

Socialized Innovation

Tapping into Motorola's Collective Intelligence



Rami Levy

*Distinguished Member of the Technical Staff
Technical Lead and Manager
Motorola Open Source Technologies (MOST)*



PREDICTION MARKETS CLUSTER
Leading Collective Wisdom

Chicago, IL

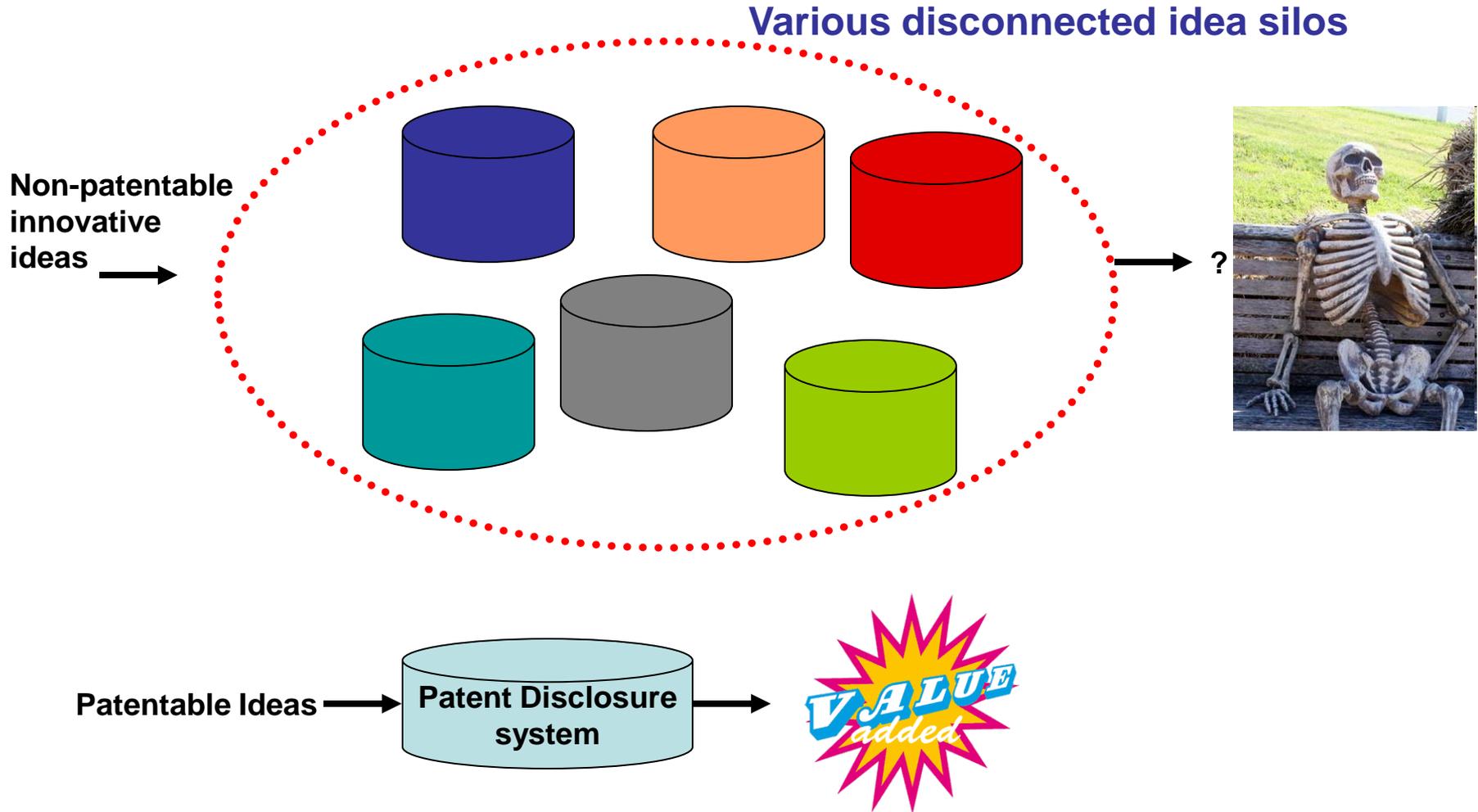
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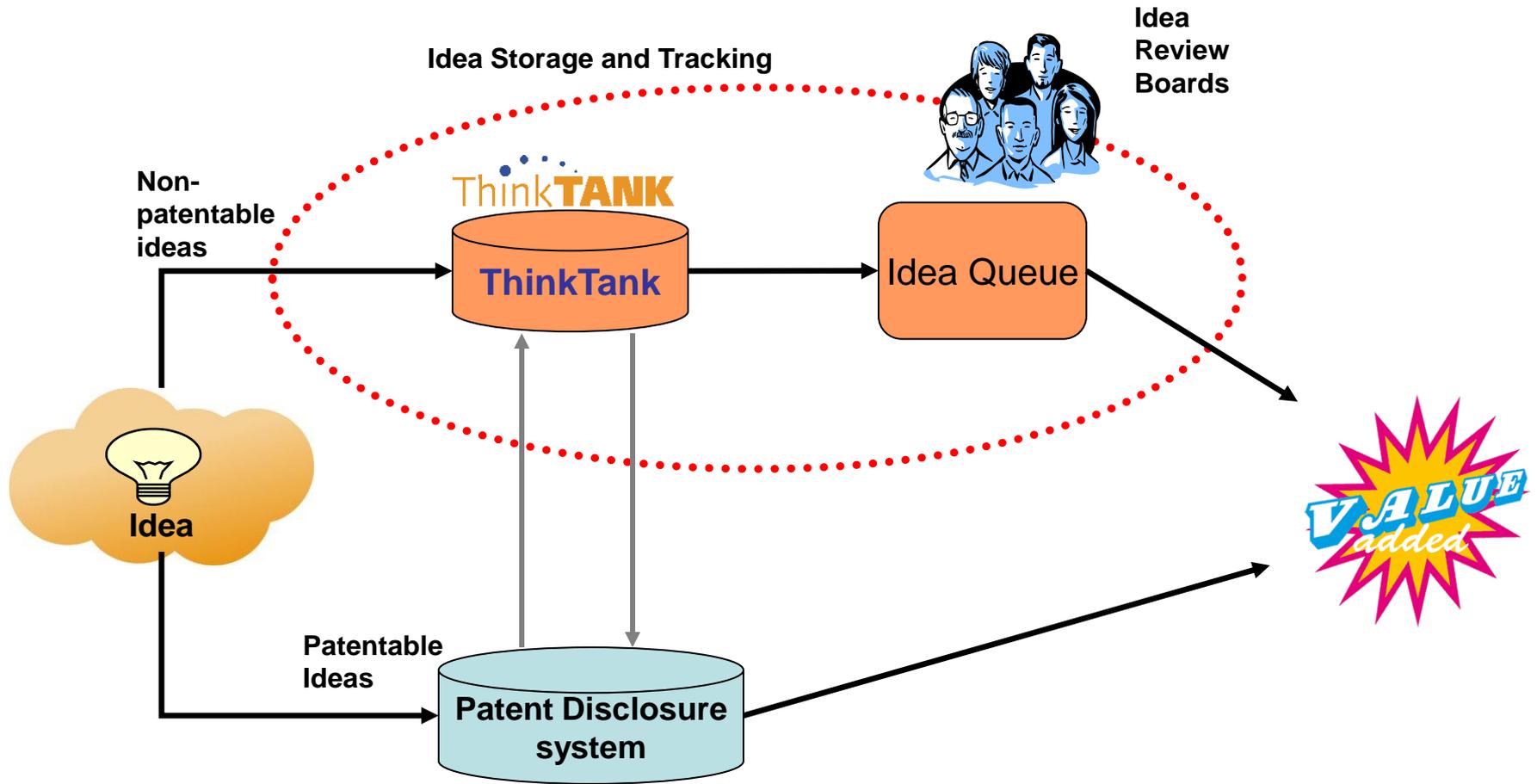
**None of us is as smart
as all of us.**

