

# **INKLING: ONE PREDICTION MARKET PLATFORM PROVIDER'S EXPERIENCE**

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## **ABSTRACT**

This article presents a prediction market vendor's experience in providing publicly available and private play-money prediction market services to international corporations and other organizations. We describe why our experiences as IT and management consultants drove us to start the company and give an overview of the successes and pitfalls our clients have encountered during their prediction market trials. We also discuss several lessons learned we share with our clients in the areas of participation, incentives, communications, and appropriate questions to ask and explore why some prediction market pilots fail while others succeed.

## **1. INTRODUCTION**

An IT project manager at a mid-size energy company knew he had a problem. Windows Vista was being rolled out to the entire organization (10,000 people) and the project was behind schedule and slipping further. Budgets were already in the red and no one was sure if there were enough resources to complete the project. Compounding the problem for the project manager, three separate vice-presidents in the company were responsible for the project and their direct lieutenants were keeping them in the dark about the magnitude of the problems the project was facing.

Going above several layers and speaking directly to the vice-presidents was political suicide and getting anyone else to sit them down for an honest conversation was simply impossible. The IT manager told us he was left with the following options for getting the help he needed to get the project back on track:

- Do nothing and hope the project recovers
- Contact the vice-presidents anonymously with supporting information

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- Mask the problem by requesting more funding to hire consultants who could hopefully right the project

Ideally if someone with decision making authority and budget oversight were aware of the problems the project was facing, they could provide more funding, re-organize the team, or simply reduce the scope of the project and extend its deadline while providing political cover from the rest of the organization.

The IT manager knew the corporate culture driving this problem was a larger fight for another day. In the meantime he needed a credible and convincing way to convey the magnitude of the problem without facing the firing line by himself or getting anyone else in trouble.

He needed a prediction market.

*a. The Rationale For Inklings*

Consulting for some of the largest companies in the world over a 10-year span gave us deep insight in to how a modern day company operates. We were fortunate to work for telecommunication companies, financial institutions, state and federal governments, automotive companies, chip manufacturers, and media and entertainment companies, but more importantly we were exposed to all levels and areas of these companies, from IT to finance to product development, from customer support representatives, to programmers, to CEO's, CFO's, and CIO's. While we didn't fully comprehend what we were seeing at the time, we did notice some disturbing trends:

- Office politics were rampant in every company we worked;
- We spent too much time “spinning” information on behalf of our stakeholders;
- Larger companies had byzantine-like organizational structures making collaboration exceedingly difficult;
- Millions were spent on collaboration and knowledge management technologies that were under-utilized or poorly designed in the first place;
- Useful information existed in isolated pockets of the organization. The dots were rarely connected.

With the onset of “crowd-driven” and “do it yourself” trends in the consumer space, we began to think about these problems differently. After reading James Surowiecki's book, “Wisdom of Crowds” we had our “a-ha”

moment about what our prescription should be: internal prediction markets with a “do it yourself” twist.

However, while Surowiecki and others in the space were focusing on more accurate forecasts being the primary benefit of prediction markets, coming from our consulting backgrounds we thought of them differently. More accurate forecasts are a benefit, but the insight gained of what people in the company *perceive* will be the outcome (even though they may be absolutely wrong in their predictions,) and *exposing* those perceptions may be just as important.

The best managers we’ve seen and read about ask many questions and implore their employees to vocalize issues as early as possible before they become unmanageable. We decided prediction markets could serve as an “early warning system” for the company, giving managers insight in to potential issues and allowing them to take action much earlier than they had been able to in the past. This is why in Inkling, for example, we allow anyone to ask their own question and strenuously encourage our clients to allow this function to be available. The more questions asked and the more input informed employees can give, the better.

Prediction markets in a corporate context stress making information more transparent and attacking internal political machines. Those who have survived in their companies by mastering this game will offer the most opposition to the introduction of prediction markets because they are suddenly losing control of information they used to be able to manipulate. But even these people have an opportunity to come out ahead if they use the information the prediction markets provide to be more effective managers.

