or even the deliberation of an expert elite.

In fact, his research, which is corroborated by real life examples like the NYSE as well as academic literature, reveals that if the aggregate is properly assembled, the outcomes are actually more accurate than any other research method.\(^4\)

His gives example after example of how diverse groups of regular people routinely exhibit precision and accuracy in their collective wisdom. For example, in the story that opens his book, Surowiecki details how 800 Scottish fair goers estimated the weight of an ox. Of course the intelligence and oxen expertise of the fair goers varied, but in aggregate their collective wisdom was impressive. As a group, their average guess of the ox’s weight was 1197 pounds.

Google uses prediction markets for strategic direction

Bo Cowgill, project manager for prediction markets at Google, says “Sometimes, just feeling lucky isn't enough, and these tools can help.”

Cowgill manages an internal Google corporate prediction market to provide strategic direction on a variety of concepts including new products.

The market has proven remarkably accurate on events from new office locations to new product penetration. "The prediction market is a conversation among employees,” said Cowgill. "This is a conversation that is happening without politics and no one has any incentive to kiss up, fudge the numbers, or sandbag."\(^6\)

His appreciation for the non-bias of participants is something other market researchers can also appreciate—prediction markets remove all incentives to ‘fudge’ or ‘play with’ your opinions, and instead reward only accuracy.

pounds – the ox actually weighed in at just one pound over their guess.

In another example from the book, Surowiecki describes the case of the naval vessel Scorpion, which disappeared. Salvage experts defined a search and rescue zone 20 miles wide—hopelessly large for a successful recover. Non experts, meanwhile, competed over a bottle of Chivas Regal to guess the sunken ship’s location. The aggregated estimate of the group of Scotch aficionados was 227 feet from where the Scorpion was actually found.

Group consensus exhibits uncannily accurate prediction when reasonable diversity, independence of group members, and decentralization are present.

**Prediction markets provide the platform for crowds to exhibit their wisdom**

So how do you provide “a crowd” with the structured ability to deliver its insight? One answer lies in the prediction market—a constructed opportunity for crowds to quickly exhibit their collective wisdom. Prediction markets have proven themselves over and over in recent years. For example, one of the most famous markets, the Iowa Electronic Market, out predicts Gallup polls regarding presidential elections 75% of the time. In a lesser known example, the Hollywood Stock Exchange (HSX) prediction market allows anyone to wager play money on who wins the Academy Awards. In 2000, a group of Wall Street Journal reporters went head to head against the predictions of the HSX when they interviewed 356 Academy judges on their vote before the awards were announced. The WSJ accurately predicted 5 out of 6 awards; the HSX prediction was 100% accurate (6 of 6) and didn’t cost a dime.

The uncanny, but well documented, ability of prediction markets to provide accurate insight has recently gained notoriety in the defense industry. According to the May 6, 2007 paper, “The Securities Trading of Concepts,” which details concept testing research from MIT that was sponsored by the Office of Naval Research (DARPA),

> Our trading experiments show that the market prices of securities designed to represent product attributes and features are remarkably efficient and accurate measures of preferences, even with relatively few traders in the market . . . [and] may offer a particularly efficient screen mechanism for firms developing new products and services, and deciding where to invest additional product development dollars. (5)
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The anatomy of high performance prediction markets

Researchers are particularly interested in the prediction market approach because it ensures that **personal accountability** backs each answer, in much the same way a bet or a stock trade is intentional and personal for the participant. Furthermore, the market itself provides a decentralized framework of values through which decisions are weighed. And add to that, the group of traders self-selects their level of participation and valuation. These attributes make prediction markets much different than polls or surveys.

Across the many empirical and academic approaches to prediction markets, it has been found that three key elements must be present to produce accurate results:

1. Offers in the market must be clearly understood and enforceable
2. There must be an incentive to motivate traders
3. Information discovery and sharing must take place

On Infosurv’s proprietary prediction market known as the Infosurv Concept Exchange (iCE), participants are invited to buy shares in virtual "stocks" representing new product, packaging, design or creative concepts. Traders are rewarded according to their prediction prowess, with real-world cash prizes going to those traders who make the best predictions. Ample details about each stock in the iCE market are provided so traders can make the most informed trading decisions possible.

How prediction markets improve concept testing

**More accurate identification of “winner” and “loser” concepts**

In validation studies **prediction markets have proven more accurate** at predicting the success of new concepts than traditional monadic concept tests. Prediction markets also tend to produce more polarized ratings of the concepts tested, making it easier to differentiate between not only good and bad concepts, but also between good and great concepts.

**Speed**

It can take up to 4-6 weeks to design, field, and analyze a traditional concept test. Turn-around time on iCE concept tests is much less – just 1 week from project kick-off to presentation of final results. iCE projects are completed more quickly due to ease of setup, respondent recruitment, and data analysis.