*Ken Blanchard
Author and management expert*

Innovation Front-End @ Motorola Pre-2003



Innovation Front-End @ Motorola 2003-2007

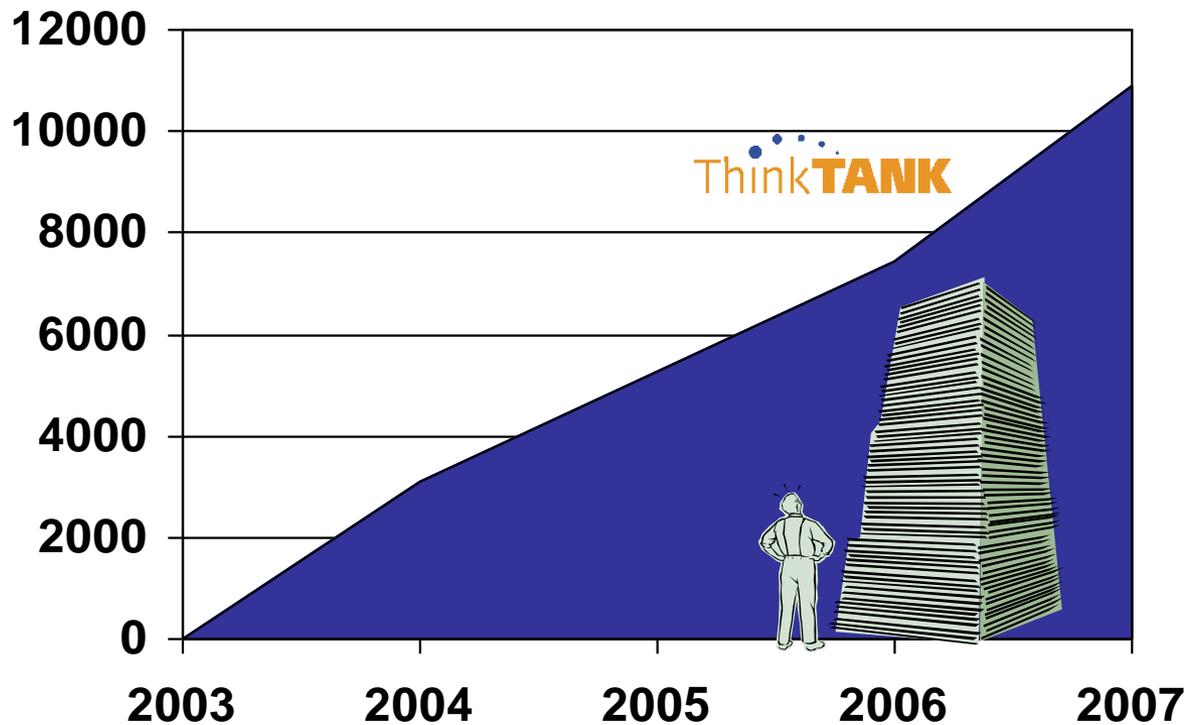




Identifying the Great Ideas

- There is no shortage of ideas at Motorola
 - 200 ideas per month (avg.) flow into ThinkTank alone
 - 16K+ ideas currently in ThinkTank

Cumulative ideas



Success / Disaster



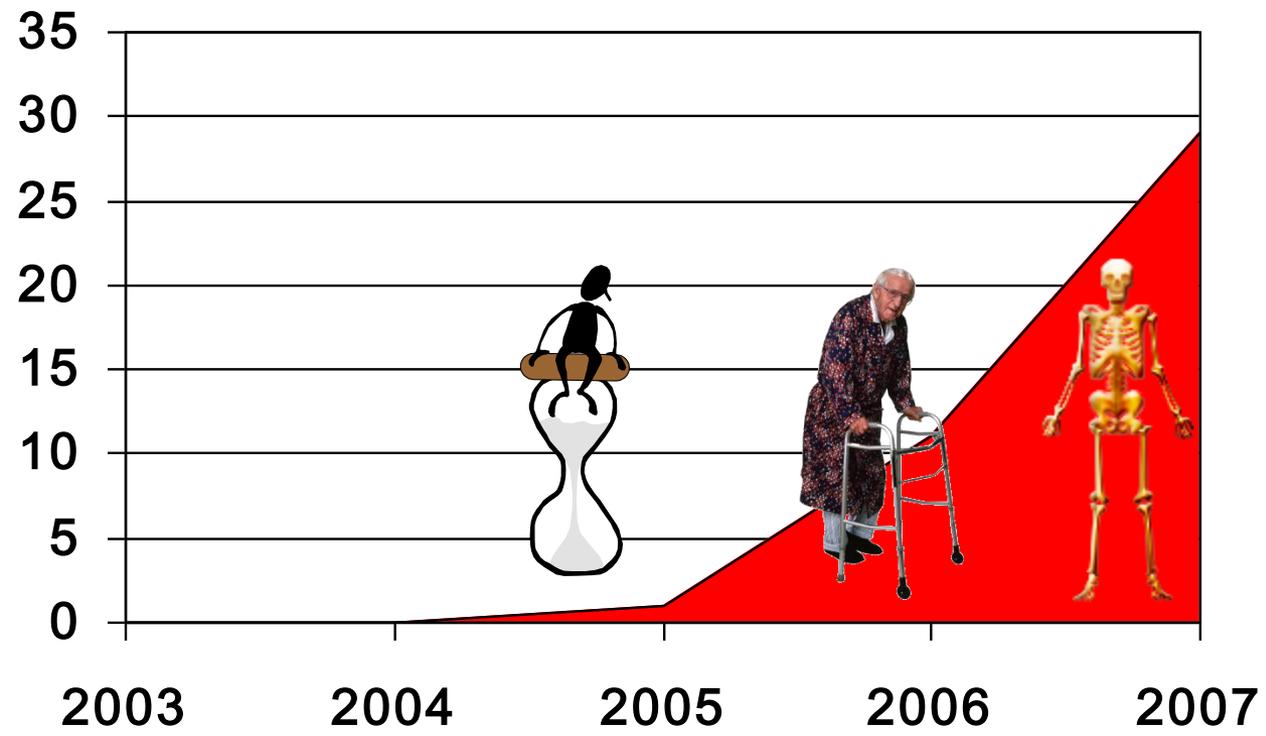
Avalanche of ideas

Handling the Avalanche



- Increased backlog
- Missed Opportunities

Yearly % Ideas in Backlog



Scarce Resources?

We are not alone.

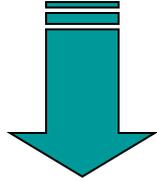
We are not experts on everything.

Need more eyeballs!

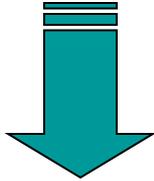


Leveraging the Crowd

- ThinkTank Idea Voting (2005)



- Collaboration Forums (2005)



- **Collective Intelligence Market (2007)**

a.k.a. Decision Market



FORESIGHT SERVER TRADER
BY CONSENSUS POINT



ThinkTank Idea
eXchange



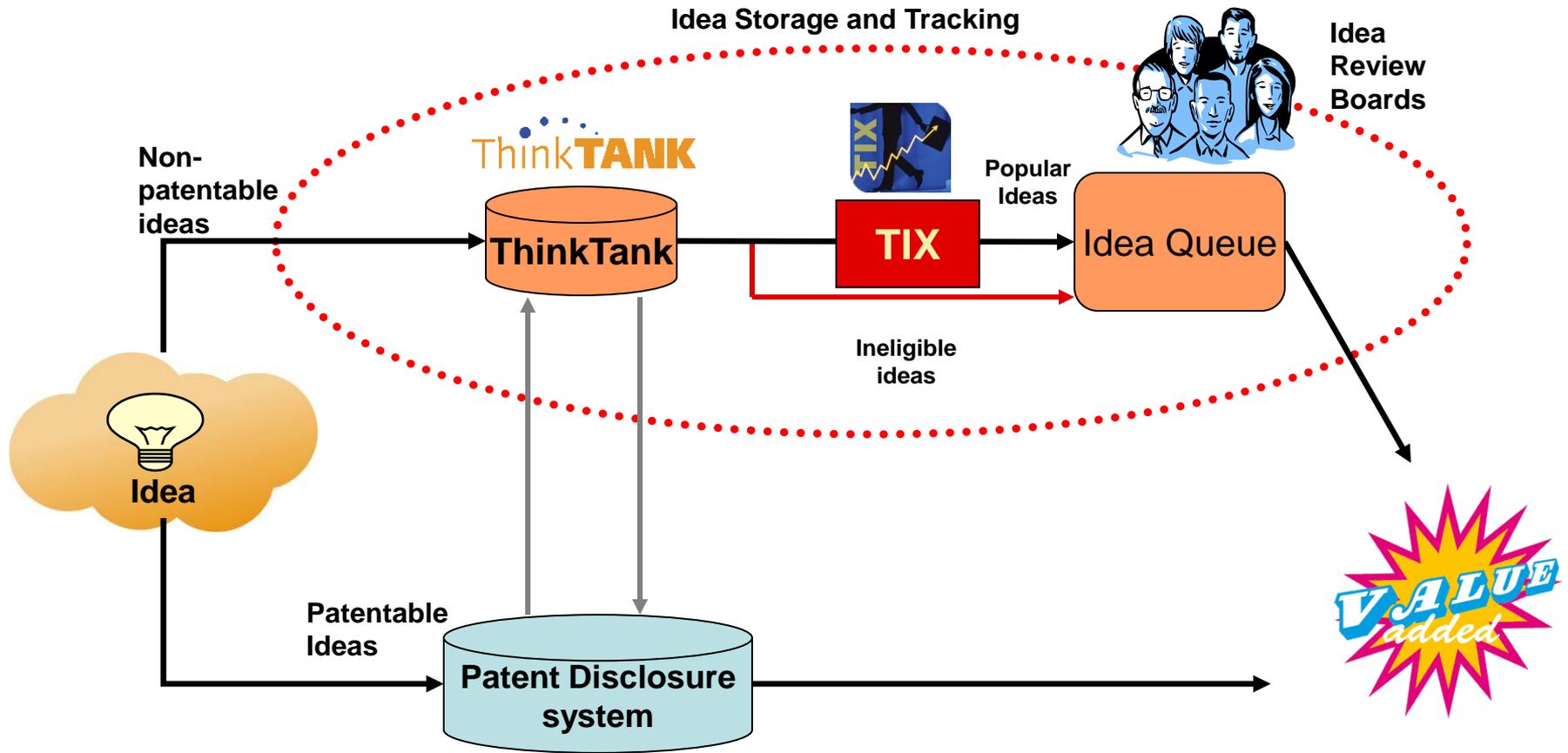
PREDICTION MARKETS CLUSTER
Leading Collective Wisdom



