

# The Rich Social World of the Chicago Board of Trade: Implications for Online Communities and Places

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## Talk Outline

- Overview of our visit to the Chicago Board of Exchange
- Background on CBOT
- Transition from "brick-and-mortar" to electronic
- Observations on "communities"
- Observations of the exchange floor
- Concluding remarks

## Overview of our Visit to CBOT

- Hosted by sub-clearing house interested in bringing electronics to the exchange
  - ▶ expressed a naive interest in "online communities"
  - ▶ two-day visit
  - ▶ observations of exchange trading floor and operation of a swaps "trading house" at a major bank
  - ▶ informants were
    - management of sub-clearing house, in-house traders plus selected other "pit" traders
    - director of swaps trading department at bank
- Our goal
  - ▶ learn about how exchange functions
  - ▶ investigate existence of communities in face-to-face trading
  - ▶ ascertain whether this is a venue for our work in online communities

## CBOT's Markets

- Futures contract, futures option — contracts are standardized
  - ▶ Types of derivatives (derive value from underlying asset, e.g., grains for grain futures, futures for futures option)
  - ▶ Futures — seller agrees to deliver to buyer and buyer agrees to receive from seller a quantity  $W$  of grade  $X$  at date  $Y$  and location  $Z$
  - ▶ Options — buyer has right to but no obligation to buy/sell at price  $P$  by time  $T$  — seller has the obligation to fulfill contract when presented
- Futures exchange is about 'price discovery' & 'price protection' for hedgers
  - ▶ Forward transaction — transaction entered now, settled later
  - ▶ Price risk due to time lag in a transaction
  - ▶ Speculation based on inequality in access and quality of information
  - ▶ It is not *principally* a mechanism for gaining access to physical goods nor for disposition of them

## Uses of Exchange

- Hedging — risk management or type of insurance
  - ▶ risk is transferred from hedgers to speculators willing to take chance for profits
  - ▶ hedgers, e.g., the farmer, processor, and other businesses
- Speculating — make money by anticipating price changes and exploiting market inefficiencies
  - ▶ individual and professional traders, professional portfolio managers, etc.
  - ▶ categories of traders differentiated by amount of risk tolerance, e.g., scalpers buy and sell quickly for small short-term profits
  - ▶ speculators have no interest in owning the commodity
  - ▶ speculators assume price risk and add liquidity and capital to the futures markets
- Only 4% of trades result in delivery of commodity: the rest is "market making"

## CBOT Cast of Characters

- Pit principals
  - ▶ Brokers agents for outside customers
  - ▶ Traders (a.k.a. 'locals')
- Outside customers
  - ▶ functionally: hedgers, speculators
  - ▶ identity-wise: commodity owners & processors, various businesses and individuals
- Support network for brokers
  - ▶ telephone clerks taking orders from outsiders
  - ▶ runners and messengers
  - ▶ management personnel
- Service providers
  - ▶ CBOT: "a private club" that hosts the exchange
  - ▶ (Sub)-clearing houses handle "back-end" of transactions
    - vouch for traders ability to pay
    - process transactions made in pit

## Operation of an "Open Outcry" Exchange

- Multiple pits in each exchange
  - ▶ different grain products: soybeans, wheat, corn etc.
- The pit is an octagonal structure with steps going up from a central low spot
  - ▶ arranged by maturity of contract (a step for one delivery month)
- Transactions in the pit
  - ▶ are face-to-face
  - ▶ accomplished through hand signals
  - ▶ carried out among brokers and traders
- Cross-pit interdependencies
  - ▶ Traders and brokers can participate in multiple pits
    - devised various networks and mechanisms for doing this
- Outsiders linked by computer screens for information and phone for placing orders with brokers for execution

## Pressures from Electronic World

- Need to increase volume of transaction
  - ▶ one aspect of liquidity
  - ▶ limits on participants & volume due to physical limits of pits and space
- Technology limitation for "closing out" trades: speed and feedback issues
- Losing volume to electronic exchanges and electronic stock trading
  - ▶ provide unlimited access
  - ▶ instant execution and confirmation
- Electronic exchanges exist for futures and options markets
  - ▶ highly regulated (others, e.g., interest rate swaps are not)
  - ▶ but anyone can start an exchange
  - ▶ trick is to make markets, i.e., liquidity
    - partly fueled by number of transactions
    - need to provide traders with motivation for making markets by enabling them to "have an edge"

## Responses

- CBOT will probably split into 2 corporations
  - ▶ open outcry pit, possibly technology-enhanced ("electrifying" the pit)
  - ▶ electronic exchange modeled on EUREX "fifo" matching
- CBOT members claim EUREX model decreases moneymaking potential
  - ▶ Project A: allocation model that implements face-to-face distribution of trades (tied to making markets)
- TransMarket Associates/Intelligent Trading Global Services, Inc. with IBM IGS
  - ▶ electronic front-end services for access to pit [I can't enumerate what these are!]
    - could grow into full electronic exchange
  - ▶ interested in spearheading technology enhancement of pit ("electrifying" the pit) with help from IBM Research

## Design Points for "Going Electronic"

- 4 necessary elements of exchange, trading center, or ECN
  - ▶ products to trade (existing, created, or developed)
  - ▶ pool of participants ready to trade and provide liquidity
  - ▶ order handling & matching mechanism that is fair and reliable for all
  - ▶ clearing function that maintains the integrity of the market
- Weakening of social elements (pit has very rich social world)
  - ▶ e.g., greater anonymity, loss of social interactions, more participants make it harder to manage relationships for (sub)-clearing houses
  - ▶ disruption of their roles in market-making & liquidity, regulating behavior, maintaining integrity of the exchange mechanism
- Leveling of playing field — traders' strategies optimized for the pit
- Electronic trading introduces new capabilities for implementing existing "achievements" (i.e., goals/functions of behavior)
  - ▶ transparency: who is trading?
  - ▶ depth: how much additional product do they need to buy/sell?
  - ▶ how should trades be allocated?
  - ▶ aspects of physical space that facilitate social interactions: are these critical to functioning of exchange?