**Cost savings**

Costs are lower with iCE than traditional concept tests because a "general population" sample can be used for most iCE markets. This always comes as a shock to market researchers since a traditional concept test typically targets respondents within a specific market. However, respondent targeting isn’t usually necessary on iCE since participants have an incentive to “self-
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select” only for markets they think they can win. Nobody likes to lose money, real or virtual. Respondents therefore only participate in studies dealing with topics and market segments they are familiar with, even though they may not be in that segment.

Also, iCE doesn’t ask respondents “Would you buy this concept?” but instead “Would others buy this concept?” iCE harnesses a phenomena known as “the wisdom of crowds” to allow non-experts to answer expert questions often more accurately than the experts themselves.

**Better respondent engagement**

One of the chief concerns in the market research industry today is respondent engagement. Since surveys are often long and uninteresting, respondents have the tendency to rush through just to collect their incentive. iCE respondents, on the other hand, view participating in the marketplace as an entertaining game with both intrinsic and extrinsic rewards. Since respondents can win real world prizes with their iCE dollar winnings, they have ample motivation to remain engaged in the process.

**Easy respondent recruitment**

iCE respondents are recruited just like survey respondents. Top survey panel providers are used to recruit a statistically valid sample of "general population" consumers to participate in every iCE market. Though specific demographic subgroups may also be targeted, it’s usually not necessary. Alternately, a client’s own customers or employees may be used as iCE respondents.

**No risk of misrepresented or “professional” survey takers**

Other major concerns in the market research industry today are respondents who misrepresent themselves to qualify for a survey, and “professional” survey respondents who participate in lots of survey panels and have a disproportionate voice in samples. iCE avoids both of these issues. Since iCE respondents rarely have to qualify for a particular study based on demographic or behavioral criteria, they have no reason to misrepresent themselves. In addition, ”professional” respondents are not a concern because if some iCE participants are disproportionately active in our markets, the validity of the market’s conclusions is only enhanced.

**Qualitative concept feedback**

iCE respondents are given a mechanism for explaining why they buy or sell shares in certain concepts, allowing clients to collect qualitative feedback, which answers the question, “Why?” This feedback can be used to explain the behavior of the iCE market and help the client create more innovative and successful future concepts.
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When to use prediction markets versus more traditional methods

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<tr>
<th>Comparison of concept test attributes</th>
<th>Prediction markets</th>
<th>Traditional concept test</th>
<th>Hybrid approach</th>
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<tbody>
<tr>
<td>Accurate rank ordering of concepts</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Differentiates clearly between good and great concepts</td>
<td>X</td>
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<tr>
<td>Large numbers of concepts to test</td>
<td>X</td>
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<td>X</td>
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<tr>
<td>Concepts contain visual, audio or interactive elements</td>
<td>X</td>
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<td>Low budget</td>
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<td>Fast turn-around required</td>
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<td>Collect general qualitative feedback</td>
<td>X</td>
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<td>Ask specific follow up questions</td>
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Clearly, prediction markets have speed, accuracy, and cost advantages compared to more traditional market research methodologies. However, since they are a relatively new tool in the professional market researcher’s arsenal there is much confusion around when best to use them.

Prediction markets should not be used as a stand-alone tool when extensive diagnostic information about the concepts is necessary. Prediction markets can collect some qualitative feedback from traders to help understand why the winning concepts are winners, but a researcher cannot probe into specific product attributes nor ask questions around pricing or preferred distribution channels.

Prediction markets should be used when an accurate rank ordering of concepts is necessary, when there are a large number of concepts that must be tested cost-effectively, or when clear differentiation is necessary between “good” and “great” concepts. While prediction markets may be used to test new product innovations, they are especially well-suited for product line extensions.

To get the best of all words, researchers sometimes combine a prediction market with more traditional research methodologies like online concept tests or focus groups. For example, a prediction market could be used to quickly and inexpensively identify the most promising concepts and then other methods could be used to “deep dive” into what makes them great and how to improve them.
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Hallmarks of good prediction market studies

As prediction markets become more prevalent in the next few years, we will see a variety of approaches to using them to create more accurate business information. For the market researcher, there are some clear situations where a prediction market or hybrid approach (prediction market + traditional research methodology) are clearly preferable over a pure traditional approach. See the table on the previous page for specific examples.

In general, prediction markets are most cost effective and efficient when your project involves:

- Consumer research
- A large number of ideas to test
- Critical, tight deadlines on time to market
- A necessity for a clear go/no-go decision

Why prediction markets are more efficient concept testing platforms

In summary, prediction markets are efficient methods for concept testing because:

1) They produce more accurate results.
   Studies shows that prediction markets often come to more accurate conclusions than traditional monadic concept tests.

2) They take less time, due to efficiencies in respondent recruitment, demographic profiling, questionnaire design, and data analysis.