MOTOROLA

Innovation Front-End @ Motorola

2007 - Present





14	N9-EFF	FROZE	3	3RD
	CC	KINETICA	321	2ND
145	K9-K0	NANOTEC	347	LAST
145	K9-K0	PLOSION	401	
	KC	QUANTUM	341	
400	K9-Z9	SKP AIR	341	
40	K9-N9	UISAGE	248	
00	K9-Z9			
1	SB 9901	SE 286		

***Market Design,
Challenges,
& Solutions***

846
MRG

846
MRG

Keys to Successful Decision Markets



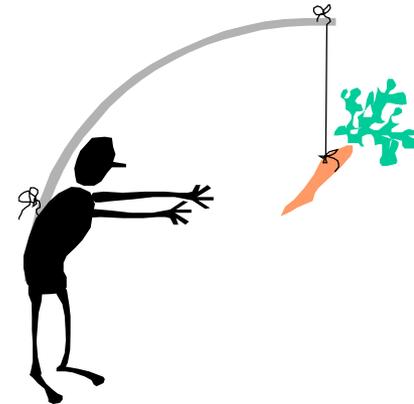
Participants

- Diverse group of participants
- Independent, decentralized participants



Market

- Aggregated results
- Incentive mechanisms



TIX Market Goals



- ⊕ **Improve Review Board Productivity**
 - ✓ Filtered, prioritized list of ideas
- ⊕ **Reduce Disposition Time**
 - ✓ Quickly review market-selected ideas
- ⊕ **Increase Community and Collaboration**
 - ✓ Socialize: *Serendipitous Exploration*
- ⊕ **Improve success in identifying valuable ideas to pursue**

How does the TIX Idea Market work?



- **Ideas represented as securities** on a virtual financial market
- **Participants** trade shares
- **Market identifies** best performing ideas



BUT: Avoid 5 common market problems...

1. Tournament Behavior

Tendency of losing parties to make last-minute risky moves

- Judge using **Volume Weighted Average Price (VWAP)**
- Payouts based on VWAP

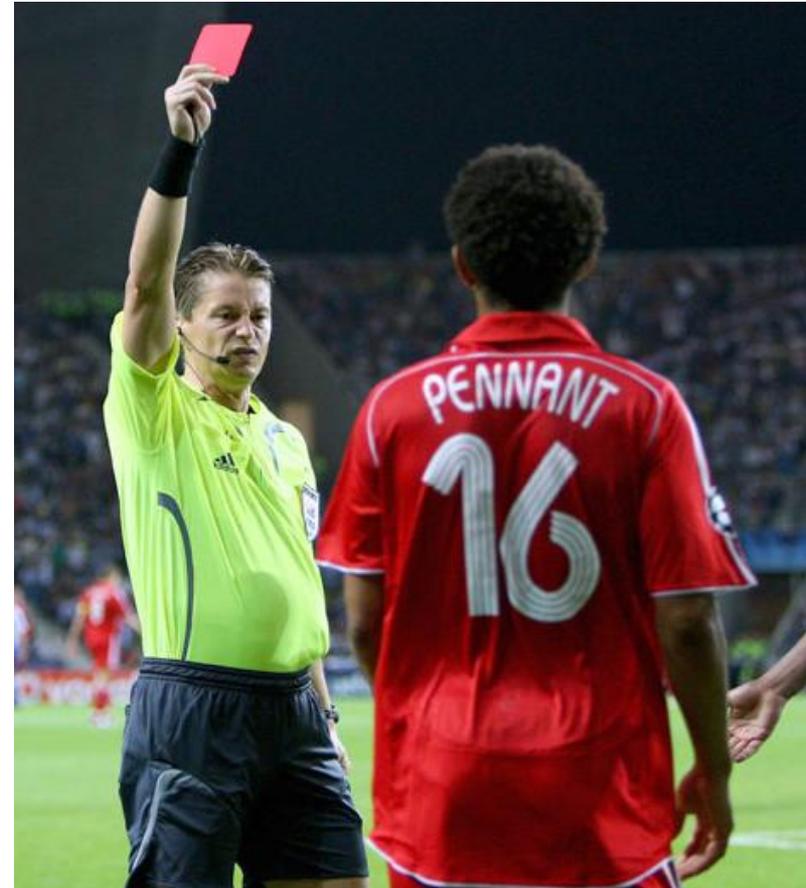
$$P_{VWAP} = \frac{\sum_j P_j \cdot Q_j}{\sum_j Q_j}$$

P_{VWAP} = Volume Weighted Average Price

P_j = price of trade j

Q_j = quantity of trade j (volume)

j = each individual trade that takes place over the defined period of time



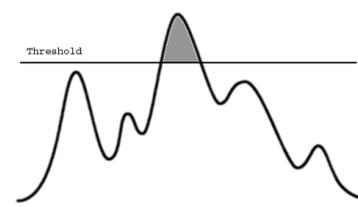
2. “Keynesian Beauty Contest” Problem

Traders price shares based on what they think everyone else thinks the value is, rather than idea’s fundamental value.



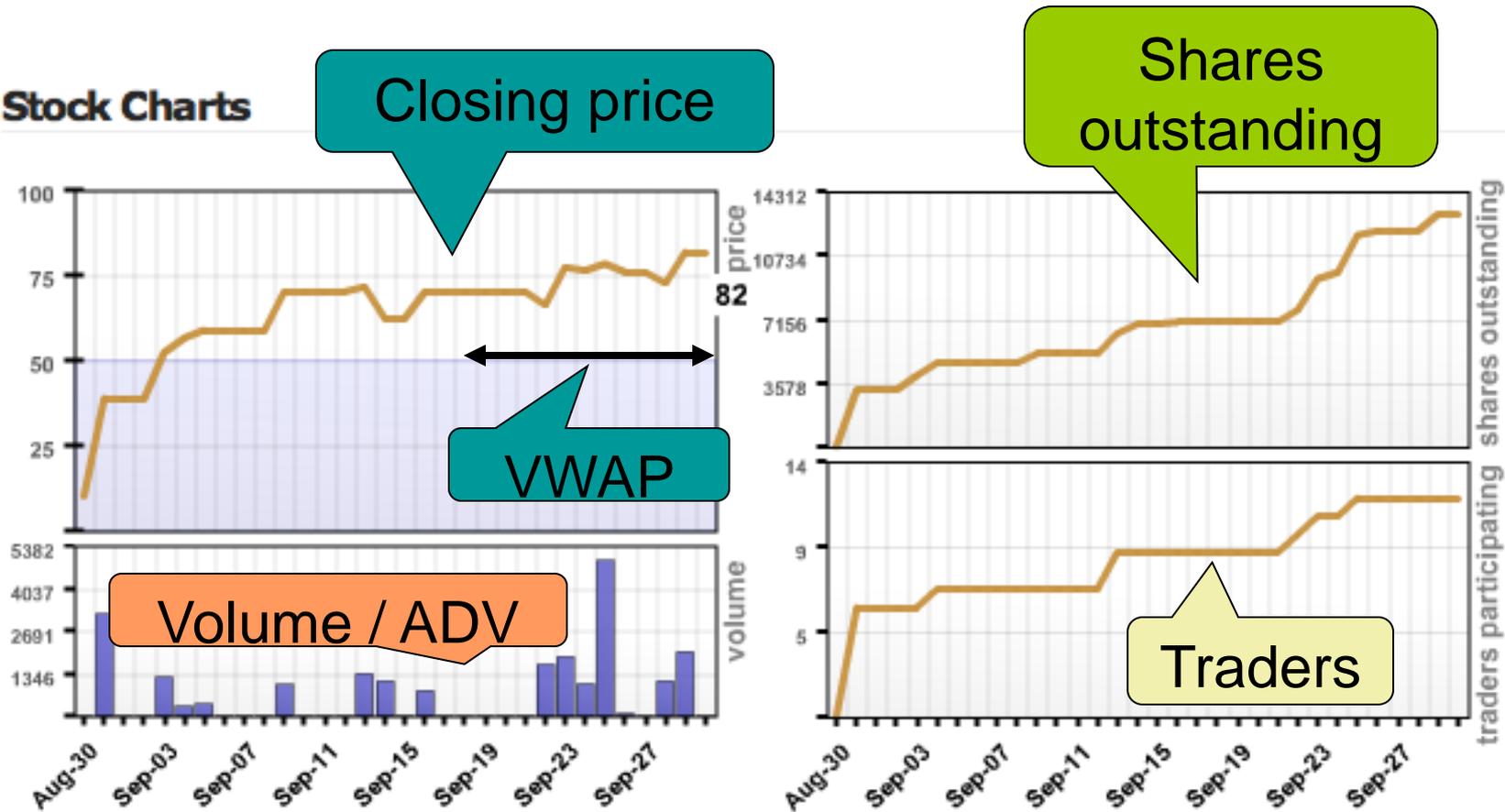
- **Difficult to completely avoid**
- **Proper design of market, incentives, goals**
- **Keep details of actual winner formula secret**

