



Social Word-of-Mouth and Web Content Analysis (社群口碑與網路文本分析)

時間：2012/06/04(一)13:30-16:30

地點：財團法人商業發展研究院
台北市復興南路1段303號3樓(道慈大樓) 301會議室

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2012-06-04



Outline

1. 社群媒體的特性
2. 社群媒體發展趨勢
3. 社群媒體商業應用
4. 社群口碑趨勢分析
5. 網路文本分析



社群媒體的特性



#1 Activity on the Web?

Social Media





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Dave Evans with Jake McKee

Foreword by Susan Bratton, CEO, Personal Life Media, Inc.

Social Media Marketing

The Next Generation of Business Engagement

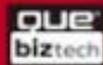


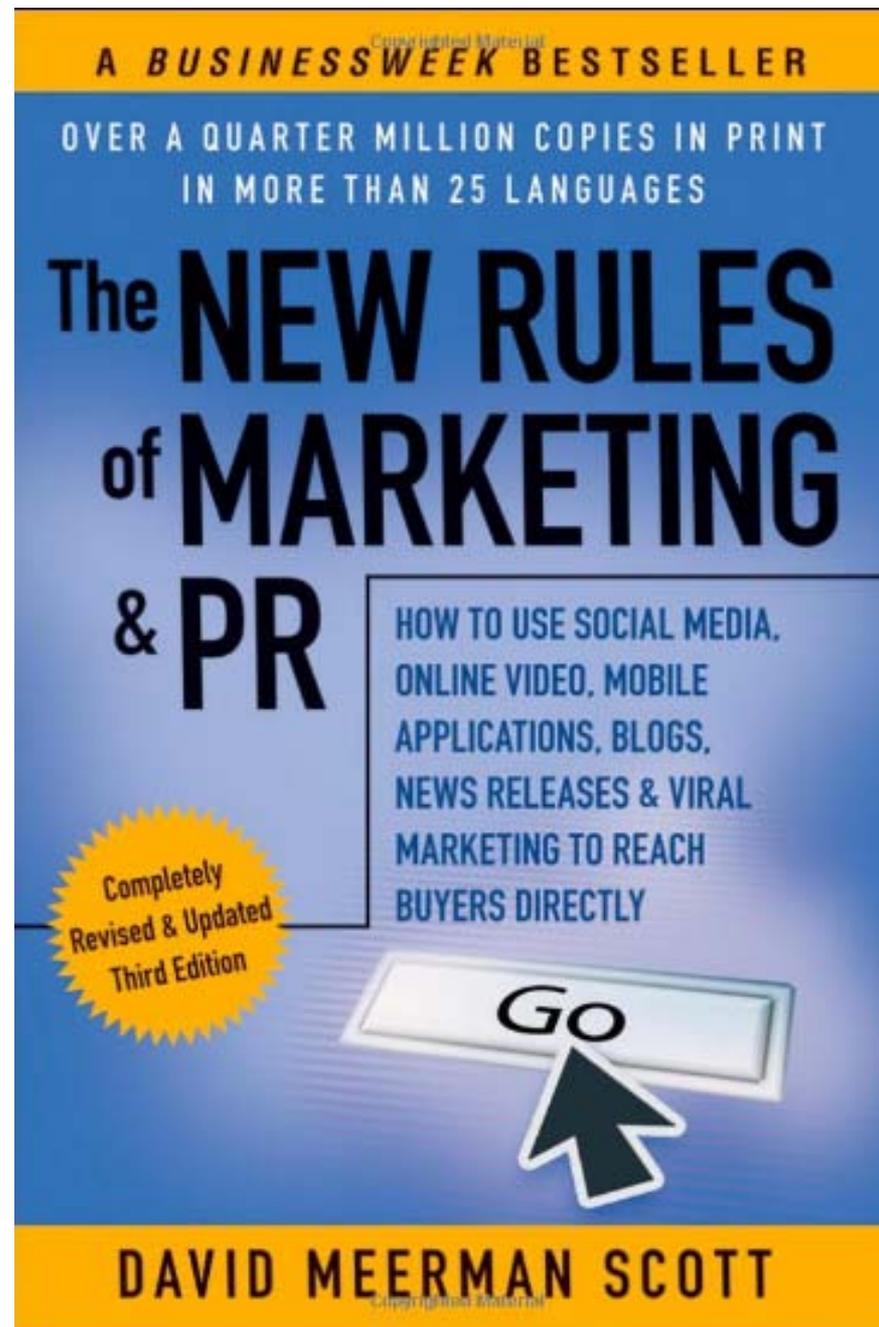


Social Media

Strategies for Engaging in Facebook, Twitter & Other Social Media

Marketing







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THE

SOCIAL MEDIA MANAGEMENT HANDBOOK

EVERYTHING YOU NEED TO KNOW
TO GET SOCIAL MEDIA WORKING
IN YOUR BUSINESS



NICK SMITH & ROBERT WOLLAN

WITH

CATHERINE ZHOU

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THE | **SOCIAL** **MEDIA** **BIBLE** | **LON** **SAFKO** **SECOND** **EDITION**

TACTICS, TOOLS & STRATEGIES
 **FOR BUSINESS SUCCESS**

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**#1
BESTSELLER!**

Completely Revised and Updated!

FACEBOOK MARKETING

Third Edition

Leveraging Facebook
for Your Marketing Campaigns



JUSTIN LEVY

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Chris Treadaway and Mari Smith

Facebook[®] Marketing

AN HOUR A DAY

INSIDE: Get your free ticket to an online Facebook Marketing Workshop with the authors!





Michael Miller

BESTSELLER!

YouTube®

Online Video Marketing for Any Business

for Business

Second Edition

This latest edition is a must-read book for any business owner wanting to implement a successful inbound video marketing campaign.

—Rey Ybarra, Host/Producer of "The New Media Radio Hour"
www.newmediaradiohour.com



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YouTube Marketing Handbook

Marc Bullard - YouTube Marketing Handbook

infomarketingexperts 1 book

Views

Marketing Efforts

0:00 / 8:19

Like Add to Share

443,731

1,324 likes, 0 dislikes

Step by step instruction on how to use and market with just about every single feature of YouTube. Learn how to market, analyze, and research potential customers with FREE tools provided by YouTube.

by Marc Bullard

Video Marketing Specifically for YouTube

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INSIDE: Your Google AdWords™ gift card worth \$50—show your ads on YouTube!

Greg Jarboe

Foreword by Brian Cusack, Head of Display, Retail, and Canada, Google

YouTube® and Video Marketing

AN HOUR A DAY

SECOND EDITION





Social Media



Management

Let Us Manage Your
Social Media Campaigns



Social Media Management Pyramid



Social Media Marketing For Business





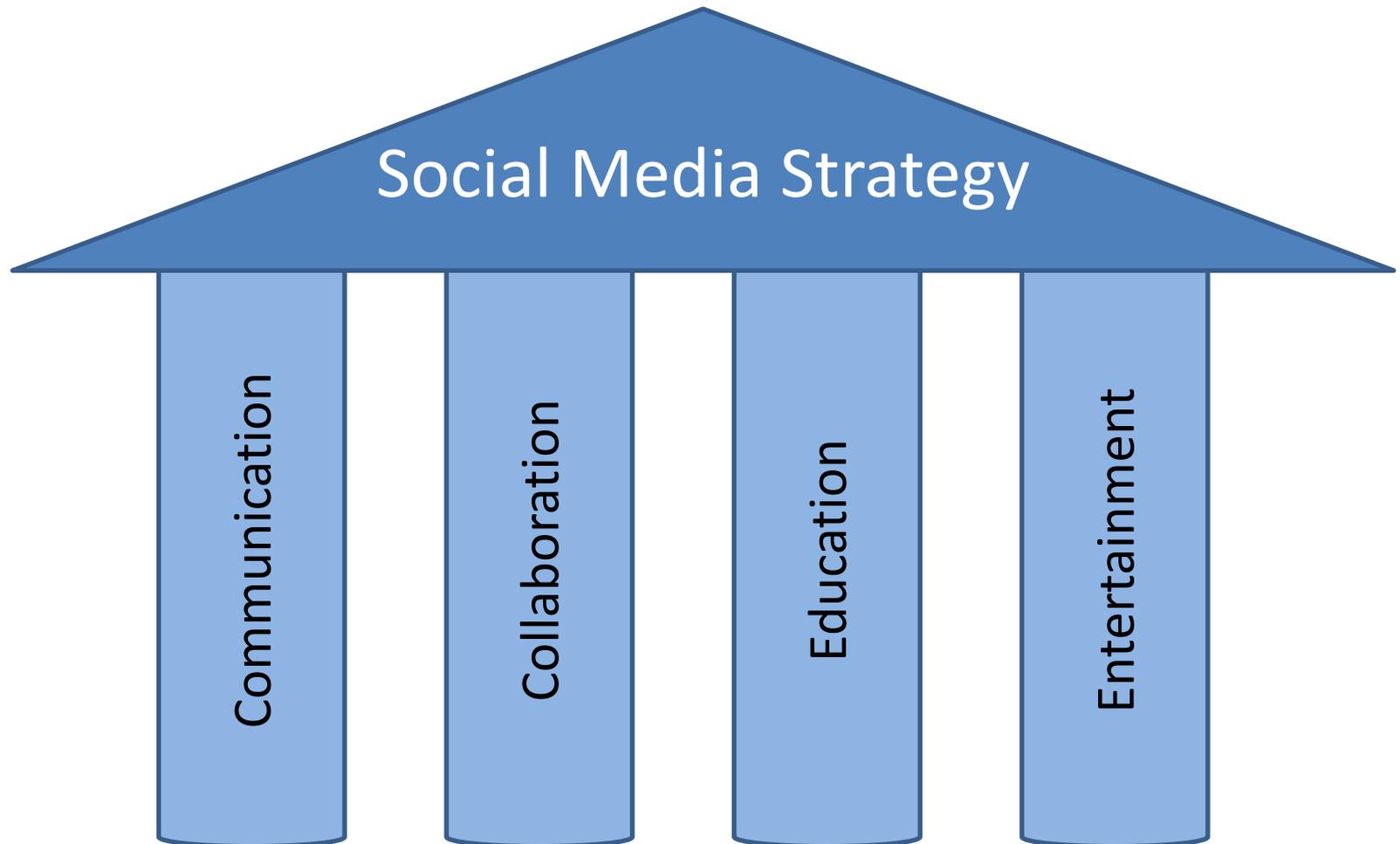
Marketing 4P to 4C

- **Product** → **Customer solution**
- **Price** → **Customer Cost**
- **Place** → **Convenience**
- **Promotion** → **Communication**