3) They cost less, since respondents are motivated by self-interest and do not have to be controlled for demographic variables as precisely, and more concepts may be tested simultaneously.

Because of these efficiencies, you cut out major traditional market research steps when you rely on prediction markets—while enjoying improved validity or accuracy.

Create your own prediction market?

While prediction markets are conceptually simple, they’re surprisingly tedious to create, monitor, and manage on your own. That’s why Infosurv thoroughly investigated best practices in accurate prediction markets to create iCE, the Infosurv Concept Exchange.

iCE is a prediction market that’s been designed for the particular needs of market research concept testing. It’s usable on demand—your concepts can literally be assessed and analyzed in 1 week.

Companies gain an extremely accurate direction in a fraction of the time of traditional studies—and with that time savings, come dramatic cost savings as well.

“Our clients are under intense pressure to conduct accurate market research, quickly and affordably,” says Jared Heyman, founder of Infosurv and market research industry veteran. “For concept testing, prediction markets clearly deliver on all three objectives. Cost and timing considerations aside, prediction markets are fast emerging as the most accurate concept testing methodology around.”

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Academic studies on prediction markets

For anyone wanting an introduction to prediction markets, you can’t find a more readable approach than James Surowiecki’s The Wisdom of Crowds. If you’d like more academic fare, a host of validation studies from a variety of academic institutions provide more ammunition for using prediction markets in concept and other testing scenarios. Currently, the most actively published in the prediction market field are professors from Dartmouth, Wharton, MIT, George Mason, and Stanford. Please consult our table of references below.

Table of References

(1) Surowiecki, James. Anchor Publishing, 2005. "Large groups of people are smarter than an elite few, no matter how brilliant --better at solving problems, fostering innovation, coming to wise decisions, even predicting the future."


(3) Rhode and Strumpf, "Historical Prediction Markets: Wagering on Presidential Elections, UNC Chapel Hill, 2003. According to Paul Rhode and Koleman Strumpf, prediction markets almost never got it wrong forecasting the 19 presidential elections that took place from 1868 to 1940.

(4) Masse, Chris. "CHRONOLOGY & HISTORY: Prediction Markets Timeline", Midas Oracle http://www.midasoracle.org/predictions/timeline/ Robin Hanson was the first to set up and run a corporate prediction exchange —at Xanadu, Inc., in April 1989. Robin Hanson: “I started a market at Xanadu on cold fusion in April 1989. In May 1990, I started a market there on whether their product would be delivered before Deng died.”

(5) Servan-Schreiber et al, "Prediction Markets: Does Money Matter", Electronic Markets, September 2004. “Researchers have closely studied the predictions...in these markets and have found them to be remarkably accurate.”


(7) Snowberg, et al. "The Wisdom of Crowds, Information Efficiency in Prediction Markets,” The Wharton School, February 2005. “The incentives provide by a prediction market must be large enough to motivate the collection and sharing of information through the market mechanism...The presence of a few informed traders can still lead to very accurate predictions. "

(8) 2007 CASRO Data Trends Survey presentation based on 2006 figures, as presented at the 2007 Data Collection Conference held on November 28, 2007 in New Orleans.

Principle Contributor

**Jared Heyman**

Jared Heyman is the founder and president of Infosurv, a full-service market research firm specializing in design, administration, and analysis of online and telephone employee, customer, and market research studies. He leverages years of marketing research expertise to build for his clients the high-value, actionable intelligence they are searching for to facilitate the success of their strategic-level decisions.

Heyman is often sought by businesses nationwide as an expert in marketing research and management. He is quoted as a marketing research industry expert in everything from trade publications such as Quirks and Marketing News, to marketing research blogs such as Web Analytics World, to major media outlets such as the Chicago Tribune. Before founding Infosurv, Heyman cut his teeth as an intern and later a management consultant at Bain & Company, a global leader in business and strategy consulting.

Heyman administered his first market research survey while at Collective Technologies in 1998. It was this experience that made him realize that there was definitely room for improvement in the marketing research arena. Jared Heyman left Collective to launch Infosurv just months later—with J.D. Edwards as the first client. A fourth-generation entrepreneur, Heyman’s family is proud of a long lineage of successful companies featured in the family scrapbook.

With an initial startup cost of less than $3K, Infosurv has experienced exponential growth over the past ten years to become a global market research leader specializing in online research. Infosurv currently has a client base of over 300, including dozens of Fortune 500 and major government agencies, and continues to raise the bar in affordable, effective market research, customer surveys, and employee surveys.

Jared Heyman graduated from the University of Texas at Austin with a BBA, double majoring in Business and Marketing Research. Fluent in Spanish and an avid traveler, he also has an extensive international portfolio, with cultural experience in Spain, Greece, Turkey, and Southeast Asia.

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Find Out More

This paper is part of the Infosurv Insider series, an educational and informational series established by Infosurv to help demystify modern market research.

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