#### *b. Our Experience*

The analysis in this paper is based on our experience running or witnessing thousands of private and public markets. The reader can get a sampling of these markets at our public market place, <http://home.inklingmarkets.com>

All of our markets make use of an automated market maker, a computer algorithm that allows traders to always complete a buy or sell order. The market maker, which uses Robin Hanson’s Market Scoring Rule (described in more detail in the Berg et al and Hanson papers in this issue,) allowed us to introduce a simplistic trading interface that could be understood by the general public and employees at all levels and skill sets in corporations. This decision has born out time and again culminating in our largest marketplace to date: CNN’s 2008 Political Markets which saw close to 3 million trades by 55,000+ traders in only 9 months of activity.

## 2. BUSINESS BENEFITS REALIZED

While we had inclinations of how businesses would use prediction markets, we have also learned from innovative managers in companies who have thought of their own use cases. Using actual questions our clients are running in their marketplaces, we’ve outlined four business processes to show where prediction markets have made a positive, but non-traditional impact.

### a. Research and Development Resource Allocation

A common problem in large companies is quantifying the value of research projects, especially those directly related to product development vs. empirical research. One manufacturer with a several hundred million dollar research budget said they needed a credible way to *cancel* projects that had become money pits.

Example Questions	Participants	Value
<ul style="list-style-type: none"> <li>• Will project X be included in a production-level product by X date?</li> <li>• What will be the actual budget required for project Y in FYxx?</li> <li>• Will idea X fulfill cost/benefit analysis requirements?</li> <li>• Will a prototype of X meet defined success metrics?</li> </ul>	R&D, Product development teams, marketing, select field offices, corporate strategy	<ul style="list-style-type: none"> <li>• Resources can be re-allocated based on predicted business impact;</li> <li>• Transparent and inclusive process helps removes politics from resource allocation</li> <li>• Focus returns to allocating resources according to success probability</li> <li>• Broader audience feel they have “skin in the game” in the direction of product development</li> </ul>

### b. Monitoring and discovering strategic risks and trends

Most companies perform an annual risk audit in preparation of their 10-k SEC filing statements. This is an excellent resource to use to run markets about company-wide risk factors and their symptoms. We also suggest companies be as open as possible about allowing their employees to think of

and run similar type markets. A “web” of questions asking about potential risk factors can be a very powerful risk mitigation tool.

Example Questions	Participants	Value
<ul style="list-style-type: none"> <li>• Short term and long term questions about topics such as:               <ul style="list-style-type: none"> <li>○ Supply chain interruption / inefficiencies</li> <li>○ Healthcare costs</li> <li>○ Raw material costs</li> <li>○ Regulatory / legislative environment</li> <li>○ Budget projections</li> </ul> </li> </ul>	Company-wide	<ul style="list-style-type: none"> <li>• Understand viewpoint of risks from diverse sources</li> <li>• Have better control over internal and external messaging related to risks</li> <li>• <i>Everyone</i> is made aware of risks company-wide which changes behavior to address them</li> <li>• Discover risks not previously identified through formal risk audits</li> <li>• Regardless of accuracy of prediction, consensus provides insights in to collective thinking</li> <li>• Augment existing risk models and consulting advice</li> </ul>

*c. Competitive Intelligence*

Most employees, especially in consumer industries, are buyers of competing products. In other industries employees spend time thinking about the competition as part of their jobs, hear about the competition as part of customer support, and generally have a useful perspective on how competing

products will be received in the marketplace. Generally this knowledge is never tapped and should be as part of any competitive strategy.