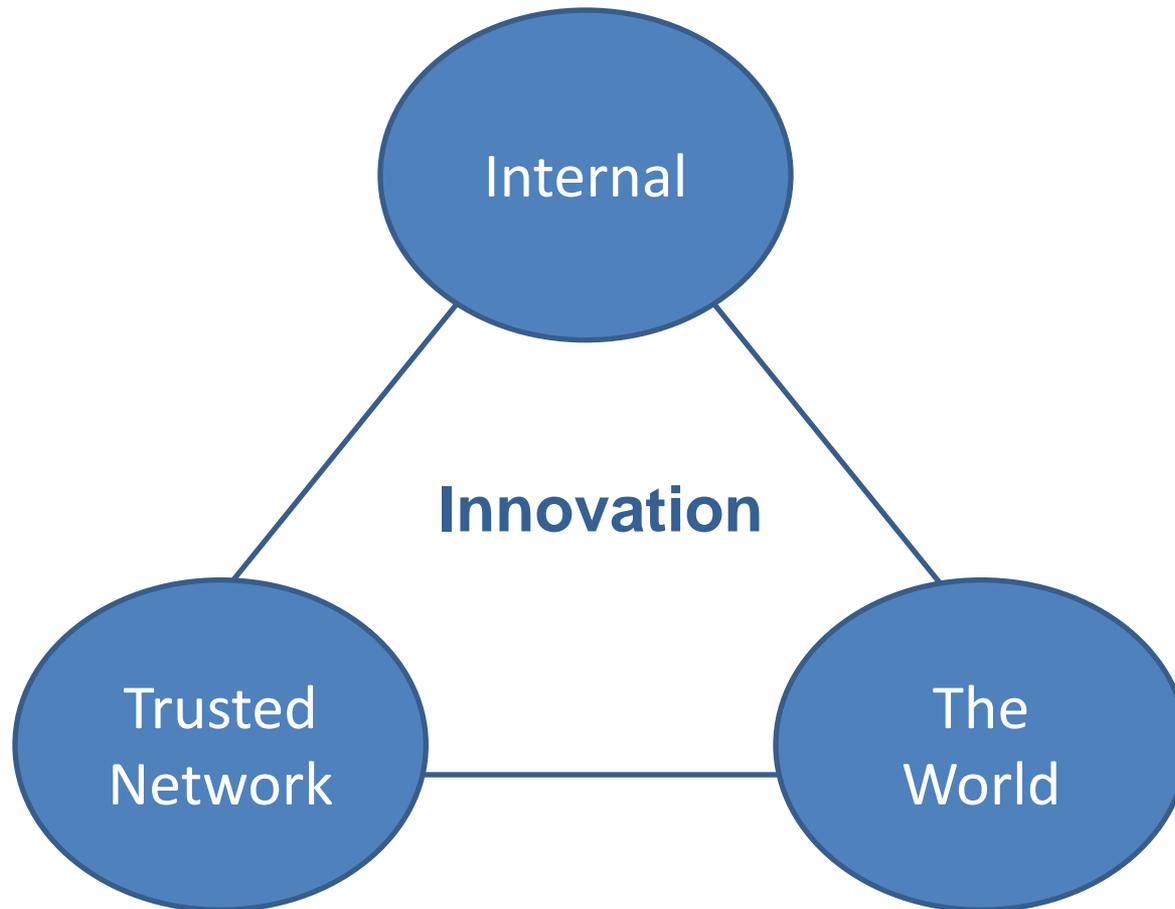
Four Pillars of **Social Media Strategy**

C²E²





Social Media Can Help Orchestrate Three Spheres to Influence to Boost a Company's Innovation Efforts





Examples of Social Media Selling Strategies in the Market Today



Strategy #2 – “Engaging the Hive”: Get Customers to Mobilize Their Personal Networks



Social Media Landscape





社會媒體 (social media)的定義

(Kaplan & Haenlein, 2010)

建立在Web 2.0概念與技術的基礎上，
以網路為平台的應用系統
(Internet-based applications)，
讓網路使用者可以
方便產生與交流使用者建立的內容
(user generated content; UGC)。



社會媒體服務 (Social Media Services)

提供使用者在網路環境中使用
社會媒體應用系統的線上服務
(online services)

Google+, Youtube, Facebook, Plurk



社群媒體發展趨勢



THE WEB 2.0 REVOLUTION, **SOCIAL MEDIA**, AND INDUSTRY DISRUPTORS



SOCIAL LUMAscape

MARKETER

CONSUMER

twitter

facebook

Social Marketing Management
 BUDDY#MEDIA shoutlet SYNCAPSE vitrue
 Context Optional Spredfast involver sprinkl

Social Publishing Platforms
 hootsuite EXPION awareness tweet tapif Flowtown
 hear say MUTUALMIND SOCIALFLOW Socialware
 social.vot SPROUT SOCIAL ArgyleSocial

Social Promotion Platforms
 offerpop Seismic Strutta votigo Social Amp
 5353factory Zuberance BuzzAgent FanZilla
 SocialAppsHQ extole CanSea

Social Advertising Platforms
 TBG BLINK MEDIA spruceMEDIA AdApply Involved Media
 Lexity epic social SOCIALTYZE
 UNIFIED nanigans
 GRAPH EFFECT Involved Media Marin SAM Taykey Ybrant
 Clickable KENSHOOD optimal EfficientFrontier

Social Ad Networks
 OneRiot rockyou 360ACROSS LIFESTREET
 radiump ONE XGRAPH media6degrees

Social Intelligence
 PostRank Trendrr ATTENTIVY VISIBLE TRAACKR
 synthesio crimson hexagon actionly vnl heat
 BuzzStream bottlen so colligent
 trackur FLYING SALES systemx intogy brandprotect
 radianz BOBOUTLAGE M. backtype
 ALTERIAN conversion NETBASE

Social Scoring
 KLOUT
 empireavenue
 PeerIndex
 Kred

Social TV
 tunerfish Snappi PHIL
 GetGlue INTO-NOW miso FLINGO
 UM&M! yep tv clipsync

Social Networks - Other
 Linked in TAGGED my friendster goia
 plaxo Path CLUB PEAKERS Merchant NABBO
 myYearbook orkut Google+ #hashable renren friend.ly

Social Business Software
 pasenger lithium JIVE telligent news.gator

External (Customer) Facing
 Ingage satisfaction mzinga
 Assistly TickApps LeverageSoftware Pluck

Internal (Employee) Facing
 huddle cubetree Watchitoo yammer TWiki
 moxie Socialtext sknible SOCIALCAST

Blogging Platforms
 tumblr posterous
 Blogger
 WordPress SQUARESPACE Joomla! JUX

Social Commerce Platforms
 Payment Moontoast SHOP TAB live gamer dotbox
 macog Molko triapay Storenvy shop igniter
 FLUID VendorShop eevie miiyoni

Social Brand Engagement
 socialvibe mylikes adly local response
 appsavvy DYNAMIC SIGNAL
 UNWOLY sharethrough

Stream Platforms
 UberMedia TweetDeck
 twirl AOL Lifestream...

Twitter Apps
 twitpic tweetmeme StockTwits Cadmus
 wefollow fixup! Listorious twitvid

Facebook Apps
 LIKESTER BranchOut snapto
 SNAP badoo smile causes booshaka

Facebook Gaming
 playfish zynga MetroGames
 Playdom ZAMM CrowStar ZIPZAPPLAY
 socialpoint DIGITAL WILDNEEDLEGAMES

Social Data
 GNP DATA SIFT TOPY RapLeaf

Social Search & Browsing
 TOPY Wink Aardvark StumbleUpon greplin spokeo

Social Mobile Apps & Games
 Places ingmoco
 WAZE IWIIX
 Foodspotting glu h55
 pelago PlayLamp footAN

Social Shopping
 Zappi zappli
 Swipely LOCKERZ
 SUPPLY koooodle

Content Sharing (Reviews/Q&A/Docs)
 topix Pinterest fotopedia Scribd
 yelp Doc-Share overplaces
 Angie's list Quora

Social Referral
 socialboot
 500friends TurnTo curebit

Photo/Video Sharing
 SmugMug ZangZing photobucket olapic
 Instagram fixable flickr Picasa klip

Community Platforms
 yuku GROU.PS TickApps
 RuddyPress NING! mixxt Groupify

Plug-ins/Widgets
 tunc Bazaarvoice gigya Badgeville
 ShareThis spinback janram conduit
 Add This meebp PowerReviews
 Mass Relevance

Traditional Publishers
 DAILY CANDY CNN The New York Times
 abc THE WALL STREET JOURNAL HEARST corporation
 AOL. CONDÉ NAST

Denotes acquired company

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Web 2.0

- The popular term for **advanced Internet technology and applications**, including blogs, wikis, RSS, and social bookmarking.
- One of the most significant differences between Web 2.0 and the traditional World Wide Web is greater **collaboration** among Internet users and other users, content providers, and enterprises.