## The Rich Social World of the Exchange: What Communities Exist Currently?

- **Membership in general community engenders responsibility to "make a market" for others and self**
- Socially reinforced version of responsibility of "specialist" on stock exchange floor
- Shared interest to achieve common good
  - ▶ cooperative situation in order to stimulate market
  - ▶ similarity to notion of "public good" (Kollock, 1999)
    - all participants benefit irrespective of their contribution
    - but a "critical mass" is needed
- But competitive situation occurs when in "buy & sell" mode
- May not be evenly shared across traders
  - ▶ incentive lost if market maker loses "privileged" position?
  - ▶ do it to return favor in expectation that others will ensue ("gifts")

## What Communities Exist Currently? cont'd

- **Professional knowledge exchange in support of personal goals in competitive situation**
- "Give to get" information
  - ▶ reciprocal relationship
  - ▶ similarity to notion of "gifts" (Kollock, 1999)
    - exchanged between individuals who are part of an ongoing interdependent relationships
- But make decision as self because in competition with each other
  - ▶ similarity to "commodities transaction" (Kollock, 1999)
    - individuals are self-interested, independent actors

### What Communities Exist Currently? cont'd

- **Support of interaction to satisfy social needs**
- Work setting provides occasion for it
- Each individual has own social circle
  - ▶ multiple circles may intersect
  - ▶ interactions are one-on-one or small groups
- Functions to provide break, fill lulls, develop trust, etc.
  - ▶ talking baseball during lulls in market activity
  - ▶ getting to know about each others personal lives

### What Communities Exist Currently? cont'd

- **Service and information networks in support of brokers**
- Based on intra-exchange and extra-exchange sources
- Runners, clerks, broker assistants, brokerage staff
- One in support of bringing in trades from outside to be executed by brokers
  - ▶ organizational work groups — different functions all in service of expeditious execution of customer transactions
- Other is to keep brokers apprised of activities elsewhere on the floor and elsewhere in the outside world
  - ▶ individual brokerage has network of informants on the floor and across world that gather news of events that impact the market

### What Communities Exist Currently? cont'd

- **Information networks headed by individuals**
- Provide news, updates and analysis of exchange activities to those outside of the exchange
- May be "public"
  - ▶ e.g., brokerage-house reports in support of a firm's brokers (outside of exchange) and other participants in the market (outside investors)
    - investors like farmers and processors

### Summary of Existing Communities

- Rich and complex sets of relationships and interdependencies
  - ▶ both self-organizing as well as along organizational structures
  - ▶ both competitive and cooperative needs
  - ▶ both social and production aspects
  - ▶ both personal and group goals
  - ▶ both gift and public goods
  - ▶ informational, functional and transactional aspects
- How critical are all these communities and their attributes to the operation of exchange?

## Can Online Communities be Part of the Solution?

- What communities are possible in the online world?
  - ▶ potential for CBOT managed community to link outsiders to activities and interactions in pit (electrifying the pit)
  - ▶ potential to link investors (e.g., farmers) at the outermost fringes to allow them to be better informed
    - information for a closed community managed by brokerage house
  - ▶ self-organizing physically collocated community for select traders [clearinghouse's idea for economies of business needs]
  - ▶ self-organizing community for select traders
    - possible? desirable? legal?
- What are real issues to address and values to be derived?
  - ▶ impact of outsiders (mediated by technology) have on the 'club' aspects that currently exist
  - ▶ impact of outsiders on liquidity, speed, transparency

## PIT Design and Social Interaction

- Between the yelling, running, and jostling, the futures trading floor and especially the pits themselves are VERY physical places
- Octagonal shape
  - ▶ segmented to facilitate multiple, concurrent activity
  - ▶ importance of center and octagonal slices
  - ▶ proximity of people
  - ▶ verbal as well as hand signals
  - ▶ periphery for support people and monitoring actions in other pits
- Across pits
  - ▶ relationships of related instruments: futures and options for soybean
- Noise levels and crowd effects are important activity cues

## PIT Design and Social Interaction cont'd

- Peripheral artifacts
  - ▶ information boards
  - ▶ support and order desks
  - ▶ runners and messengers
- Size and growth of exchange floors
  - ▶ too big and can't be in multiple places at the same time
  - ▶ virtual co-location may be needed - already have televisions in pits to feed action from other pits
  - ▶ can work on media spaces (hybrid physical and virtual spaces) enhance effectiveness of pit?

## Exchange Floor as an Interesting Place

- Studying this setting can provide insights into design of online spaces that are effective as this physical one (inform design of ePlace)
  - ▶ strong mental map of space
  - ▶ crowds and noise levels
  - ▶ proximity and relation to activity
  - ▶ scanning of pit activities to keep abreast of activities
  - ▶ choice of octagon and pit design to facilitate activities

## Concluding Remarks

- Interesting opportunity to study transition from brick-and-mortar to hybrid to pure electronic
  - ▶ Challenges go beyond the scope of community
  - ▶ First challenges are developing an appropriate "exchange"
- Rich social world for exploring communities and providing online communities
  - ▶ variety of existing communities
  - ▶ are online communities a design point?
- Exchange is an interesting setting to study design of space and meaningful social interactions within it
  - ▶ characteristics of pit design, layout of pits and artifacts
  - ▶ uses by players to be hooked in
- Inform design of online communities and online spaces