<b>Example Questions</b>	<b>Participants</b>	<b>Value</b>
<ul style="list-style-type: none"> <li>• How much market share will X competitor gain with new offering Y?</li> <li>• What will quarterly earnings of competitor X be?</li> <li>• What will the volume sales be of competitor X's product?</li> <li>• What new areas will competitor X enter in to in the next 12 months?</li> <li>• Will competitor X merge with competitor Y?</li> </ul>	<p>Company-wide</p>	<ul style="list-style-type: none"> <li>• React proactively to competitor moves</li> <li>• Re-allocate resources based on need to counter competitor moves</li> <li>• Easily involve field offices who are competitive at the local level</li> <li>• Control the public dialogue</li> <li>• Augment existing risk models and consulting advice</li> </ul>

*d. Project Planning*

On large projects, milestones are typically a moving target. There is also pressure on project managers to complete tasks within a certain period of time at a certain budget. Sometimes for political reasons these milestones are unrealistic, yet because of the business climate they are not changed. Prediction markets can be a credible way to expose reality without getting anyone in trouble.

Example Questions	Participants	Value
<ul style="list-style-type: none"> <li>• When will milestone X be completed?</li> <li>• Will the resources needed to begin milestone Y be in place by Z date?</li> <li>• Will the prototype of product/service be available for team X's use by Z date?</li> </ul>	Product development teams, marketing, suppliers, contractors, outsourced relationships	<ul style="list-style-type: none"> <li>• Minimize risk of damaging the brand externally and morale internally because of missed milestones</li> <li>• Re-allocate resources based on actual performance and strategic need</li> <li>• Eliminate "spin" caused by organizational hierarchy</li> <li>• Easily involve 3rd parties who own dependencies in the product development process</li> </ul>

### 3. Q&A WITH CLIENTS USING PREDICTION MARKETS

In preparation for this article we asked two of our current clients to respond to questions about their experiences with prediction markets.

#### *a. Cisco*

##### **What led Cisco to consider using prediction markets?**

There were two main reasons. One was to gain greater insight into what employees were thinking about certain business topics as well as create a collaborative environment for them to do so. The notion of a "weighted vote" on a topic made it even more enticing.

##### **What have been the major challenges of adoption thus far?**

Education is the biggest issue. How do the markets work and what is the incentive for them personally.

**What has been the biggest lesson learned thus far?**

You have to keep up the marketing, communications and evangelism to gain mindshare. The employees have a lot on their plate and you need to make sure they understand the importance and value of prediction markets.

**What value have you seen from running the markets, either quantitative or qualitative?**

When you get a group perspective on the outcome of an event, it gives the business a sense of what is likely and as a result, what the business strategy might be. We think Cisco is at the tip of the iceberg when it comes to Prediction Markets, but there is a ton of momentum.

*b. Global Consumer Products Company*

**What led you to consider using prediction markets?**

We got the idea when reading about the Iowa election market and at the same time dabbling on the Motley Fool stock advisor's CAPS.COM. It was like a lightbulb going on and we knew we wanted to do this for us as an organization. We then read up on the topic and identified 2 potential partners, one of them InKling, whom we ultimately chose to work with.

**What have been the major challenges of adoption thus far?**

First, and most importantly, overcoming management resistance and inertia. This took us a good year to get started. Finding the right sponsors, and also the right language to sell the benefits to upper management was key. We are convinced that with my new set of vocabulary and the right analogies, we have won over at least half of the toughest resisters from our first year of struggle. Implementation relative to getting permission to start was very easy. The second challenge now is learning how to ask questions so that the market predictions are actually valuable to the decision makers.

**What has been the biggest lesson learned thus far?**

Once you find the right language, a large portion of senior managers are excited about the prospects and find it very cool! Especially if you can show them an actual functioning pilot site and can invite them to participate and also use it for getting back in touch with the frontlines.

**What value have you seen from running the markets, either quantitative or qualitative?**

Quantitative value is still being assessed and its still early to tell. We are convinced though that we will learn not if but how we can quantitatively use the tool. We have already seen a lot of "soft" benefits: People starting to read

up on background information to be able to place good trades. Suddenly we have seen commercial people getting more knowledgeable on our technologies and on what's going on the technical testing front and vice versa. It has also added to the camaraderie on our extended team.