THE WEB 2.0 REVOLUTION, SOCIAL MEDIA, AND INDUSTRY DISRUPTORS

- **REPRESENTATIVE CHARACTERISTICS OF WEB 2.0**
 - The ability to tap into the collective intelligence of users
 - Data is made available in new or never-intended ways
 - Web 2.0 relies on **user-generated** and **user-controlled content** and **data**
 - The virtual elimination of software-upgrade cycles makes everything a *work in progress* and allows rapid prototyping



THE WEB 2.0 REVOLUTION, SOCIAL MEDIA, AND INDUSTRY DISRUPTORS

- Users can access applications entirely through a browser
- An architecture of participation encourages users to add value to the application
- A major emphasis on social networks and computing
- Strong support of information sharing and collaboration
- Rapid and continuous creation of new business models



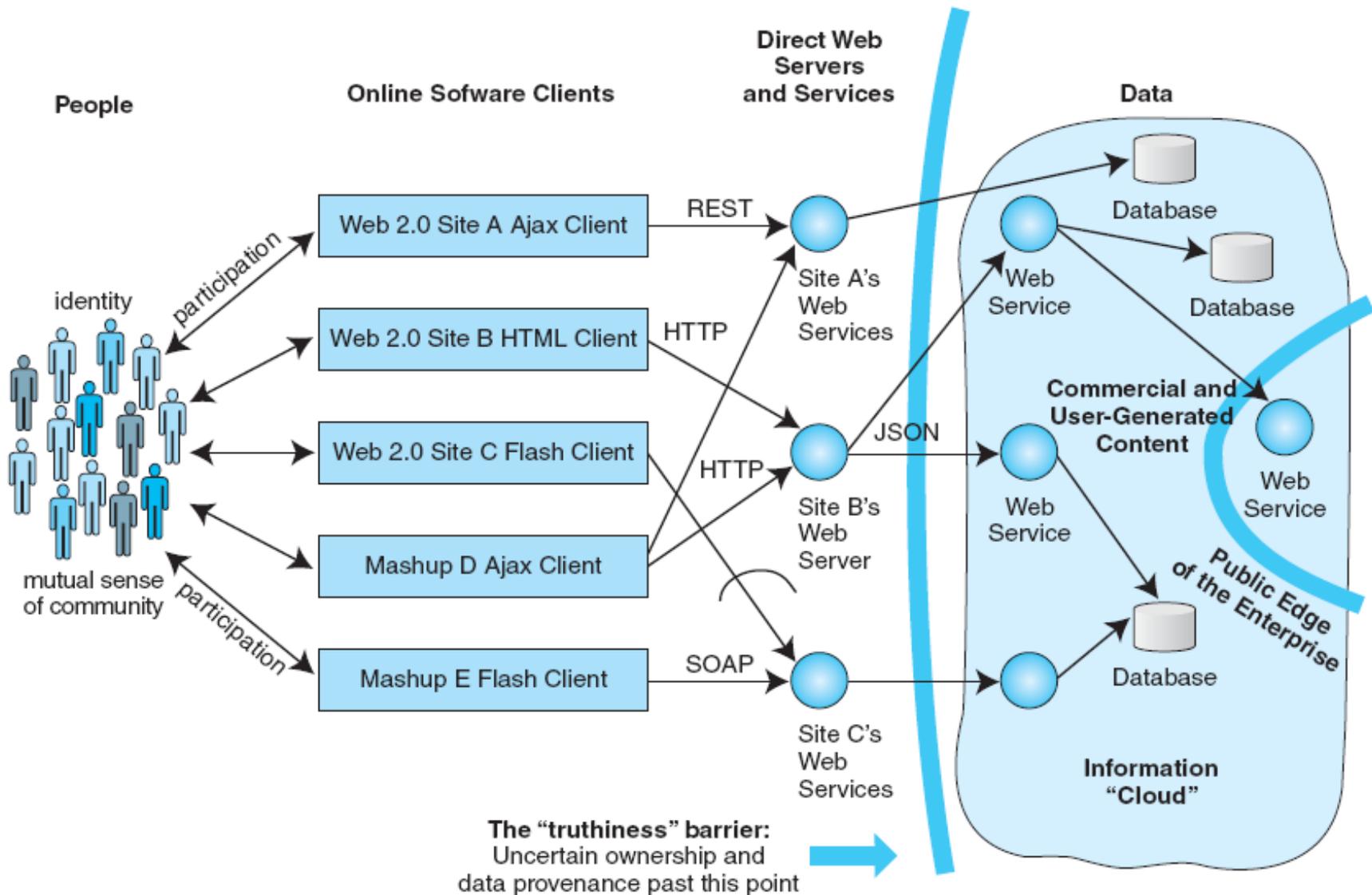
THE WEB 2.0 REVOLUTION, SOCIAL MEDIA, AND INDUSTRY DISRUPTORS

- **WEB 2.0 COMPANIES AND NEW BUSINESS MODELS**

- **social media**

The **online platforms and tools** that people use to **share opinions, experiences, insights, perceptions, and various media**, including photos, videos, and music, with each other.

EXHIBIT 7.1 The Emergence and Rise of Mass Social Media





THE WEB 2.0 REVOLUTION, SOCIAL MEDIA, AND INDUSTRY DISRUPTORS

- **INDUSTRY AND MARKET DISRUPTORS**
 - **disruptors**

Companies that introduce a significant change in their industries, thus causing a disruption in normal business operations.



ONLINE SOCIAL NETWORKING: BASICS AND EXAMPLES

- **social networking**

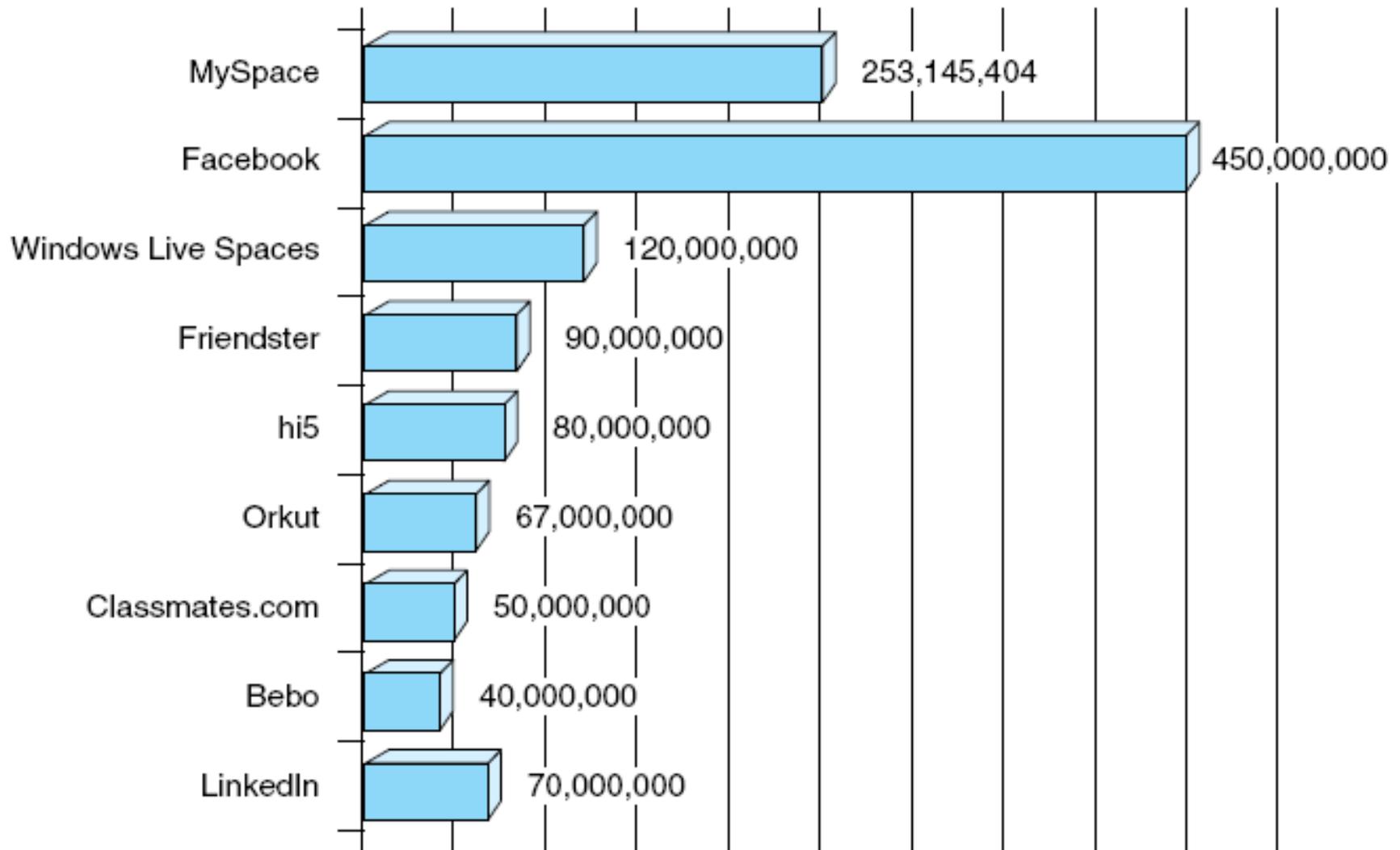
Social networks and activities conducted in social networks. It also includes activities conducted using Web 2.0 (e.g., wikis, microblogs) not within social networks.

- **The Size of Social Network Sites**
- **New Business Models**



EXHIBIT 7.4

The Top Nine Social Networking Sites





ONLINE SOCIAL NETWORKING: BASICS AND EXAMPLES

– social network analysis (SNA)

The mapping and measuring of relationships and information flows among people, groups, organizations, computers, and other information- or knowledge-processing entities. The nodes in the network are the people and groups, whereas the links show relationships or flows between the nodes. SNAs provide both visual and a quantitative analysis of relationships.



BUSINESS AND ENTERPRISE SOCIAL NETWORKS

- The major reasons to use or deploy a business social network are to:
 - Build better customer relationships
 - Improve knowledge management
 - Facilitate recruiting and retention
 - Increase business opportunities
 - Build a community
 - Gain expert advice
 - Improve trade show experiences
 - Improve communication and collaboration



THE FUTURE: WEB 3.0 AND WEB 4.0

- **Web 3.0**

A term used to describe the future of the World Wide Web. It consists of the creation of high-quality content and services produced by gifted individuals using Web 2.0 technology as an enabling platform.



