

# Business-Consumer Networks

Concept and Challenges

Yury Lifshits

Caltech

<http://yury.name>



Microsoft adLabs  
February 7, 2008

# Project Objectives



- **Goal:** to design a web technology that serves as a universal environment for business-consumer communication
- **Outputs:** paper, community, prototype
- **Time constraints:** March 1, 2008 — May 31, 2008

# Informal Idea

## **Business-Consumer Networks:**

- **Nodes:** businesses, consumers
- **Edges:** loyalty relations

# Outline

- 1 Vision
- 2 Functionalities for Business Web
- 3 Research Challenges
- 4 Conclusions

# 1

## Vision

### 7 Principles For Business Web

# 1. Separate Business from Private

- Home and office
- Private cell phone and business cell phone
- Private email and business email
- Facebook and ???

# 1. Separate Business from Private

- Home and office
- Private cell phone and business cell phone
- Private email and business email
- Facebook and ???

## **Focus on business-side of the Web:**

- Web2.0 technology for every business
- Avoid non-commercial features

## 2. Business Identity

- Serving as a reference point
- Accumulating reputation
- Active: sending messages, organizing events
- Interactive: answering questions, communication instead of ads
- Loyalty program conductor, endpoint for b2c relations



# 3. One Network for All

- Open data portability: reusing accumulated social data
- Convertibility for reputations
- Simplifying registrations
- Merging business-centered communities
- All reviews in a single place!

## 4. Open Business Data

- New generation is willing to share: give them tools for publishing business-related information
- Social design and reputation system should motivate openness
- Open RDF-based standard for business data
- Programming access to core data for third parties

## 5. Using Artificial Artificial Intelligence

### **For demand/offer matching:**

- Demand extraction: wishlists, “My troubles”, “Help me to choose”, “Give me a recommendation”
- On-line consulting: putting human layer for demand/offer matching
- Supporting decision making

# 5. Using Artificial Artificial Intelligence

## **For demand/offer matching:**

- Demand extraction: wishlists, “My troubles”, “Help me to choose”, “Give me a recommendation”
- On-line consulting: putting human layer for demand/offer matching
- Supporting decision making

## **For demand generation:**

- “I am bored”
- Surfing business web
- Human-delivered interactive ads (?)

# 6. Global Algorithms

- Social search
- Query-free search
- Recommendations
- Computational marketing

# 7. Reputation-Based Economy

- The more reputable you are the cheaper is advertising
- Irrelevant ads are punished, relevant ones are rewarded
- Focus on viral ads, grassroots support and evangelism

# 2

## Functionalities for Business Web

# Customer Profile

- Info: age, location, billing info, interests, my business-roles
- Facts: I have, I use, I bought, I visit, my discounts
- Friends, friend-businesses
- Contributions: blog, reviews, recommendations, anti-recommendations
- Demand: wishlist, my troubles, job demand
- Offers: I sell, freelance, handmade
- Free-space, place for widgets, wall/guestbook
- Reputations: rewards/loyalty statuses, karma, credit history, profile completeness, activity score, online status



# Business Profile

- Company info: logo, address, business hours, contact data, driving directions, teams, activities, employees and their roles, free text, keywords, industry category
- Products, special offers, services, menu, playbill, bestsellers, prices, sales, associated events, corporate blog
- FAQ, question answering
- Ads collection: texts, banners, audio, video, viral ads, promo-widgets
- Business-friends (related businesses)
- Reputation, votes up, profile completeness, product ratings

# Other entities

- Fan-spaces: wall/guestbook, reviews, fan list, critics, discussions, feature requests, fan-wiki
- Products, listings: description, offers, discussion, reviews
- Events
- Topic-specific portals: mashup, original content/functions
- Rewards networks

# Consumer Query-Driven Activities

- General keyword search
- Product search, event search, parameterized business search
- Local business search
- Post request, express demand, ask question, request recommendation
- Compare, make choices, decide

# Query-Free Activities

- “I am bored” button
- Suggest engine: interests, businesses, news, products, events
- News/updates: (digg-style) voted news, news from friends, news from friend-businesses
- Tops businesses, users, products, events: bestsellers, hot today, most-voted, most-friended, highest karma/reputation, most requested, most attended, cheapest.