#### 4. LESSONS LEARNED RUNNING A PREDICTION MARKETPLACE

In addition to running our own public marketplace, we have been witness to over 1,000 marketplaces and tens of thousands of questions asked by companies large and small, academics, non-profits, and government entities. Along the way we have collected many lessons learned about what business processes can be positively affected from running prediction markets, how best to launch and maintain a marketplace, incentive strategies for keeping traders interested, and how “accurate” the markets actually are.

##### *c. Time Commitment to Run an Effective Marketplace*

Although Inkling provides companies the tools to run an internal marketplace, they do not “run themselves” and a significant investment in time (8-12 hours/week by 1-2 people) is necessary, especially in the first three months of operation to make sure the marketplace is seeded with provocative questions, users receive regular communications about the marketplace, and underlying data is analyzed to provide additional insights.

Beyond the first three months of the marketplace, a more predictable time commitment of 2-4 hours/week has typically been required.

##### *d. How to Launch and Maintain a Marketplace*

Companies typically already have practices, policies, and existing communication channels for launching a new online presence whether it's internal or for external customers. Regardless, these are some highlights of the techniques we've witnessed as the most effective in successfully launching a marketplace (in no particular order):

##### i. Launching a marketplace

- **On the Job Training:** Before rolling out “official” markets, run “play” markets for a few weeks to get everyone acclimated to the marketplace in a low-pressure environment. For example, ask an

entertainment question about a popular television show or ask a question about the company's competition.

- **Heavy Interaction:** Give people plenty of opportunities to ask questions about how the marketplace works. Schedule multiple conference calls or webinars for people to join and do Q&A's. Start an internal blog about the marketplace and interact with users in the discussion threads.
- **Pre-Launch Information Campaign:** While the best way to introduce the concept of a prediction marketplace is to just have people try it, we've seen very effective use of presentations, overview documents, videos, CBT's, etc. as a precursor to inviting people to the marketplace to introduce the concept.
- **Executive Endorsement:** Before spending time in any initiative, employees want to know their time is not being wasted. A brief message by a senior executive stating the results of the markets will be analyzed is all that is usually necessary.
- **The More the Better:** We typically see a 65-75% take-up rate among those who are invited to participate in a corporate marketplace broken down as follows: of those that register, a small percentage of traders will be fanatical users, a large percentage will make a few trades per month, and the remaining may make one or two trades in a multi-month period and otherwise have stagnant accounts. Therefore we always advise organizations to invite as many people as possible (that have some insight in the questions to be asked,) even for a pilot.

## ii. Marketplace Management

1. **Start with More than One Market:** Many ask how many markets there should be when the marketplace is launched. There is no research-based answer currently (that we know of) but there are some wrong answers. Having only one market when launching is a bad idea. Traders put all their money in to a single market and prices become extremely volatile. On the other hand, having 20 markets when only 100 people are participating will decrease the liquidity in each market and invalidate many of the predictions. Ideally if a company can get at least 15-20 traders to

participate in any marketing,<sup>1</sup> the results should be valid.

- **Close Markets On Time:** Closing markets on time means closing them *before* the answer is known. If they are closed afterwards, it's no longer a prediction market.
- **Run Markets With Quantitative Answers:** The biggest mistake made by companies trying to run their own markets is asking qualitative questions vs. questions where the results will be known after a period of time.
- **Do not panic:** Often when markets first launch, their prices seem skewed. Many tend to interpret this market action as some sort of manipulation or unfair influence by a few traders. Let the market run its course and do not fall victim to any conventional wisdom that may exist.

*e. Incentive Strategies for Keeping Traders Interested*

Figuring out the appropriate incentives can be difficult. While one's first inclination is to simply offer prizes, we have not seen this play out as expected. We've assembled an ongoing list of what people have tried or ideas we've had ourselves of how to provide continuing incentives for participation. The most important lessons we've learned is what incentives work are highly dependent on the existing culture of the company and the trading community.