THE FUTURE: WEB 3.0 AND WEB 4.0

– Semantic Web

An evolving extension of the Web in which Web content can be expressed not only in natural language, but also in a form that can be understood, interpreted, and used by intelligent computer software agents, permitting them to find, share, and integrate information more easily.



THE FUTURE: WEB 3.0 AND WEB 4.0

– Web 4.0

The Web generation after Web 3.0. It is still mostly an unknown entity. However, it is envisioned as being based on islands of intelligence and as being ubiquitous.

– Future Threats

- Security concerns
- Lack of Net neutrality
- Copyright complaints
- Choppy connectivity



COMMERCIAL ASPECTS OF WEB 2.0 AND SOCIAL NETWORKING APPLICATIONS

- **WHY IS THERE AN INTEREST?**
 - Web 2.0 applications are spreading rapidly, and many of them cater to a specific *segment of* the population (e.g., music lovers, travelers, game lovers, and car fans), enabling segmented advertising
 - Many users of Web 2.0 tools are young, and they will grow older and have more money to spend



COMMERCIAL ASPECTS OF WEB 2.0 AND SOCIAL NETWORKING APPLICATIONS

- **ADVERTISING USING SOCIAL NETWORKS, BLOGS, AND WIKIS**
 - **Viral (Word-of-Mouth) Marketing**
 - viral blogging
 - Viral (word-of-mouth) marketing done by bloggers.
 - **Classified Ads, Job Listings, and Recruitment**
 - **Special Advertising Campaigns**
 - **Mobile Advertising**



COMMERCIAL ASPECTS OF WEB 2.0 AND SOCIAL NETWORKING APPLICATIONS

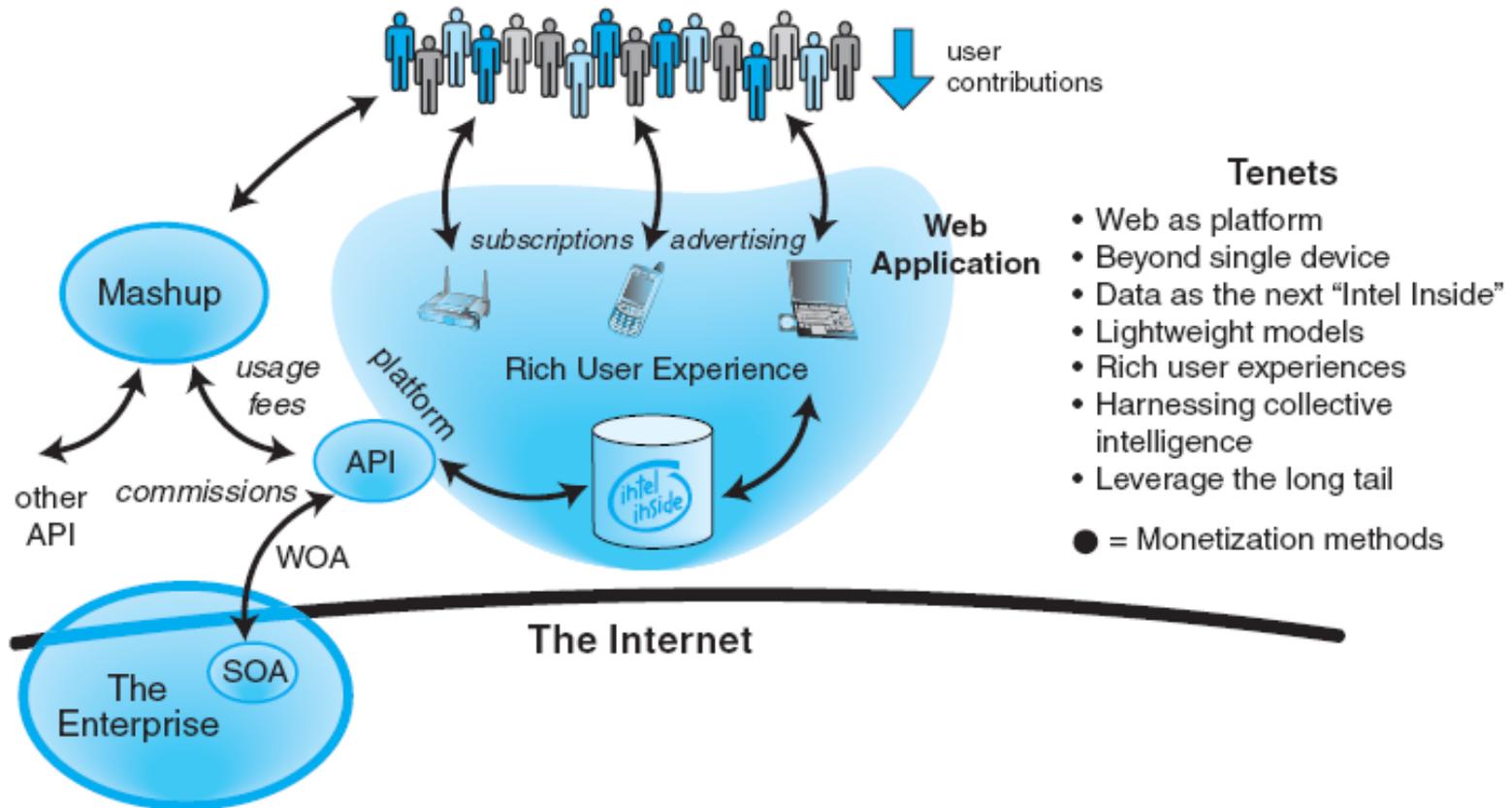
- **SHOPPING IN SOCIAL NETWORKS**
- **FEEDBACK FROM CUSTOMERS:
CONVERSATIONAL MARKETING**
 - **Customer Feedback with Twitter**



COMMERCIAL ASPECTS OF WEB 2.0 AND SOCIAL NETWORKING APPLICATIONS

- **COMMERCIAL ACTIVITIES IN BUSINESS AND ENTERPRISE SOCIAL NETWORKS**
 - **Finding and Recruiting Workers**
 - **Management Activities and Support**
 - **Training**
 - **Knowledge Management and Expert Location**
 - **Enhancing Collaboration**
 - **Using Blogs and Wikis Inside the Enterprise**

EXHIBIT 7.5 Generating Revenue from Web 2.0 Applications





COMMERCIAL ASPECTS OF WEB 2.0 AND SOCIAL NETWORKING APPLICATIONS

- **REVENUE-GENERATION STRATEGIES IN
SOCIAL NETWORKS**
 - Increased Revenue and Its Benefit
- **RISKS AND LIMITATIONS WHEN INTERFACING
WITH SOCIAL NETWORKS**
- **JUSTIFYING SOCIAL MEDIA AND
NETWORKING**

ENTERTAINMENT WEB 2.0 STYLE: FROM SOCIAL NETWORKS TO MARKETPLACES

- **MOBILE WEB 2.0
DEVICES FOR
ENTERTAINMENT AND
WORK**
 - iPhone and Its Clones

iPhone 3G





社群媒體商業應用



Social Media Word-of-Mouth Marketing



How to Start Buzz

- Identify influential individuals and companies and devote extra effort to them
- Supply key people with product samples
- Work through community influentials
- Develop **word-of-mouth** referral channels to build business
- Provide compelling information that customers want to pass along