Stock Performance Measures



$$Win > C_1 * avg_dv + C_2 * traders + C_3 * VWAP + C_4 * shares_out$$

Stock Charts



3. Millionaire Problem

Hard to beat top investors



- Keep IPO prices low
- Time-limited market cycles, portfolio reset
- Limit investment by % net worth or actual invested amount
- Provide periodic allowances

4. “Pessimists Win” Problem

Always more losers than winners



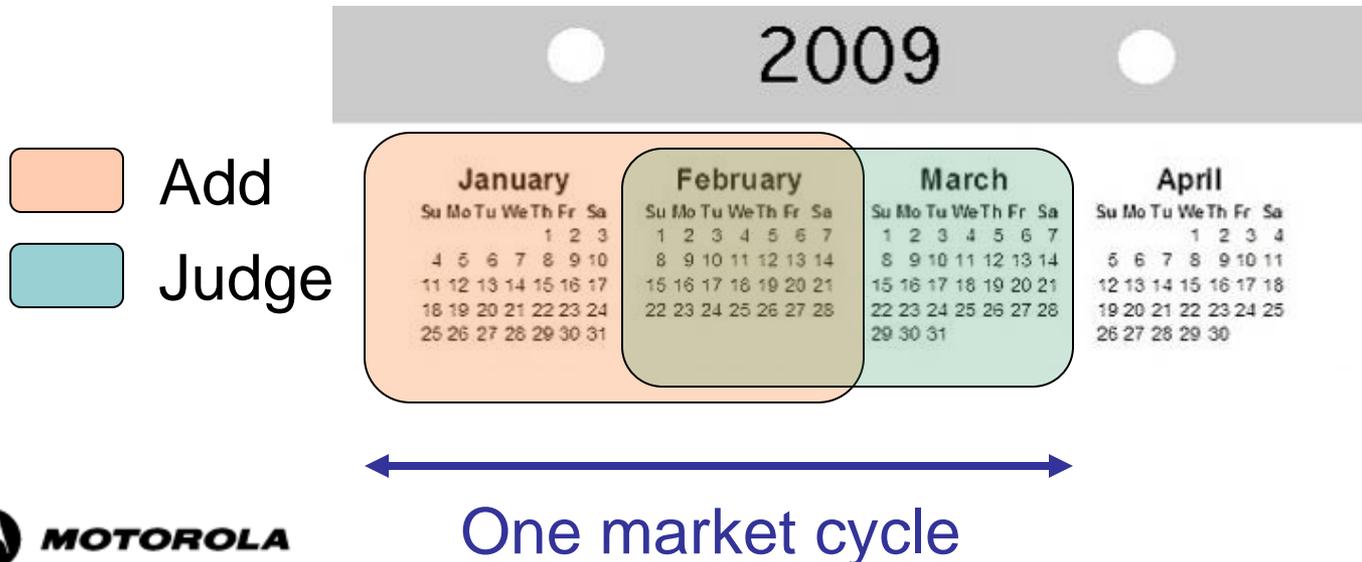
- Reward investors in losing stocks too
- Extra payout for long investors in a winning stock

Judged Stock Payout table, per share	Long	Short
Stock wins	\$120	\$100-VWAP
Stock loses	VWAP	\$100-VWAP

5. Stale Market Problem

Thin trading volume

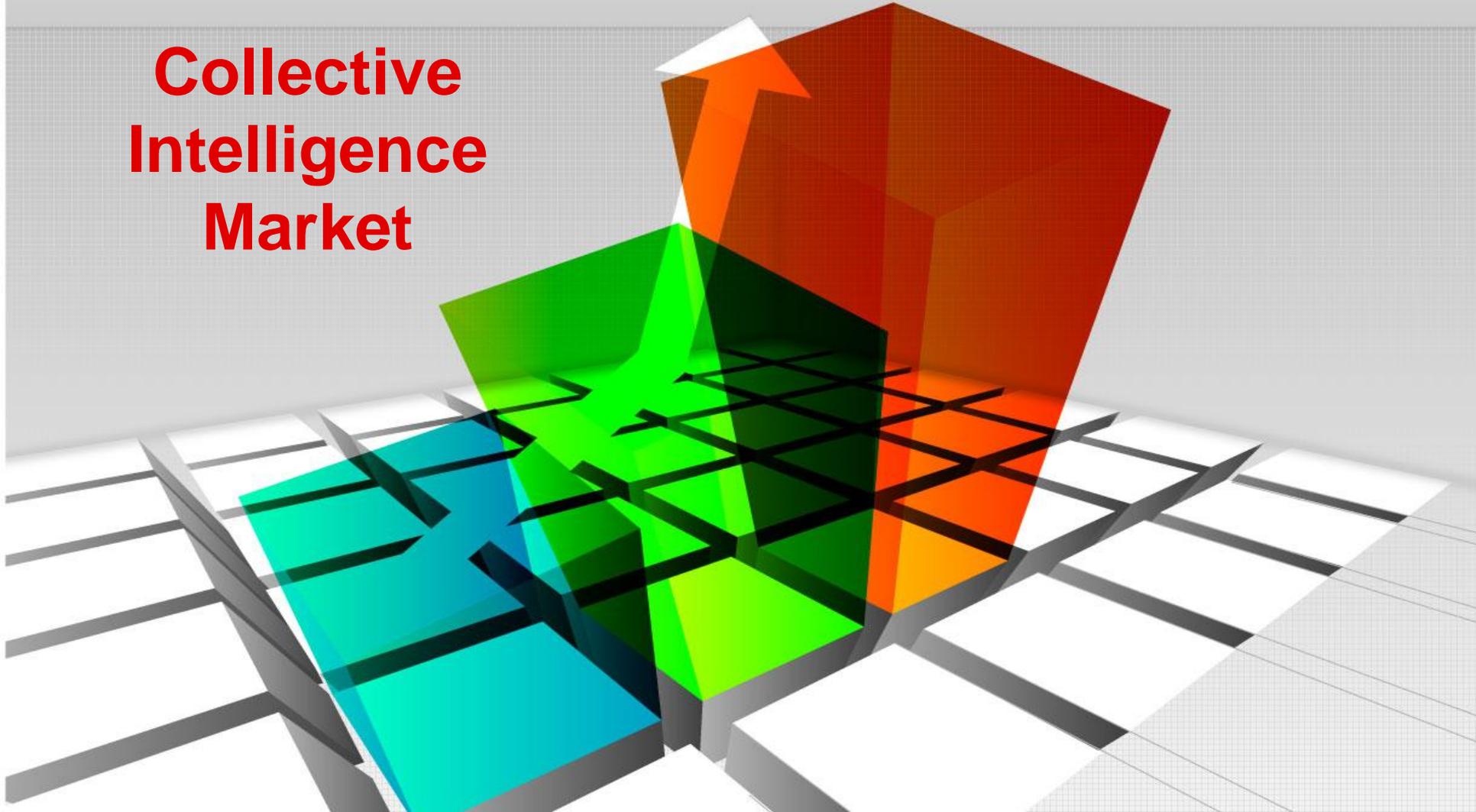
- Advertise and socialize
- Incentives / Rewards / Recognition
- Periodically add ideas
- Limit idea in-market time