- **Length of Markets:** Ideally the length of time markets are run should be a mix of long-term and short-term, or all short-term. By having some or all markets be short-term, users are more active in the marketplace because they make or lose money more actively. If they are all long-term, they will place their initial trades and may never come back, especially if new information about the questions being asked is few and far between.
- **Loud and Often:** There is nothing better than being right. When the trading community has accurately predicted something, trumpet it as loud as possible. Suddenly the non-believers may start to become believers.
- **Ongoing Communication:** The second best thing to users participating in the marketplace is reading about the marketplace. Marketplace administrators who have set up blogs to discuss the

marketplace on a regular basis have been highly successful at keeping people motivated to participate. A blog creates a natural community around the marketplace for people to discuss interesting insights coming from the trader's predictions. If there is no blogging allowed or the software is not available, consider doing a simple weekly update via email to all the traders in the marketplace. Write it as a newsletter to keep it interesting and readable. Invite others to publish marketplace updates as well either as a community-driven blog or via email.

- **Introducing New Markets:** Because there are potential “first mover” advantages for newly introduced markets, more astute (note: most active) traders will monitor the creation of new markets closely. New markets also incent less active traders to return to the marketplace and participate because there is a greater likelihood they will find something of interest. Finally, adding new markets, like regularly updating the content on a web site, simply makes it more “sticky” and gives the impression the marketplace is active. Encourage users to use an RSS reader to stay on top of new and expiring markets.
- **Interesting Insights:** Use the data created by people trading to discover other insights. Could the data be married with demographic information to create new interesting insights about a group of people? Has someone shown particularly interesting trading patterns? Is there a market where the conventional wisdom says one thing, the market is saying another? Examples such as these should be highlighted as often as possible.
- **Profile/Interview Your Users:** Traders always wonder what makes the #1 person tick. It is their competition, after all. Why do they participate so much? Who are they? People love to learn more about who is behind the pseudonyms and this only encourages further interest in the marketplace.
- **Champions:** Before launching the marketplace, make sure there are “champions” inside and/or outside the organization who are the public face of the effort. Ideally this would be someone very senior or a widely known thought leader whom people typically respect. Have these people comment on the marketplace a couple

times a month by blogging about it or sending out emails to traders.

- **Cash and Prize Incentives:** We do not think cash incentives are necessary to drive participation. However if organizations decide to offer cash incentives or prizes there are some methods we've seen work better than others. Typically the first reaction is to offer a reward to the top trader in a marketplace. But what inevitably happens is the top trader has much more (play) money than many of the other participants and suddenly the incentive is gone for traders 2-x. A better solution we've seen is to create a lottery system to pick a winner from the pool of users where the probability of winning is higher the more play money one has.
- **Competition as Incentive:** There is nothing quite like competition to drive participation and it is simple to take advantage of the natural organizational rivalries that already exist. For example at one of our largest clients, the marketing group has been pitted against the sales team. Every quarter the net worth's of each group are averaged to see who has performed better and the group that wins receives a reward.
- **Exclusive Access as Incentive:** One final idea for providing incentive is to create two separate marketplaces – one for the “general public” or “general employees” and another for those who have performed particularly well over a period of time in individual markets. For example, a company may have 10,000 employees participating in the “general” marketplace. Every 3 months, that company invites 1,000 of those employees to participate in the “exclusive” marketplace. A prediction market is already likely the only place in corporate operations where title means nothing and notoriety is gained by exhibiting forecasting/trading prowess. Reward that performance with exclusivity and punish poor performance or lack of participation by kicking people out who do not perform and replacing them with fresh blood.
- **Run Provocative Markets** – An organization does not have to run markets like "Will the CEO be fired?" but do not be afraid to ask the tough questions as these get people talking and garner great interest.

- **Let Traders Create Their Own Markets** – Letting traders create their own markets can be an excellent incentive to drive participation as market publishers become proxy evangelists for the marketplace since they naturally want to drive participation for their own market.

*f. Looking for Market Manipulation*

We didn't encounter attempts at active market manipulation until we ran a marketplace for the Chicago Aldermanic elections in 2007. In that marketplace, supporters of candidates began creating multiple accounts and using them to increase prices for their candidates. These accounts are often called "sock puppet" accounts because they are being controlled by a single person. Only after the prediction market began getting attention in the local press did supporters care enough about the perception marketplace prices might bring.