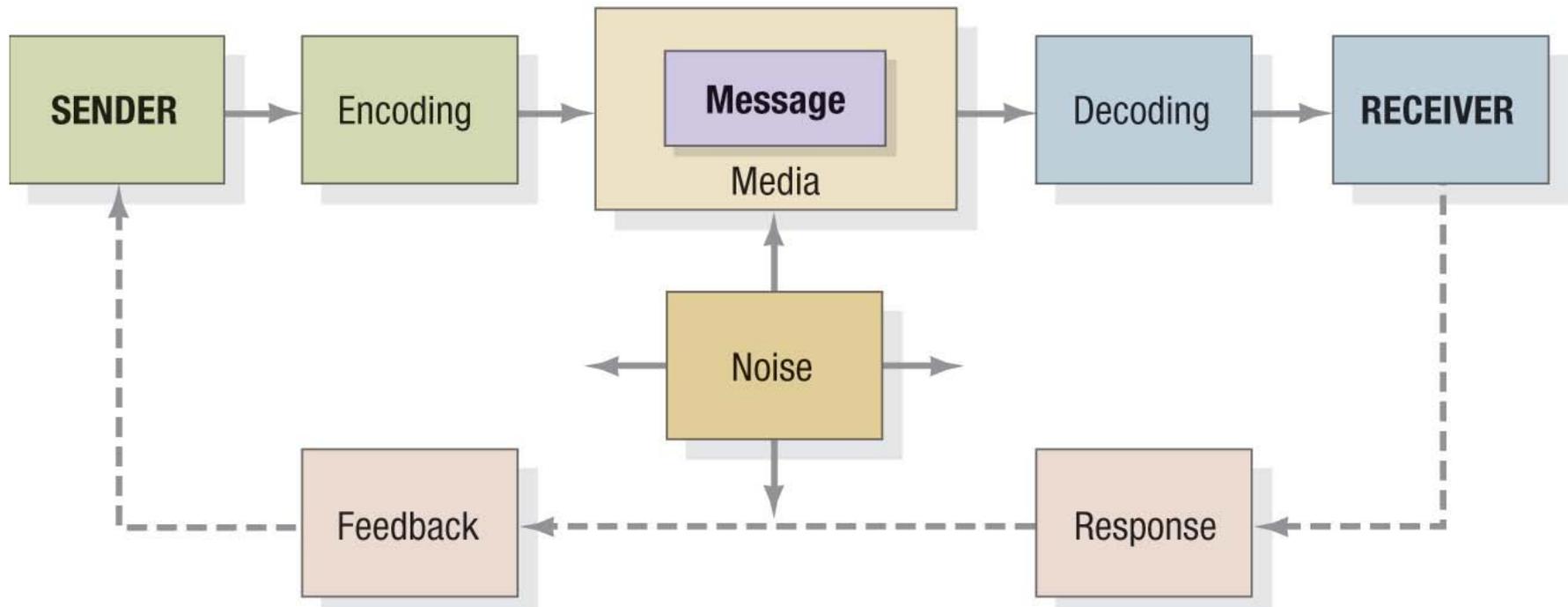


Word-of-Mouth Marketing

- Person-to-person
- Chat rooms
- Blogs
- Twitter, Plurk
- Facebook
- Youtube

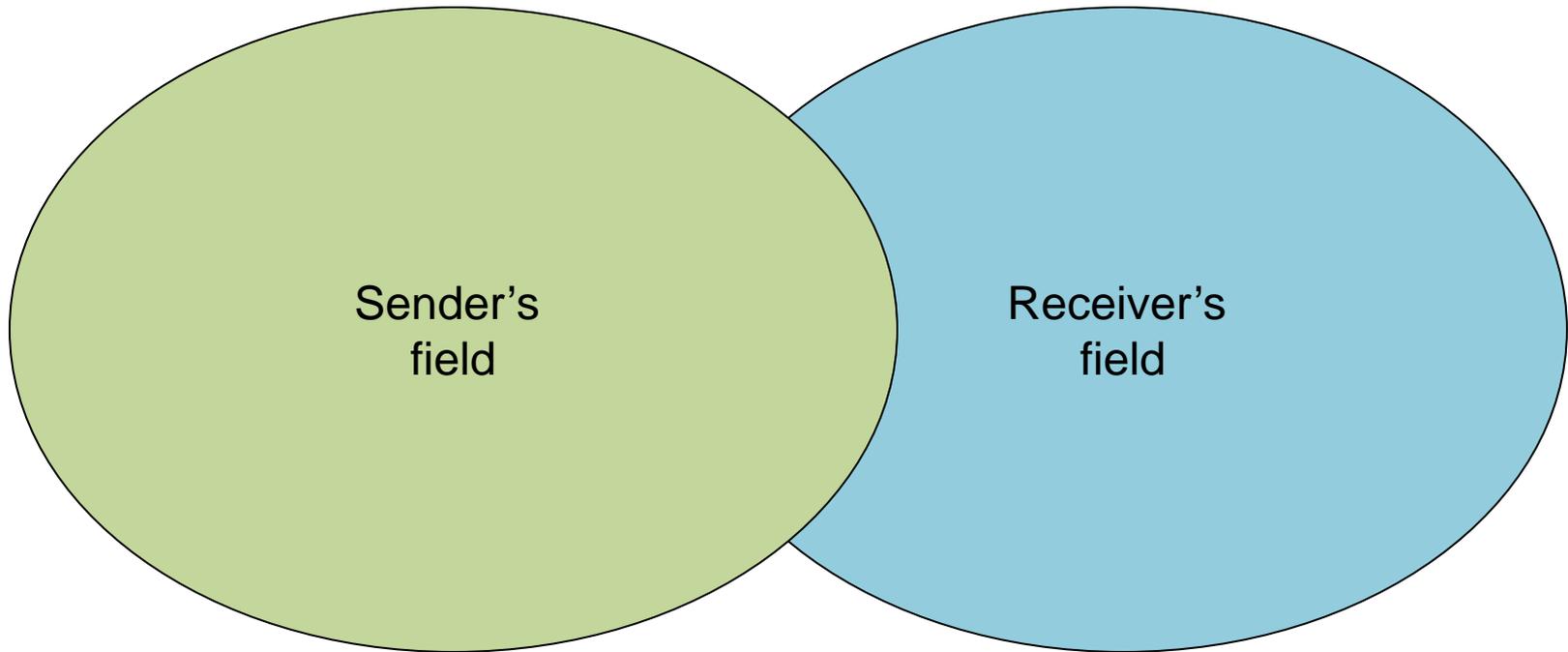


Elements in the Communications Process





Field of Experience



The Communications Process



Selective attention

Selective distortion

Selective retention

Social Media Marketing For Business





Social Media Marketing

- Scorecard for Social Media
 - 4 - Extremely Valuable
 - 3 - Very Valuable
 - 2 - Somewhat Valuable
 - 1 - Not Very Valuable
 - 0 - No Value



Scorecard for Social Media

Social Media Tool	Internal Value	External Value
Facebook	4 3 2 1 0	4 3 2 1 0
LinkedIn	4 3 2 1 0	4 3 2 1 0
Blogger	4 3 2 1 0	4 3 2 1 0
SlideShare	4 3 2 1 0	4 3 2 1 0
Wikipedia	4 3 2 1 0	4 3 2 1 0
Flickr	4 3 2 1 0	4 3 2 1 0
Picasa	4 3 2 1 0	4 3 2 1 0
iTunes	4 3 2 1 0	4 3 2 1 0
Podcast	4 3 2 1 0	4 3 2 1 0
Youtube	4 3 2 1 0	4 3 2 1 0
Twitter	4 3 2 1 0	4 3 2 1 0
Plurk	4 3 2 1 0	4 3 2 1 0

Scorecard for Social Media

4 - Extremely Valuable, 3 - Very Valuable, 2 – Somewhat Valuable, 1 - Not Very Valuable, 0 - No Value



Social Media and the Voice of the Customer

- Listen to the **Voice of the Customer (VoC)**
 - Social media can give companies a torrent of highly valuable customer feedback.
 - Such input is largely free
 - Customer feedback issued through social media is qualitative data, just like the data that market researchers derive from focus group and in-depth interviews
 - Such qualitative data is in digital form – in text or digital video on a web site.



Accenture's SLOPE Model for Listening to the Social Voice of the Customer

Social Voice of the Customer

Synchronize

Listen &
Learn

Optimize &
Operationalize

Personalize &
Propagate

Execution &
Expectations



Listen and Learn

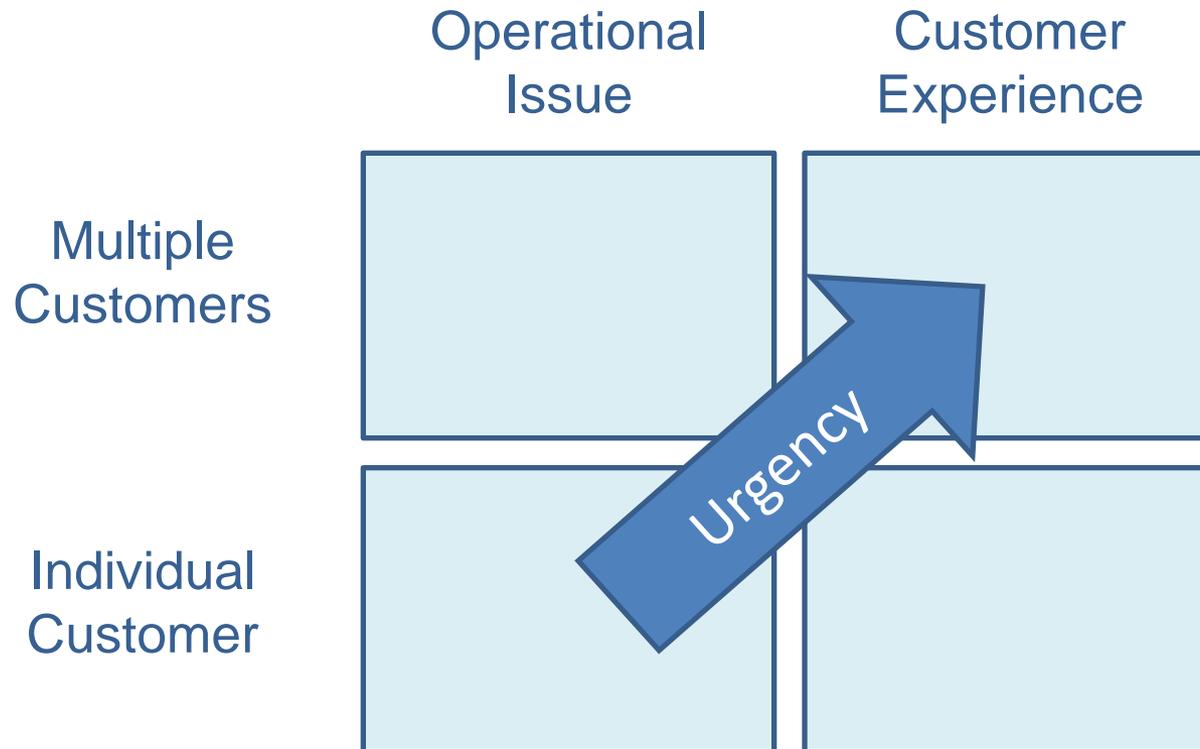
Text Mining for VoC

- Categorization
 - Understanding what topics people are talking or writing about in the unstructured portion of their feedback.
- Sentiment Analysis
 - Determining whether people have **positive**, **negative**, or **neutral** views on those topics.