Results



**Collective
Intelligence
Market**



Wisdom of the Crowd: Traders



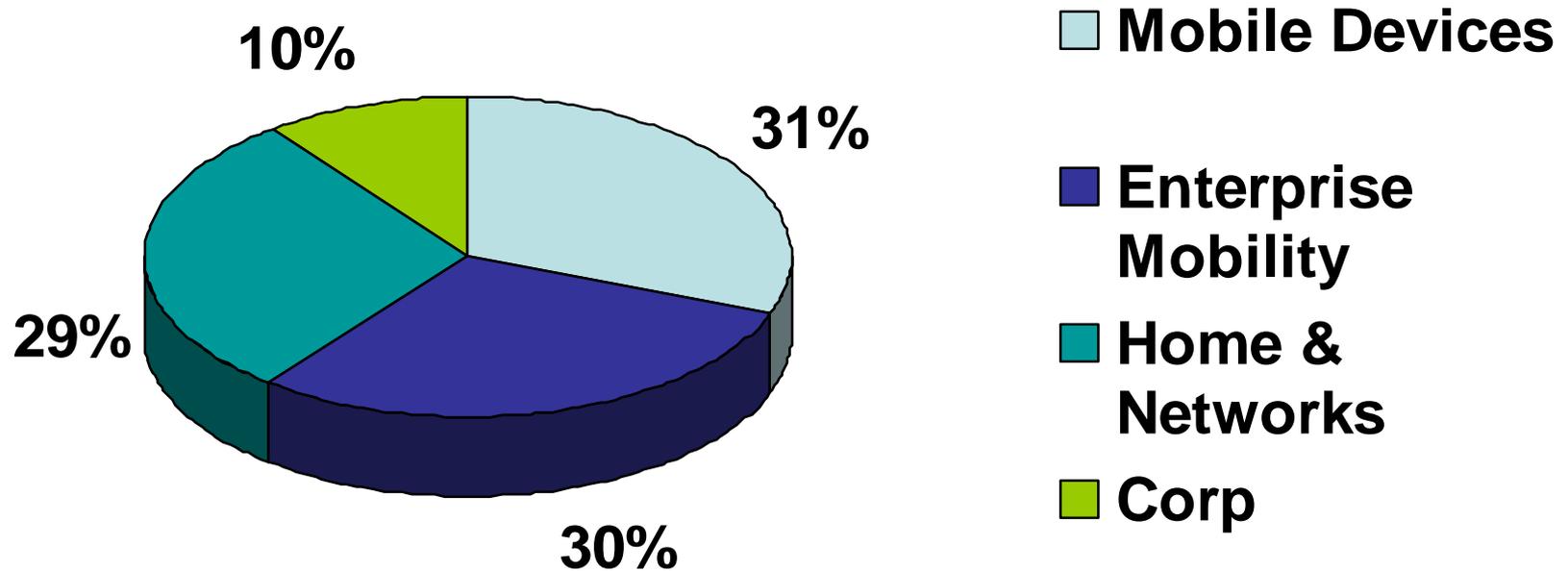
Traders come from diverse geographic locations



Business Unit Breakdown



TIX Usage Across Corporation



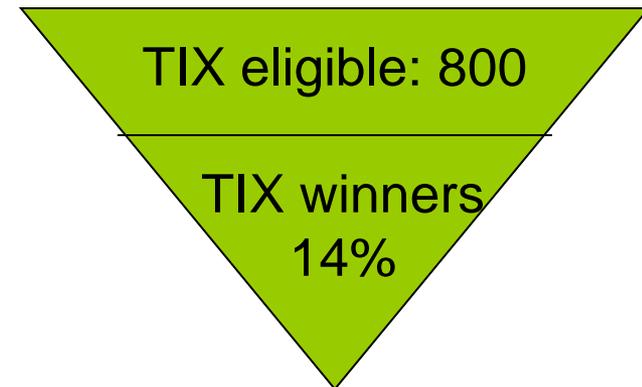
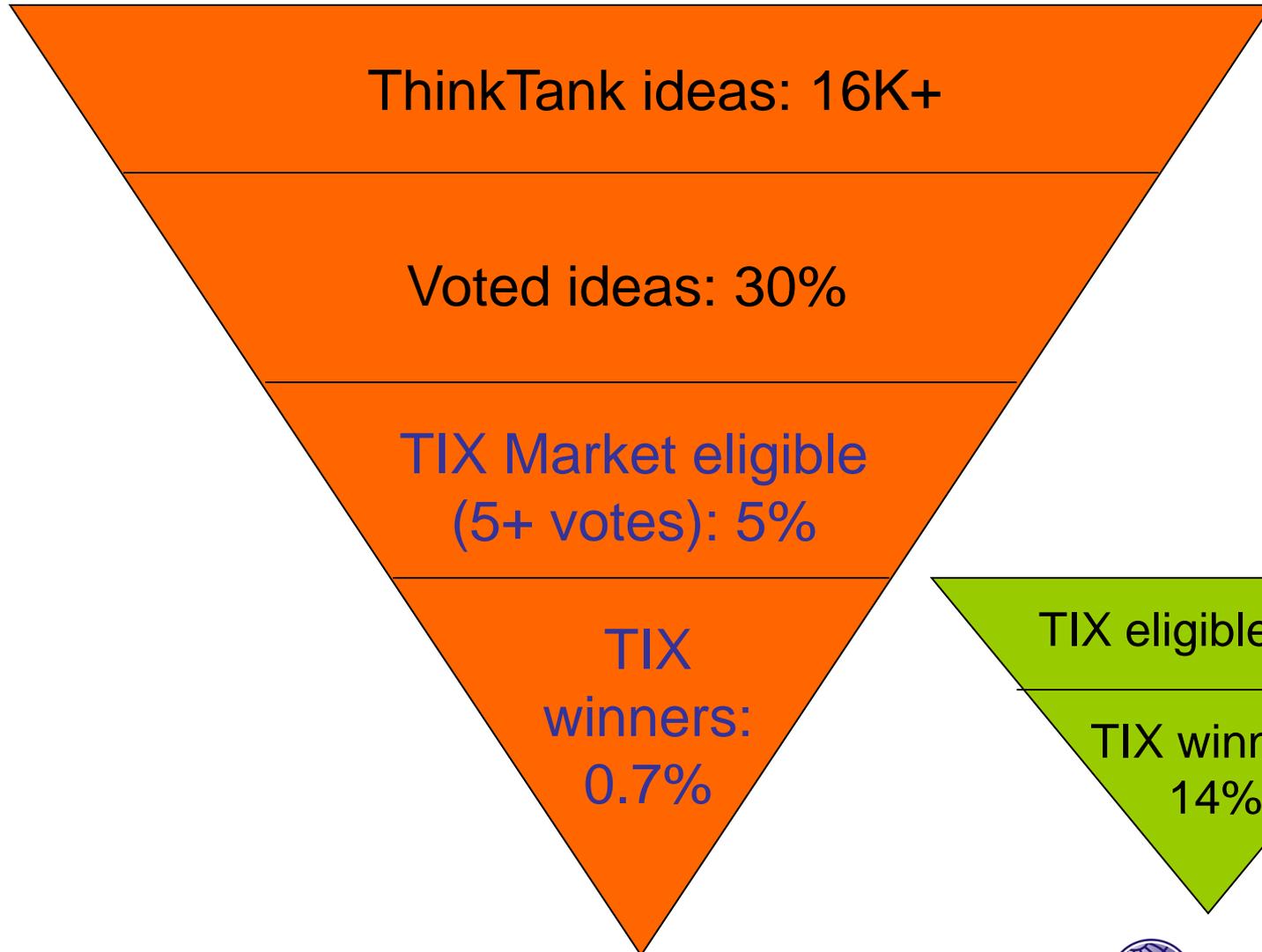
Wisdom of the Crowd: Ideas