Given the history of Chicago politics, the attempted manipulation should not have surprised us, but monitoring that marketplace, along with other public marketplaces, taught us important lessons about market manipulation when an automated market maker is in use in public marketplaces.

The possibility of manipulation in private marketplaces is through collusion. We will briefly discuss both.

iii. Mistaking Active Trading for "Manipulation" or "Gaming"

Volatile trading patterns are often confused with manipulation of markets. It is therefore prudent to describe typical trading behavior we've seen in markets before addressing the manipulation question.

Let's say an organization creates a market and makes it available for trading. In the beginning of a market, just like during an IPO phase of a new stock, the stocks are volatile. The market is actively capturing people's interest because it's new, people are changing their mind over short periods of time or defending their positions by countering other people's activity with trades of their own, and stocks are moving up and down. *This is a good thing!* It may seem suspicious at first but this is simply people using the markets as they were intended. Over time, the market activity will likely slow as people solidify their positions and reaction to available information has been accounted for, and consensus is reached.

Occasionally we've encountered "hyper-active" trade activity by a few individuals. At first glance it may seem they are trying to "game" the system because they are making many more trades than anyone else. Instead they are

likely doing what any good day trader does: taking advantage of small increases and decreases in market price to make profits in small increments. This behavior is not “ruining” your market or the eventual prediction the market may yield. If the market is actively traded, there will inevitably be others who counteract this behavior. Even if that person amasses a large sum of money and trades one way, the crowd may not agree and can negate this person’s effects on the market as long as there is a large and diverse enough body of traders in that market.

iv. One Person, Multiple Accounts

One person driving funds to a single account using other “sock-puppet” accounts is a difficult but not impossible problem to identify and address. This is usually only an issue in public marketplaces where access to multiple email addresses to sign up multiple accounts is trivial.

If a person is manipulating the market to reach a desired outcome with multiple accounts, a sharp rise will be seen in a single account or several people’s accounts will continue to lose money over a short period of time as one person’s account rises in a single market. Some detective work may be necessary at this point outside of the marketplace. Are the usernames exhibiting this behavior from the same IP address? Do other characteristics about the users seem to follow any patterns?<sup>2</sup>

v. Internal Collusion

Internal collusion is extremely difficult to track unless extensive demographic information about each trader is known. While we are often asked about workers colluding to manipulate prices in a market to their benefit, we’ve never been notified of it occurring. The best anecdote we know to prevent widespread collusion is ensuring the participants in a marketplace are from diverse backgrounds and are numerous. This way motivational factors for colluding are dispersed across a wide variety of people and no one group will have the ability manipulate others in to trading their way.

vi. Do not Abuse Power

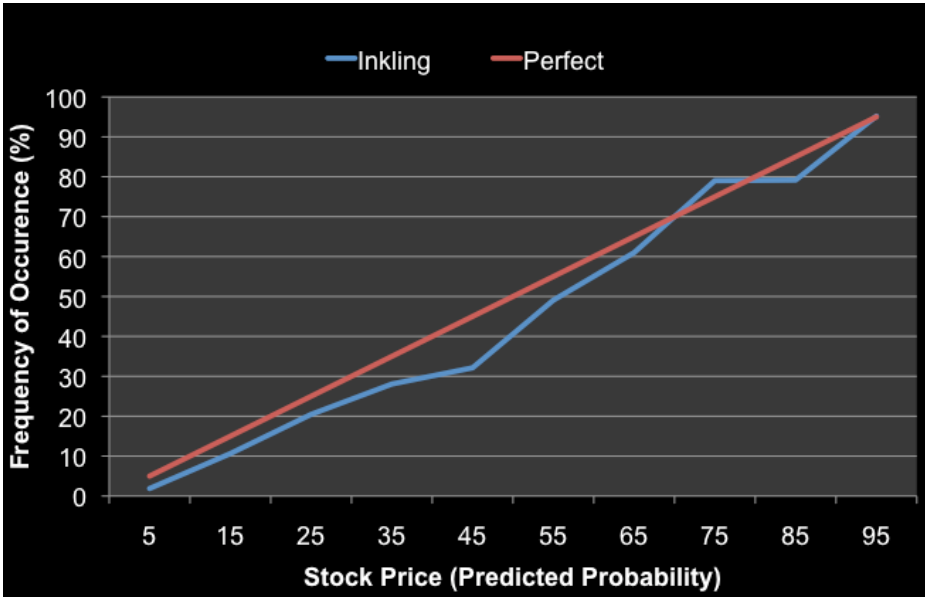
Trading in a prediction market is meant to be anonymous. The marketplace works only if that is *always* the case. The information available, i.e. an individual’s trades, should never be shared with others. The insights derived from the data should be generalized. Even when revealing certain information about traders to drive participation as we suggest, an individual’s