# Contribute and Communicate

- Messaging, wall posts, discussion participation
- Publish, review, recommend, vote, register your purchase
- Help, answer questions, (real-time) consulting
- Invitations: to system, to events, to friendship, to fan-movement, to product/offer
- Tag, classify, flag, complain, vote for and against consumers/businesses
- Unlock/start a business profile, create fan-movement

# Activities for Businesses

- Publish: news, ads, special offers, upcoming events, positions
- Push info: send messages, blog, invite
- Respond to questions, maintain FAQ
- Market research: mine demands, customers, customers statistics. Search for new consumers. "Recommended consumers"
- Conducting loyalty programs: sharing revenue, cash-back, extended warranty, virtual thanks
- Ask your customers: voting, crowdsourcing, feedback, feature requests

# 3

## Research Challenges

# I Am Bored!



**I am bored!**

- Tops/Bestsellers
- Popular among my friends
- Sandbox method
- Social business news: “My friends are buying”
- Feedback for “I am bored!”
- Relation to random walk?



# Reputation-Based Economy

- The more popular you are the cheaper are promotion mechanisms for you
- Robustness of reputation
- “Fair competition”
- Auction type (non-flat prices)
- User is protected



# Social Search

<b>Query</b>	<b>Answer</b>
Current customers	Suggested customers
Two-three names	Similar people

## **Differences from web search:**

Query language

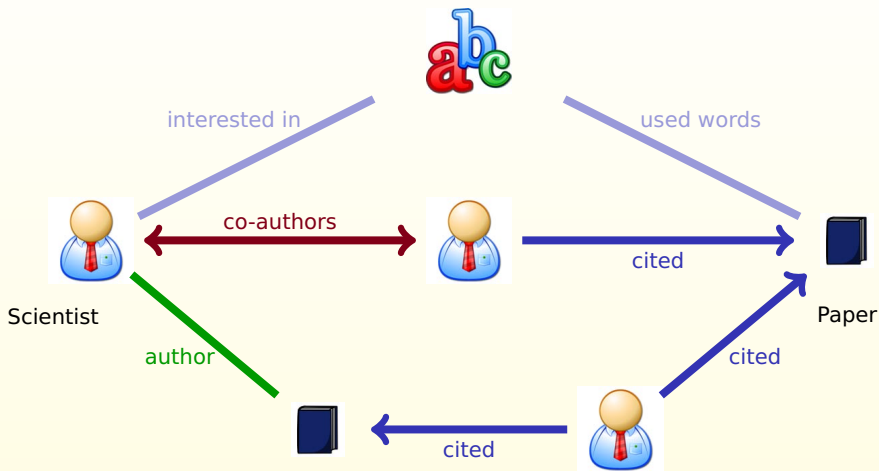
Granularity of answers

Relevance/authority factors



# Relevance in Networks

Similarity chart for paper recommendation:



**Relevance is high when:**

# of chains is high, chains are short, chains are heavy

# Other Interesting Questions

- Fighting social spam
- Market research algorithms: customer suggest, CRM tools
- Design new standard for business data (a-la FOAF)
- Extension for Open ID: Business ID?
- Interruption policy: who can speak with whom?
- New ideas for UI?
- Catching moment of interest
- Information pushing tools?
- “Thanks currency”

# Project Challenges

- Identify basic use cases
- Getting first businesses/customers?
- Snowball mechanism? Rewarding early adopters?
- Earning mechanisms for users?
- Authentication for businesses?
- Partnership strategy? API policy, widgets?

# 3

## Conclusions

# Seven Principles

- 1 Separate business from private
- 2 Provide business identity
- 3 Merge all business-centered networks into one
- 4 Keep business data open
- 5 Use artificial artificial intelligence
- 6 Build reputation-based economy
- 7 Provide global algorithms

# Participate in the Project

## Participation:

- Be a “a friend of the project”
- Participate in algorithms/social design research



# Participate in the Project

## Participation:

- Be a “a friend of the project”
- Participate in algorithms/social design research

## Partnership:

- Data exchange
- Incorporating specialized services
- Funding

# Links and Contacts

<http://businessconsumer.net>

Facebook group “Business-Consumer Networks”

<http://www.facebook.com/group.php?gid=7986532437>

<http://yury.name>

[yury@caltech.edu](mailto:yury@caltech.edu)

+1 626 463 3668

# Thanks for your attention!

## Questions?

- Comments to vision?
- Relevant research topics?
- Any constructive ideas?
- How can you contribute?