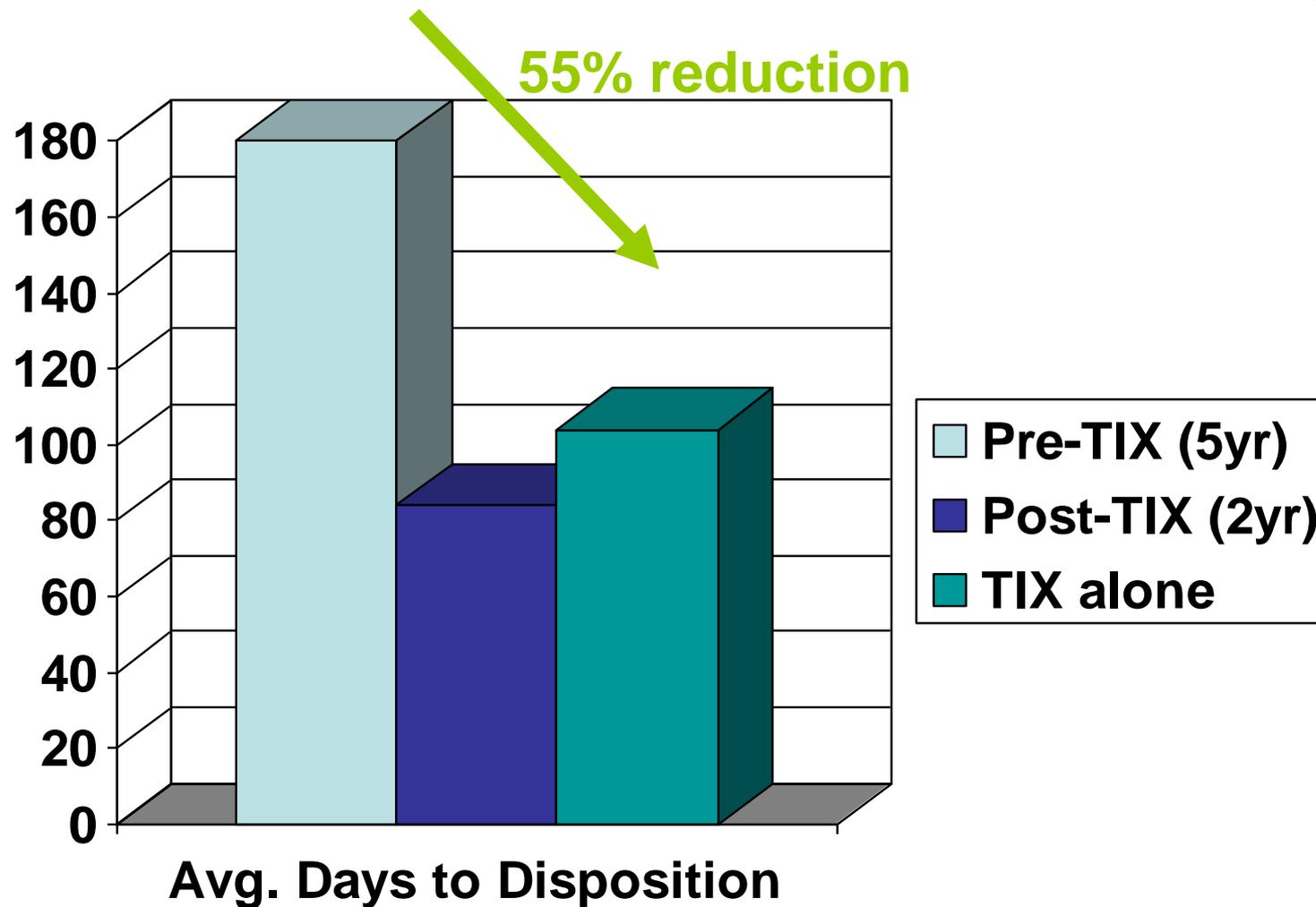
TIX ideas come from diverse geographic locations



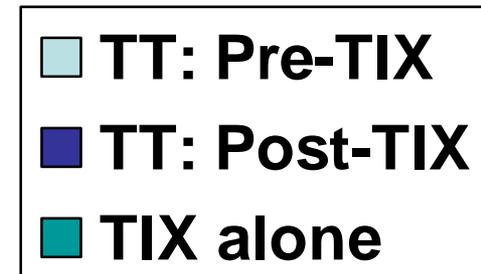
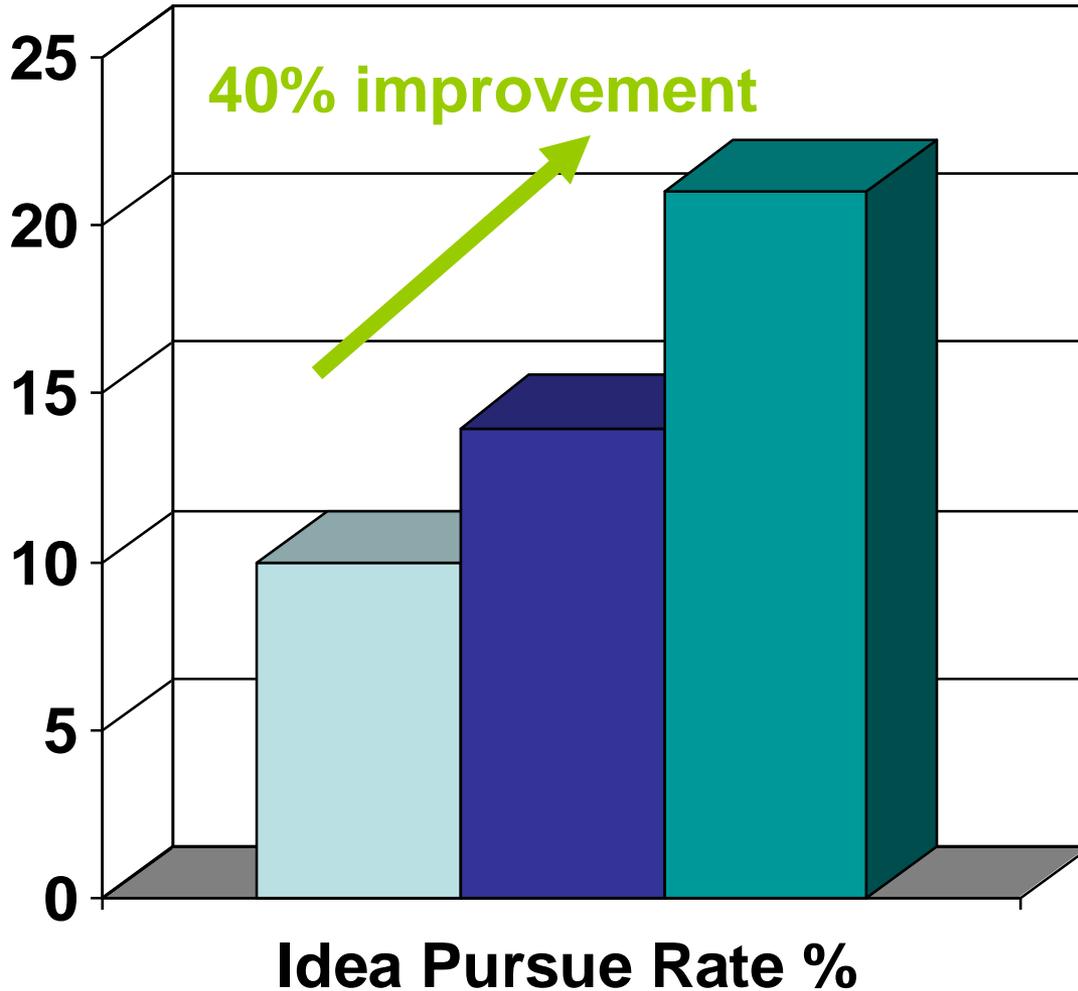
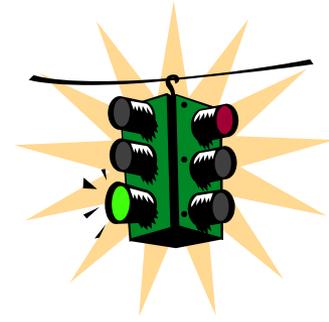
Improved Idea Process