position in a certain market should never be revealed by anyone other than them. Gaining back the trust of traders is extremely difficult.

a. *Marketplace “Accuracy”*

One of our biggest challenges in working with our clients has been how to interpret the results of the markets. Because people are used to seeing poll and survey results vs. thinking about prediction market prices as probabilities, an observer may think a prediction market was “accurate” if the highest priced stock was revealed as the correct answer when the market was evaluated. And while it is true that among the possible answers, one inevitably is deemed more probable than the others, if its final price is fairly low, say \$38, the traders in that market were saying there was a 4 in 10 chance of that answer being correct – not necessarily a ringing endorsement.<sup>3</sup>

Instead, because evaluating the results of a single market does not reveal much about the accuracy of a marketplace, we took Google’s lead<sup>4</sup> and evaluated over 7,000 markets that had been run at the time using the Inking platform. We wanted to see if indeed stock prices, at the end of the market’s lifecycle, reflect probabilities. In other words, if a stock price is \$10, was the answer correct 10% of the time?



The graph reveals some interesting things:

- The prices in the prediction markets do closely represent probabilities
- The greatest discrepancy was in the 40-50 range. Because 50% is essentially a “tossup,” the markets may also be interpreting the answer as a “tossup.”
- The prediction market is serving as an effective filter to discriminate between answers that are highly likely and those that are not
- We were not able to detect any long-shot bias from this data as this does not account for the size of trades made.

*b. Should Your Company Start a Prediction Marketplace?*

Because we offer a free pilot of our platform, we’ve been witness to companies who work through the pilot and continue towards rolling out to large portions of their company and we’ve also been witness to efforts that never make it beyond the pilot stage. We’ve hypothesized that pilots fail for three primary reasons:

- *Scared senior management:* Although one could argue companies with insular and politically driven cultures need prediction markets the most, they are also the most difficult to introduce them to. Employees with decision-making authority that could introduce a cross-department capability like prediction markets are often too nervous to reveal information that may make them look bad and kill pilots before they have a chance to prove their value.
- *Confusion about appropriate questions to ask in marketplace:* Buzz about prediction markets in the popular press has been helpful in pushing organizations and individuals to experiment. However many still interpret their use as another polling or prioritization mechanism. We often see questions that have no verifiable outcome, i.e. “Should we invest in x technology?” or questions that have little or no value to the organization.
- *The numbers just aren’t there:* Even for a “pilot” enough traders must play to provide the diversity and participate rate necessary to provide an appropriate level of input. We are often contacted by companies who want to run a pilot among five to seven “friends.” This is certainly enough people to evaluate our platform but not enough to begin evaluating prediction market outcomes as reliable probability indicators.