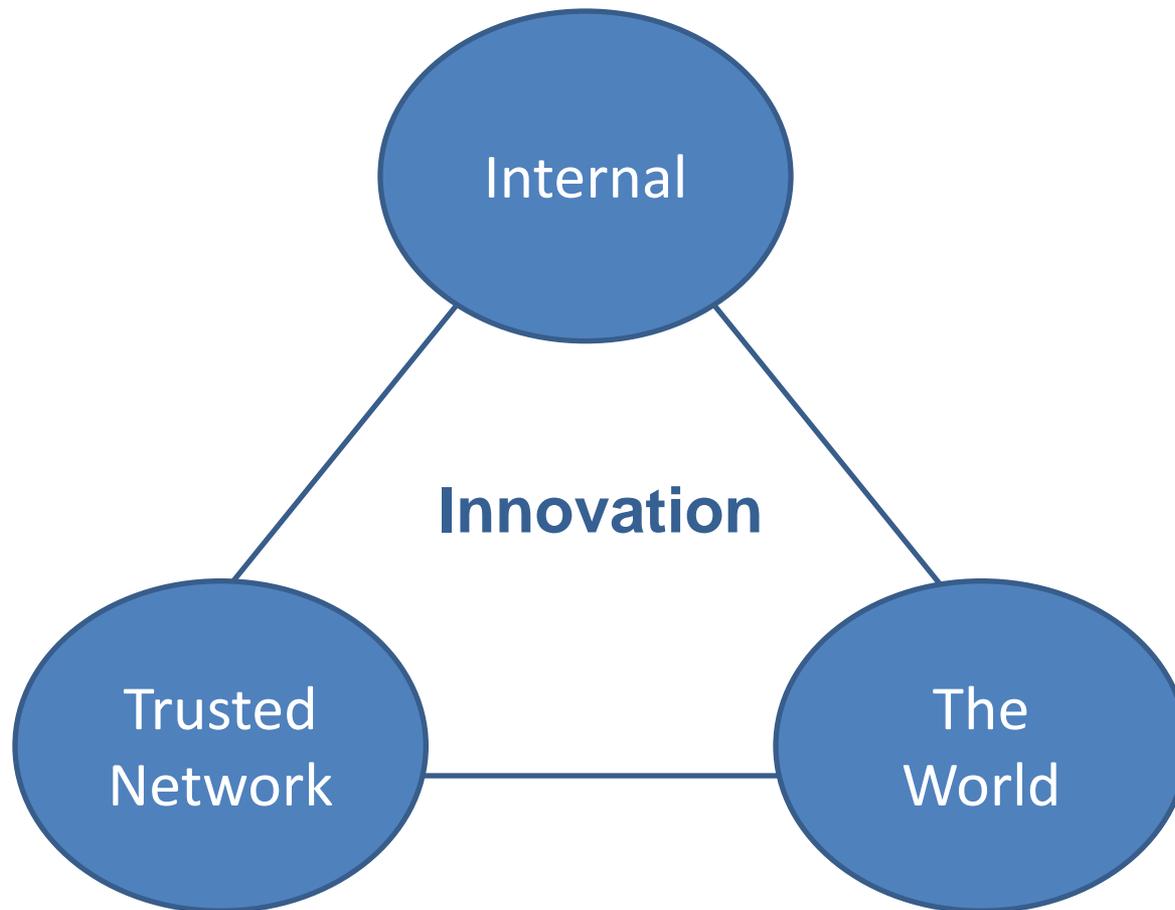
Customers' Opinions About Operational versus Customer Experience Issues

Reactive, Reputation Management





Social Media Can Help Orchestrate Three Spheres to Influence to Boost a Company's Innovation Efforts





Examples of Social Media Selling Strategies in the Market Today





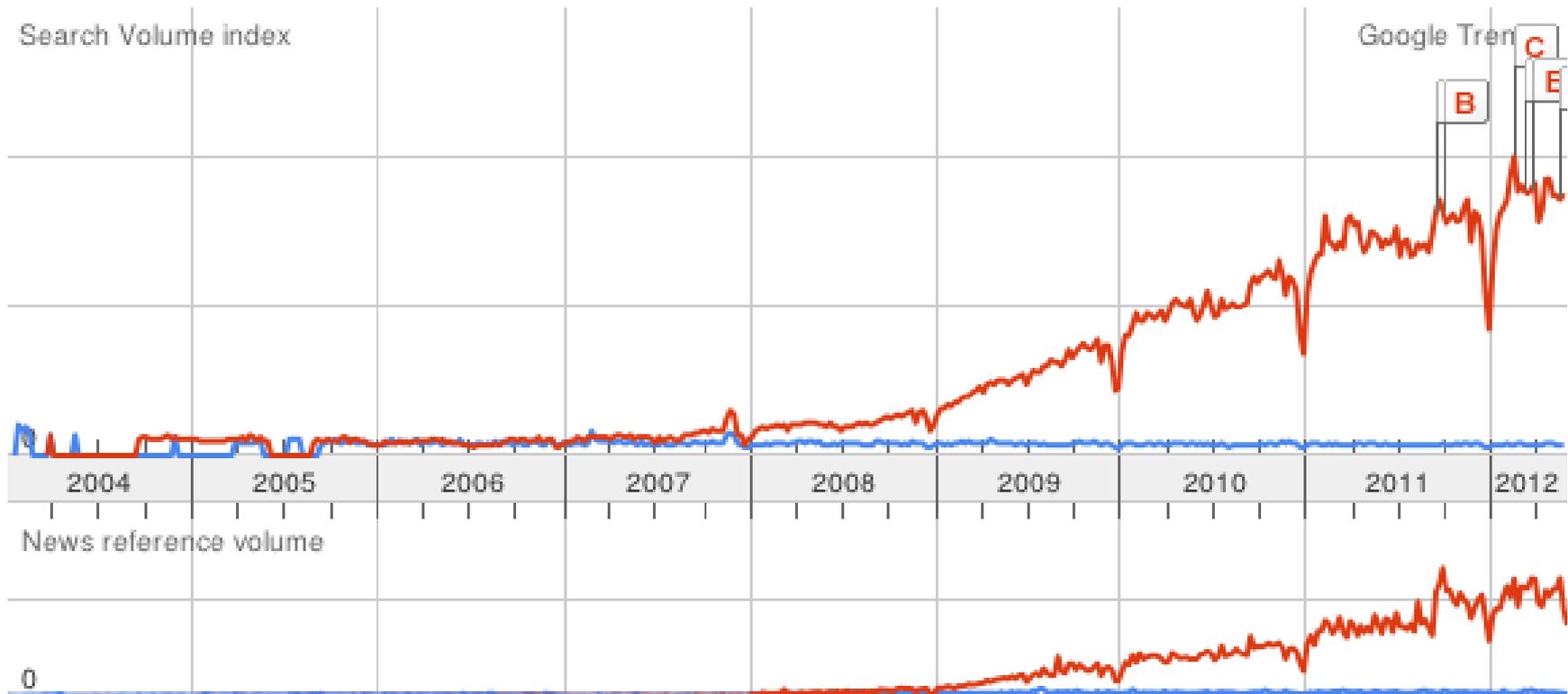
社群口碑趨勢分析



Word-of-Mouth

Social Media

word of mouth 1.00 social media 7.40





拉NO佛國際集團 民國一百年隆重鉅獻

CH4 LTV

戲劇 | 頻道 | 活動 | 討論 | 購物

www.lenovoclub.com.tw/careerlife/

副總爭霸戰 觀眾選邊讚

特別介紹 姓沛的

人物關係圖

劇照 下載

職場人生親似海深 誰擁姓沛的就穩升

惡男奸女爭權謀，纏鬥三回定生死 非死不可選邊讚，若贏姓沛的跟你走！

Case Study: LenovoClub CareerLife 職場人生



拉NO佛國際集團鉅獻... www.lenovoclub.com.tw/careerlife/

第一集 按怎潑攏免驚 熱烈上映中

[職場人生] 第一集 不管安怎潑攏免驚



0:00 / 2:02

拉NO佛國際集團空出副總職缺，
平日是死對頭的行銷部經理麥可陳，和業務部經理尖妮ㄟㄟ，
為求升官互相惡鬥，
嗆聲過程中有人順勢把手中一杯水潑出……

浪浪 PLURK
非死不可 facebook 分享

©2011 LTV CORPORATION AND LANGFO INTERNATIONAL CORPORATION CHA LTV

Case Study: LenovoClub CareerLife 職場人生



YouTube player interface showing the video "【職場人生】第一集 不管安怎潑攏免驚". The video title is "【職場人生】第一集 不管安怎潑攏免驚". The video is from the channel "Itvchn" and has 13 videos in the series. The video player shows a cityscape at night with the title "職場人生" in large red characters and the subtitle "拉NO佛跨國企業集團鉅獻". The video has 124,781 views and 203 likes. The video player controls show a progress bar at 0:03 / 2:02 and a resolution of 360p.

【職場人生】第一集 不管安怎潑攏免驚

Itvchn 訂閱 13部影片

第二集

職場人生

拉NO佛跨國企業集團鉅獻

0:03 / 2:02 360p

喜歡 新增至 分享 124,781

Itvchn 於 2011-05-06 上傳

拉NO佛國際集團空出副總職缺，平日是死對頭的行銷部經理麥可陳和業務部經理尖妮口舌互嗆.....

203人喜歡，14人不喜歡

影片出處：

擔心聖誕夜訂不到餐廳？
上傳者：lp1999go
觀看次數：343 推薦影片

【職場人生】第二集 姓沛的係按呢用ㄟ
by Itvchn
觀看次數：111,860

【職場人生】第三集 副總爭奪戰最終回
by Itvchn
觀看次數：31,592

[TVBS 報導]「筆電人生」鄉土劇 啥！廣告仿
by Itvchn
觀看次數：2,095

【職場人生】第ㄟ篇
by Itvchn
觀看次數：22,466

【職場人生】精彩預告(短)
by Itvchn
觀看次數：6,944

Case Study: LenovoClub CareerLife 職場人生



[職場人生] 第一集 不管安怎
www.youtube.com/watch?v=XRUVbFEnPig

喜歡
+ 新增至
分享

124,781

總觀看次數：124,781

評分：217

喜歡的：203

不喜歡的：14

評論：63

我的最愛：119

重要探索活動

日期	活動	觀看次數
A	11-05-12 精選影片初次觀看次數	7,250
B	11-05-12 初次嵌入於 - static.ak.facebook.com	6,360
C	11-05-11 初次嵌入於 - share.youthwant.com.tw	2,946
D	11-05-10 首次透過廣告播放	7,727
E	11-05-10 初次嵌入於 - www.mobile01.com	2,820
F	11-05-08 初次嵌入於 - www.lenovoclub.com.tw	14,749
G	11-05-08 來自 YouTube 搜尋的首次推薦 - 職場人生	9,522
H	11-05-08 首次透過行動裝置播放	4,700
I	11-05-08 首次推薦媒介： - www.facebook.com	4,563
J	11-05-06 來自相關影片的首次推薦 - [職場人生] 第二集 姓沛的係按呢用	8,749

觀眾

此影片最受下列人士歡迎：

性別	年齡
----	----

此影片在以下地點最受歡迎：

[職場人生] 精彩預告(短)
by Itvchn
觀看次數：6,944

世界最小台筆電
by cbate
觀看次數：27,623

頭夜市D第一集片段-江一官向警察挑釁(附字幕)
by Ian08438
觀看次數：31,780

超級偶像-崩崩哥
by wenhot
觀看次數：539,566

2010-03-31 夜市人生72集 有志跆拳道第一名 大風如
by a1245648
觀看次數：19,463

職場人生-孤島教師下集.mp4
by PhoneMovieTv
觀看次數：3,862

夜市人生 爆橋拳 (格鬥天王版)
by st10043
觀看次數：489,652

職場人生 辦桌總舖師 上

Case Study: LenovoClub CareerLife 職場人生



[職場人生] 第一集 不管安怎 x

www.youtube.com/watch?v=XRUVbFEnPig

觀眾
此影片最受下列人士歡迎：

性別	年齡
男性	35-44
男性	25-34
男性	18-24

此影片在以下地點最受歡迎：

更多
較少

Itvchn 於 2011-05-06 上傳

拉NO佛國際集團空出副總裁，平日是死對頭的行銷部經理麥可陳和業務部經理尖妮ㄟㄟ互哈.....
http://www.lenovoclub.com.tw/careerlife/?utm_source=Youtube&utm_medium=vi...