TIX Success Measures: Reduce Disposition Time



TIX Success Measures: Improve Pursue Rate



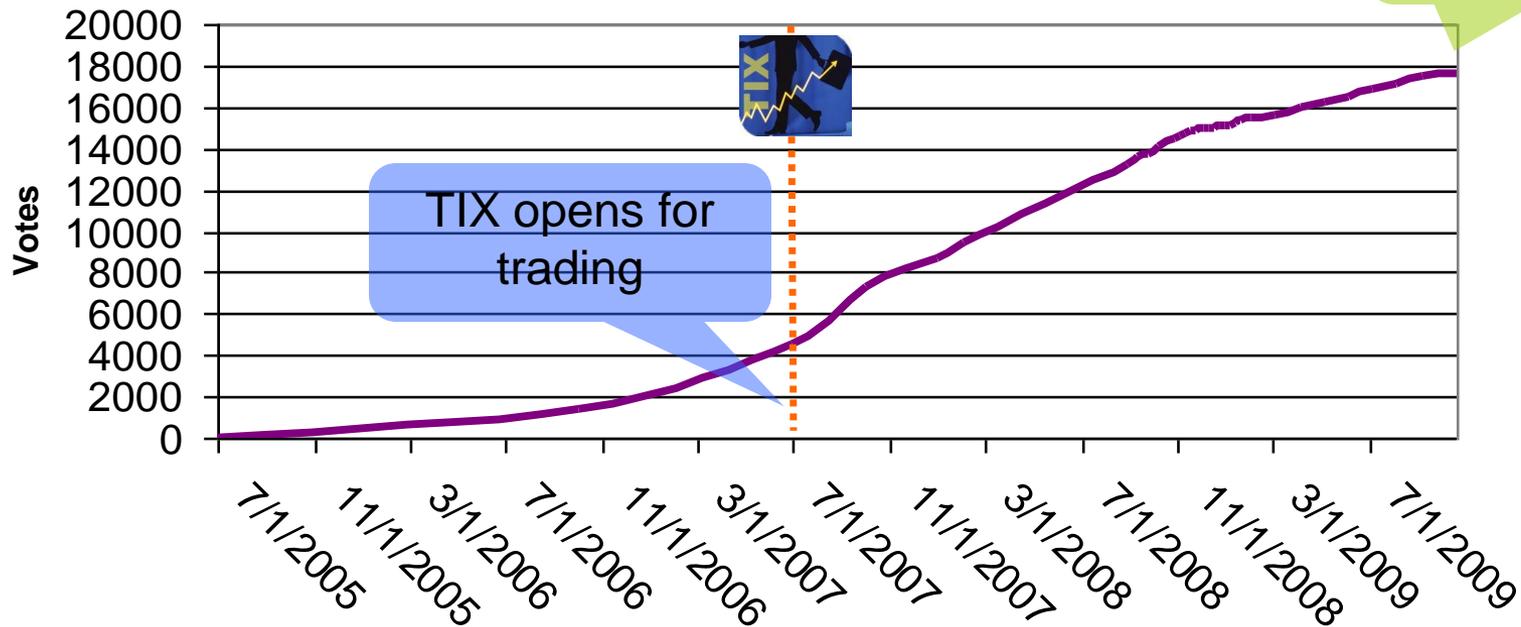
TIX Success Measures: Voting



Community and Collaboration

Idea voting encourages open access, advertisement / socialization of ideas, and increased idea visibility

ThinkTank Idea Votes



Over 4800
voted ideas

TIX opens for
trading



TIX Stock Detail



Category: CustomerRevenueGeneration: 10079

Category

10079: Patriotic Ringtones

ID and Title from ThinkTank



Optional image

Symbol: 10079
Price: Moto\$61.06
Trade Time: 15:20:39
Today's Volume: 2,370
Avg Volume: 929

Change: ↑ Moto\$6.08 (11.06%)
Your Holdings: 0
IPO Date: 2007/08/07
Judge Date: 2007/09/06
Status: Active

Recommend to a friend

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Discussion Forum

[Trade Now »](#)

[Watch this Stock](#)

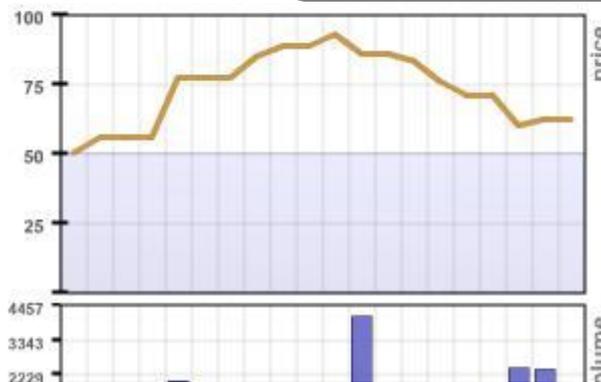
[Visit the Web Site](#)

Tag & save to social bookmarks

View Idea in ThinkTank

Stock data

Stock Charts

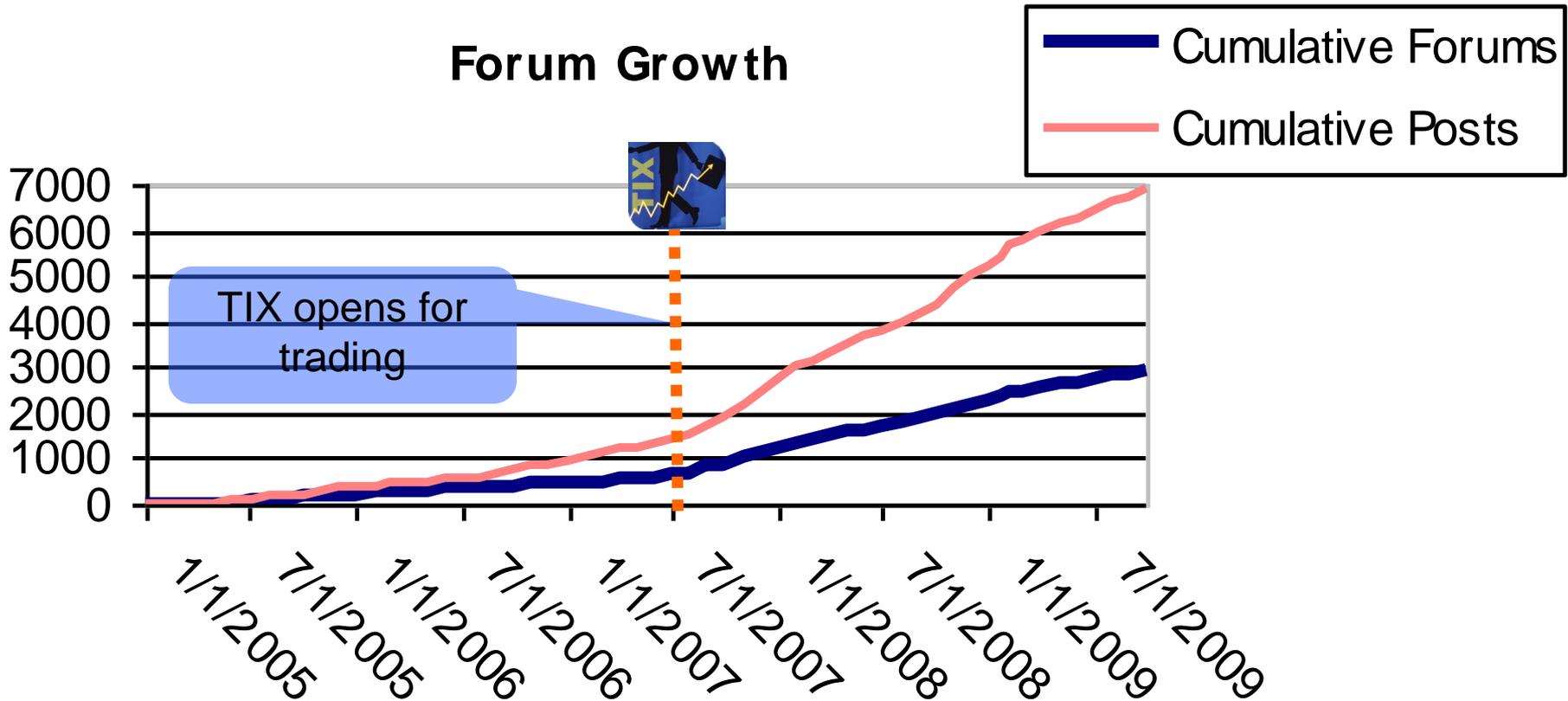


TIX Success Measures: Forums



Forum discussions encourage collaboration, community formation, idea expansion, and identification of experts