In contrast, we've learned pilots tend to succeed for some of the following reasons:

- *Strong support among senior management:* Prediction markets are no different than any other strategic initiative in a company. If senior management is supportive or if the sponsor of a prediction market is part of senior management at a company, the marketplace has a much higher probability of being utilized.
- *Thought leader dedicates him/herself to effort:* Senior management's sponsored efforts often succeed because of their title. Thought leader's efforts often succeed because of the respect they garner. Whether they are at a low or high level in an organizational structure, thought leaders in companies regularly think of provocative questions to ask, draw valuable insights from the raw data the marketplace generates, and works above the limitations set forth by a stove-piped organization to get others involved.
- *Provocative/meaningful questions are asked early and often:* Being enamored with a group of people in a company predicting any future event is not a recipe for long term success. Before asking any questions in a marketplace, a successful administrator should ask: "what business value will knowing the probability of an outcome bring?"
- *Results/insights from the prediction market become part of the corporate dialogue:* When employees are using probability data from the prediction market in status reports and water-cooler conversations, the prediction marketplace has reached a level of credibility that usually foreshadows long-term and valuable usage.

## 5. CONCLUSION

After working for companies across many industries and for clients at many levels from C-Level on down, we saw the need for an application that on its surface improves certain business processes but also addresses shortcomings in corporate culture by making information and knowledge more transparent and driving towards a more "reality-based" environment.

While one could argue prediction markets are applicable to any company large or small, for-profit or not-for-profit, their success hinges on several

factors. They are not a tool one can simply unleash in an organization and value is automatically realized. Communications before the launch of a marketplace and throughout its tenure must be informative and frequent, appropriate incentive structures (and not just ones that involve prizes) must be in place, and questions must be formulated in a certain way to not only ensure the answer can be evaluated but the output from the market is providing business value.

## 6. APPENDIX: TIPS FOR GETTING STARTED WITH A PREDICTION MARKETPLACE IN YOUR ORGANIZATION

Many organizations large and small are hearing about the benefits other organizations are experiencing implementing internal prediction markets. Here are some tips on how to get started:

1. Identify questions to be asked in a pilot marketplace and how answers to those questions will be determined.
2. Understand how those forecasts and risks are being calculated currently, if at all, in order to later understand quantitative ROI of the marketplace.
3. Identify internal “champions” who will support the pilot. These leaders must:
4.
  - a. Be supporters of the concept and regularly encourage their people to participate
  - b. Discuss the ongoing activity in the marketplace during meetings and briefings
5. Identify a broad range of “traders” to participate according to the markets being run. All levels and relevant disciplines should be asked to participate. The more, the better, but a crowd can be “dumb” too. Make sure participants have *some* perspective about a majority of the questions being asked.
6. Setup marketplace with questions and invited users.
7. Determine formal or soft incentives as discussed previously.
8. Define launch strategy and prepare necessary materials. Internal communications shops are excellent resources to help with the launch.
  - a. Training video/presentation
  - b. Communications

9. Setup internally accessible blog or discussion board for participants to discuss marketplace, provide feedback and suggest new ideas for markets.
10. Launch!
11. Highlight participation, accurate forecasts, and interesting insights from marketplace data as soon and loudly as possible.

## 7. ABOUT INKLING

Inkling Incorporated is a Chicago-based company that helps organizations and individuals tap into the collective wisdom of their employees, peers, and customers to improve forecasting processes, predict key corporate metrics, identify promising future innovations, and forge new communication and collaboration channels. Inkling's prediction market platform, Inkling Markets, is leveraged by numerous corporations, start-ups, academic, non-profit, and Government institutions. Information about Inkling's services can be found at <http://inklingmarkets.com> and private, secure pilot marketplaces can be created at <http://inklingmarkets.com/trial>.

### NOTES

1. Jed Christiansen "Prediction Markets: Practical Experiments in Small Markets and Behaviours Observed" The Journal of Prediction Markets 2007 1, 17-41.
2. Since running the Aldermanic markets, we've developed many monitoring tools for marketplace administrators to look for patterns of collusion.
3. We have not formally researched why in some markets there is sometimes a clear leader with a high probability vs. a leader at a lower probability. We can hypothesize however that this is either due to a lack of participation in the market, not enough information available to traders, or a conflict among participants about the prediction.
4. <http://googleblog.blogspot.com/2005/09/putting-crowd-wisdom-to-work.html>