顯示更多

最佳評論

不簡單的宣傳片段!! 裡面完全沒帶半點廣告氣色, 亦完全沒有感到是在播廣告! 而且他完全不會想在電視來放!! 因為在電視大家就會以為是在看廣告!! 但在電腦世界大家就會以為是真的什麼新的連續劇!! 成功的廣告, 不會在廣告裡說那是什麼產品!! 兩個字已經完全地帶出廣告意思!!! 不簡單的廣告!! 不簡單的姓沛和拉NO佛
nomuchmore 7個月以前 14

"我就跟你姓尖" 笑死XDDD
p90349 6個月以前 10

203人喜歡, 14人不喜歡

影片出處:
OA拆組達人-OA辦公家具
買賣拆組專家

- by st10043
觀看次數: 489,652
- 職場人生-辦桌總舖師 上集.mp4
by PhoneMovieTV
觀看次數: 1,001
- Nothing New No Response
by vutuanduy
觀看次數: 159,593
- 職場人生-木船師 上集.mp4
by PhoneMovieTV
觀看次數: 734
- 職場人生 木船師 下集
by PhoneMovieTV
觀看次數: 345
- 職場人生-辦桌總部師 下集.mp4
by PhoneMovieTV
觀看次數: 553
- 老婆的夜市人生~第一集~射飛鏢
by jasir120
觀看次數: 135
- 信義房屋分手快樂 真相篇
by jamestuo
觀看次數: 542,319



網路文本分析



ACM Categories and Subject Descriptors

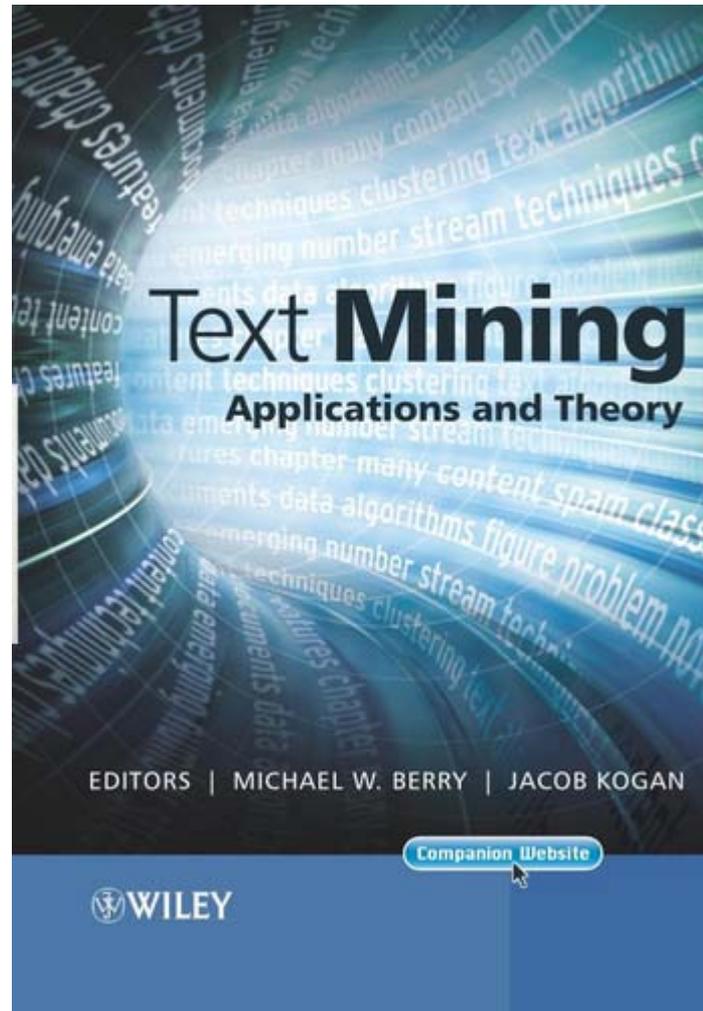
- I.2.7 [Artificial Intelligence]
 - Natural Language Processing
 - Text analysis
- H.2.8 [Database Management]
 - Database Applications
 - Data mining



Text and Web Mining

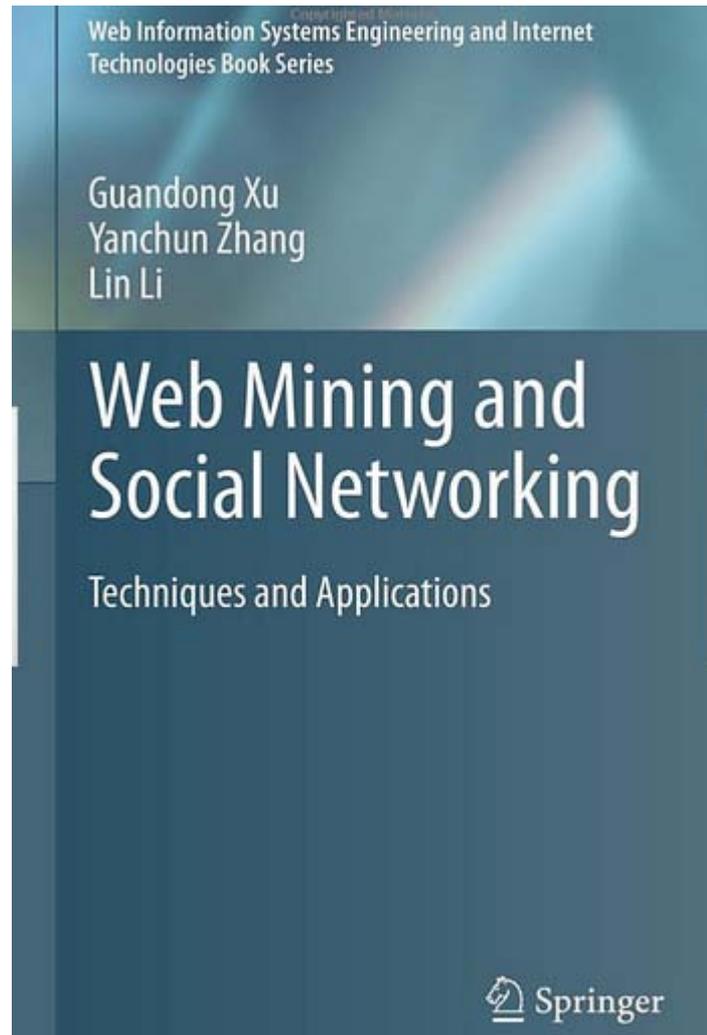
- Text Mining: Applications and Theory
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- Web Data Mining: Exploring Hyperlinks, Contents, and Usage Data
- Search Engines – Information Retrieval in Practice

Text Mining





Web Mining and Social Networking





Mining the Social Web: Analyzing Data from Facebook, Twitter, LinkedIn, and Other Social Media Sites

*Analyzing Data from Facebook, Twitter, LinkedIn,
and Other Social Media Sites*



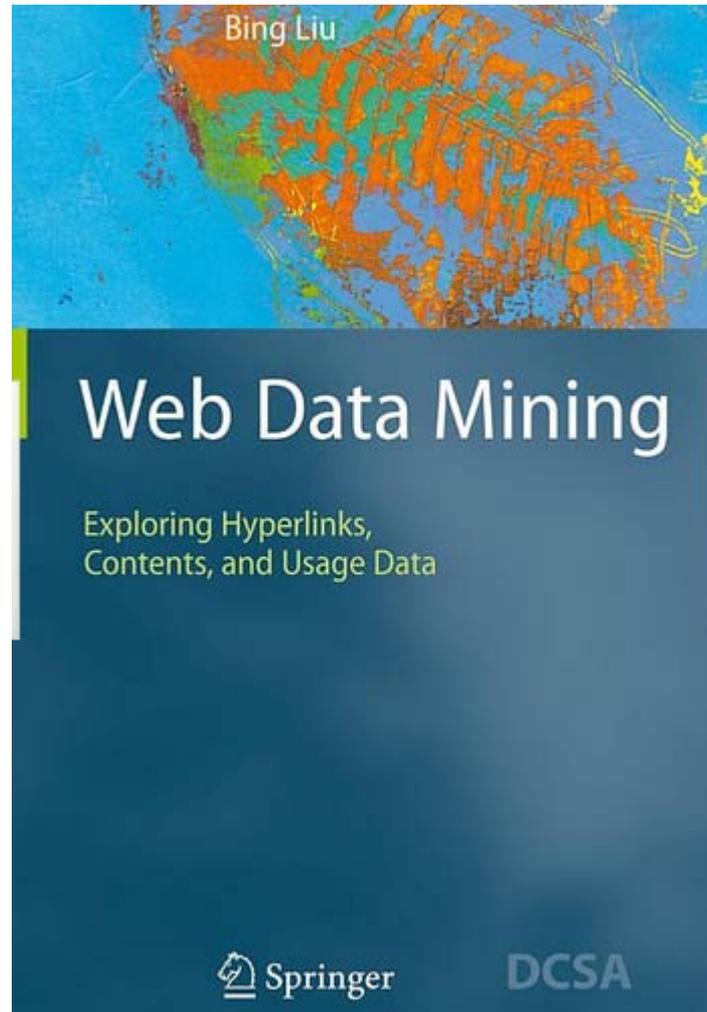
Mining the
Social Web

O'REILLY®

Matthew A. Russell



Web Data Mining: Exploring Hyperlinks, Contents, and Usage Data





Web Data Mining

Exploring Hyperlinks, Contents, and Usage Data

1. Introduction
2. Association Rules and Sequential Patterns
3. Supervised Learning
4. Unsupervised Learning
5. Partially Supervised Learning
6. Information Retrieval and Web Search
7. **Social Network Analysis**
8. Web Crawling
9. Structured Data Extraction: Wrapper Generation
10. Information Integration
11. **Opinion Mining and Sentiment Analysis**
12. Web Usage Mining



Text Mining

- Text mining (text data mining)
 - the process of deriving high-quality information from text
- Typical text mining tasks
 - text categorization
 - text clustering
 - concept/entity extraction
 - production of granular taxonomies
 - sentiment analysis
 - document summarization
 - entity relation modeling
 - i.e., learning relations between named entities.