Forum Growth

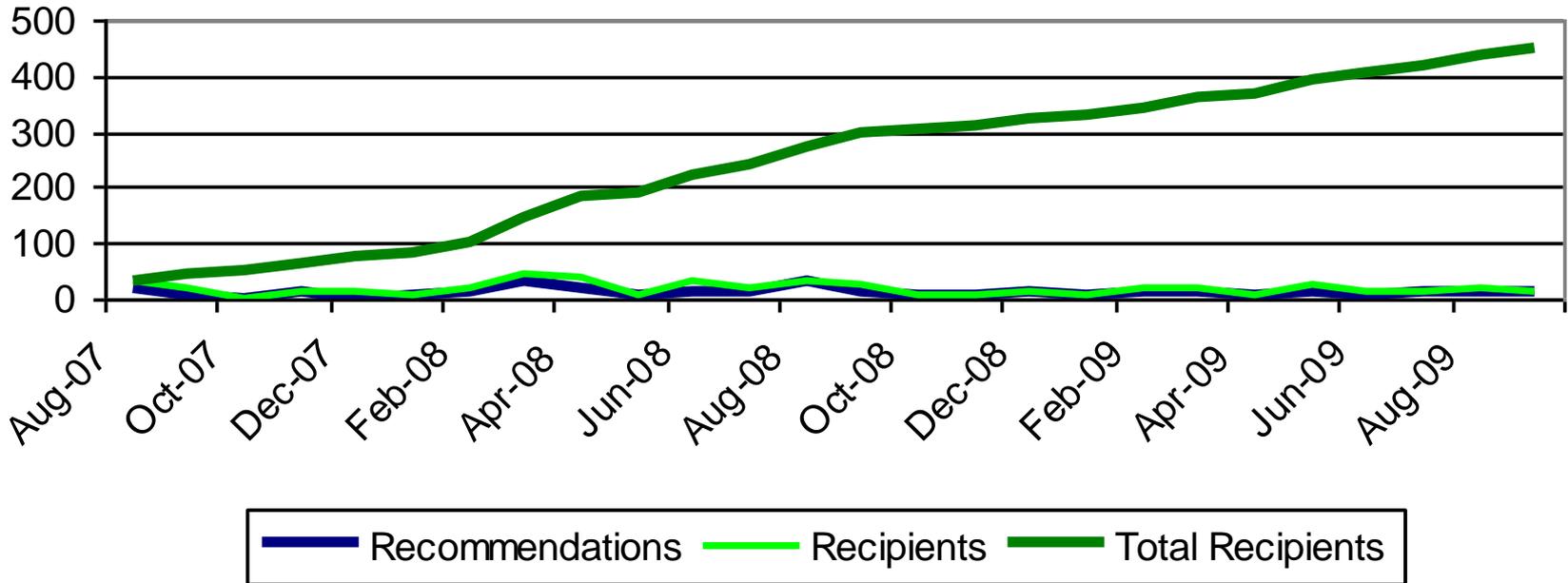


TIX Success Measures: Social Activity



300 recommendations sent to 443 people via the *Tell a Friend* link

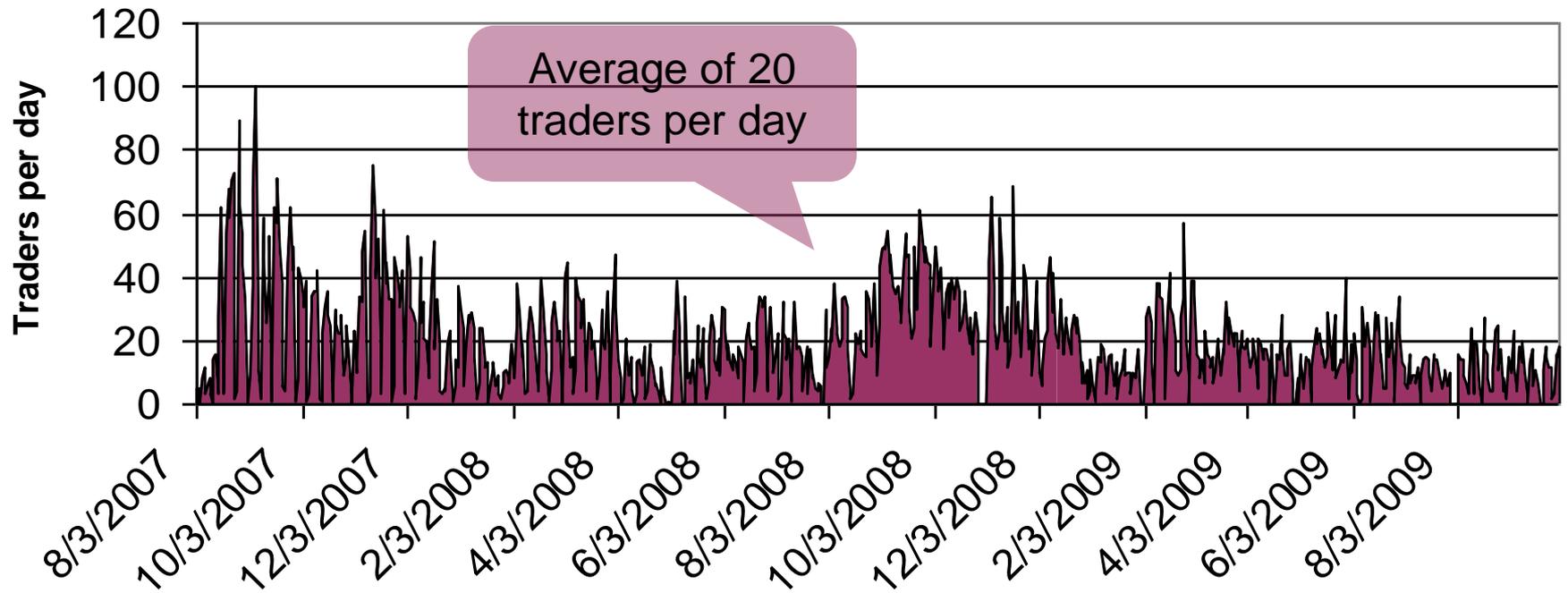
TIX Recommendations



Daily Trader Activity



Traders per day



Lessons & Recommendations



Design Market Parameters



- Administration and timing
- Stock (idea) presentation
- Trader accounts
- What is a “winning” stock?
- Clarify “reasons” for investing

What else do you need to succeed?



- **Executive Sponsorship**
 - Provide guidance and “air cover”
- **Commitment** from PMs and Portfolio Planners
 - Must consider internal ideas in addition to other sources
 - Commit resources to execution of ideas
- **Early Involvement** in Innovation Process
 - IRB members are “eyes and ears” for new internal ideas
 - Directed innovation sessions to solve issues

Key Take-Aways

How to leverage your organization's collective intelligence on ideas



- **Avoid Typical Market Pitfalls**



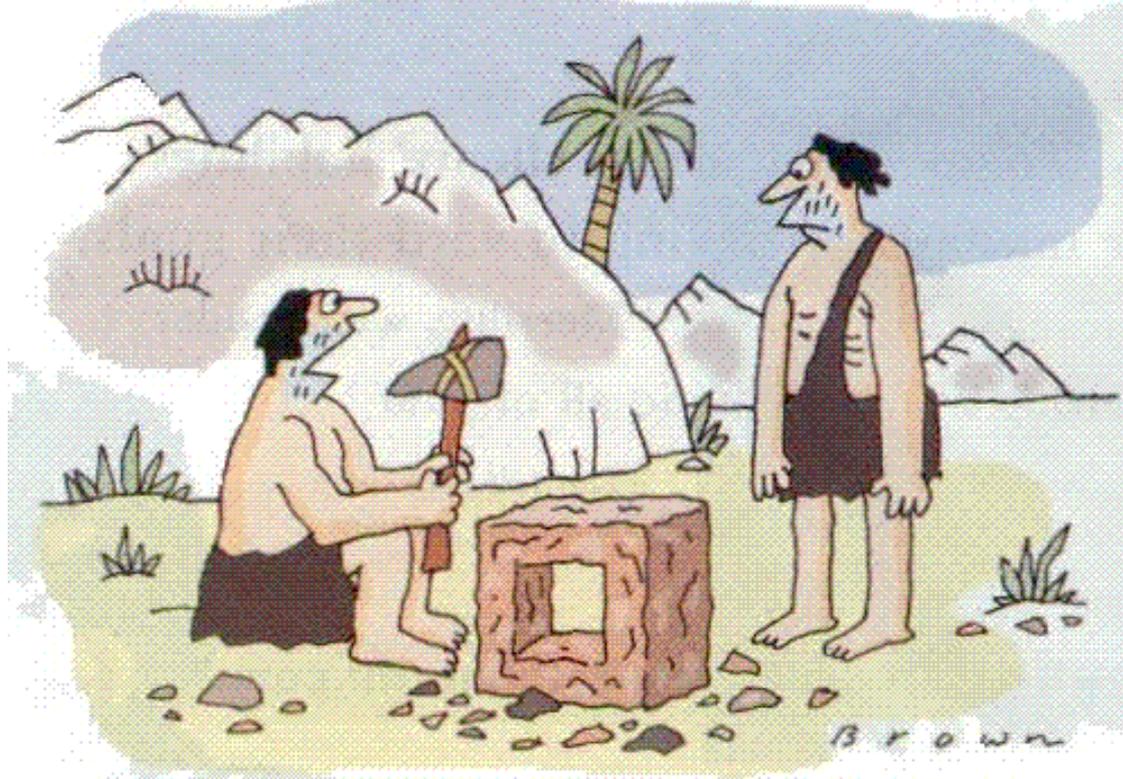
- **Engage Organizational Social Network**



- **Keep 'em Coming Back**



Innovation doesn't happen in a vacuum. Collaborate!



***“I call my invention ‘The Wheel,’ but so far I’ve
been unable to attract any venture capital.”***

Socialized Innovation

Tapping into Motorola's Collective Intelligence



QUESTIONS?

Externally Published Articles on ThinkTank and TIX

- [Wollen Wir Wetten? \["Want to Bet?"\]](#), by Ralf Groetker. *MIT's Technology Review, German Edition*, November 2009.
- [Hivatali spekulansok \[Official Speculators\]](#), by Tamas Milhofer. *Figyelo [The Observer, a Hungarian business weekly journal]*, June 23, 2009.
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