Web Mining

- Web mining
 - discover useful information or knowledge from the **Web hyperlink structure, page content, and usage data.**
- Three types of web mining tasks
 - Web structure mining
 - Web content mining
 - Web usage mining



Natural Language Processing (NLP)

- Structuring a collection of text
 - **Old approach**: bag-of-words
 - **New approach**: natural language processing
- NLP is ...
 - a very important concept in text mining
 - a subfield of artificial intelligence and computational linguistics
 - the studies of "understanding" the natural human language
- **Syntax** versus **semantics** based text mining



Opinion Mining and Sentiment Analysis

- Mining opinions which indicate **positive** or **negative** sentiments
- Analyzes people's opinions, appraisals, attitudes, and emotions toward entities, individuals, issues, events, topics, and their attributes.



Opinion Mining and Sentiment Analysis

- Computational study of opinions, sentiments, subjectivity, evaluations, attitudes, appraisal, affects, views, emotions, etc., expressed in text.
 - Reviews, blogs, discussions, news, comments, feedback, or any other documents



Terminology

- Sentiment Analysis
is more widely used in industry
- Opinion mining / Sentiment Analysis
are widely used in academia
- Opinion mining / Sentiment Analysis
can be used interchangeably



Example of Opinion: review segment on iPhone

“I bought an iPhone a few days ago.

It was such a nice phone.

The touch screen was really cool.

The voice quality was clear too.

However, my mother was mad with me as I did not tell her before I bought it.

She also thought the phone was too expensive, and wanted me to return it to the shop. ... ”



Example of Opinion: review segment on iPhone

“(1) I bought an iPhone a few days ago.

(2) It was such a **nice** phone.

(3) The touch screen was really **cool**.

**+Positive
Opinion**

(4) The voice quality was **clear** too.

(5) However, my mother was mad with me as I did not tell her before I bought it.

(6) She also thought the phone was too expensive, and wanted me to return it to the shop. ...”

**-Negative
Opinion**



Why are opinions important?

- “Opinions” are key influencers of our behaviors.
- Our beliefs and perceptions of reality are conditioned on **how others see the world**.
- Whenever we need to **make a decision**, we often seek out the **opinion of others**.

In the past,

– Individuals

- Seek opinions from friends and family

– Organizations

- Use surveys, focus groups, opinion pools, consultants



Word-of-mouth on the Social media

- Personal experiences and opinions about anything in reviews, forums, blogs, micro-blog, **Twitter**.
- Posting at social networking sites, e.g., **Facebook**
- Comments about articles, issues, topics, reviews.



Social media + beyond

- **Global scale**
 - No longer – one's circle of friends.
- **Organization internal data**
 - Customer feedback from emails, call center
- **News and reports**
 - Opinions in news articles and commentaries



Applications of Opinion Mining

- **Businesses and organizations**
 - Benchmark products and services
 - Market intelligence
 - Business spend a huge amount of money to find consumer opinions using consultants, surveys, and focus groups, etc.
- **Individual**
 - Make decision to buy products or to use services
 - Find public opinions about political candidates and issues
- **Ads placements:** Place ads in the social media content
 - Place an ad if one praises a product
 - Place an ad from a competitor if one criticizes a product
- **Opinion retrieval:** provide general search for opinions.



Research Area of Opinion Mining

- **Many names and tasks** with difference objective and models
 - **Sentiment analysis**
 - **Opinion mining**
 - Sentiment mining
 - Subjectivity analysis
 - Affect analysis
 - Emotion detection
 - Opinion spam detection



Existing Tools

("Social Media Monitoring/Analysis")

- Radian 6
- Social Mention
- Overtone OpenMic
- Microsoft Dynamics Social Networking Accelerator
- SAS Social Media Analytics
- Lithium Social Media Monitoring
- RightNow Cloud Monitor



Existing Tools

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Mashable named Radian6's Co-founder Chris Ramsey one of five masterminds redefining social media

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WEBINAR / June 7th at 2pm est

CASE STUDY

http://www.youtube.com/watch?feature=player_embedded&v=8i6Exg3Urg0



Social Media Monitoring x

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 - Customer Experience Analytics
 - Social Media Analytics
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- Human Capital Intelligence
- Information Management
- IT & CIO Enablement

SAS® Social Media Analytics

Integrate, archive, analyze and act on online conversations

Overview Benefits Features Demos & Screenshots System Requirements

SAS Social Media Analytics is an enterprise-hosted, on-demand solution that integrates, archives, analyzes and enables organizations to act on intelligence gleaned from online conversations on professional and consumer-generated media sites. It enables you to attribute online conversations to specific parts of your business, allowing accelerated responses to marketplace shifts.

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Benefits

- Analyze conversation data.
- Identify advocates of, and threats to, corporate reputation and brand.
- Quantify interaction among traditional media/campaigns and social media activity.
- Establish a platform for social CRM strategy.

Questions?

Phone
Contact Form

White Paper

Text Analytics for Social Media: Evolving Tools for an Evolving Environment

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[Overview](#)

RESOURCES

- Fact Sheet (PDF)
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- White Papers

“ The great thing about SAS is that it's so powerful and has such a broad offering. ”

—Jonathan Prantner
Manager of Statistics
Organic

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Product Demo



What do tweeples think ab x

www.tweetfeel.com/index.php#iPhone4s

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 40  41 = 51%

Those are all the results available right now. Try again or try another term to see how people feel towards it.
Got questions? [Read our FAQ.](#)

-  RT @jigglinjello: This 12 year old has an iPhone4s wtf
-  So my 9 year old little sister has a iPhone4s . Wtf bruh?!
-  This 12 year old has an iPhone4s wtf
-  So my sister has a android and i dont even have a phone and she gets a brand new iPhone4s - ___ - #Wtf
-  iPhone4s is funny ass a bitch
-  -Ohwell .. a new iPhone4s won't hurt , aha.

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Twitter Sentiments - Know ' x

tweetsentiments.com/analyze?utf8=✓&q=iphone4s&topic=true&commi

Lang: Eng

tweet v0.8.6

Dashboard Analyze Recent Top 1000 Users Maps Charts About Login

Tweet Sentiment Analysis

iphone4s

User Topic

Analyze Tweets

Feedback

50.00



Sentiments
Index[0-100]: 50.00
Positive: 8
Negative: 1
Neutral: 13
Total Analyzed: 0

Profile
Education:
Flamboyance:
Slang:
Gender:
Age:

 Niggie, if i dont jailbreak my Iphone4s, u mean i cant play Street fighter4? wtf @louistekneeq
1 minute ago by Flow__Show

 リフォロー100%です！ #Arashi #韓fan #wstcg #板野友美 #followme #アメブロ #kimiboku #ntb #autofollow #apple #mt2 #相互フォローの輪 #iphone4s #Arashi #twitter #前田敦子
1 minute ago by designer_sayaka

 Rumor has it that #Apple #iPhone5 will have a 4" screen (compared 2 3.5" in #iPhone4S), gving direct competition 2... <http://t.co/zsIGPXbX>
1 minute ago by abhay01007

 RT @BallMe_Dollar: The iPhone4S look better then the iPhone5.
1 minute ago by SuckMy_TwitNuts

 #iphoneography #iphonography #bahrain #iphone4s #photography #sunrise #scenery #beautiful #sun <http://t.co/Ee4VNmsL>
2 minutes ago by thementaldawg



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-議題分析-

Home 議題分析 排行榜 研究專題 數據報告 產品服務 解決方案

7-ELEVEN

連結類型	百分比
照片連結	73%
文章連結	10%
影片連結	17%
純發文	0%

議題分析

血汗醫院全民皆慌 網路熱門

研究專題

便利商店衝人氣 臉書加持少

數據報告

永慶房屋得據房仲龍頭 資訊

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政治人物	名人	演藝人員
馬英九總統 粉絲數 1419591	蔡英文 Tsai 粉絲數 669928	蘇貞昌 粉絲數 317035

排行榜

Traffic 交通

	第1名 FORD (FIESTA)
	第2名 PORSCHE (911)
	第3名 SUBARU (legacy)

[更多](#)

Traffic 交通

	第1名
--	------------

進口車

- 吵了這麼久, 就是不要「超速」起車, 還不懂 (224)
- 讓一下, 很難嗎。。。 (184)
- 請問大家認為這樣要賠多少?? (148)
- 當Audi 一直被鍵盤魔人攻擊時, 表示已經威 (134)
- ELANTRA系列 vs ALTIS 系列之比較 (109)

[更多](#)

高級進口車

- 吵了這麼久, 就是不要「超速」起車, 還不懂 (224)

研究專題

便利商店衝人氣 臉書加持少不得

研究專題

LUMIX與Samsung相機 口碑比拼 粉絲只顧「按讚」不「留言」

社交媒介監看

了解社群監測



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OpView服務，猶如提供您無盡網路情報能量的發電廠。以雲端架構為基礎，OpView服務蒐集、處理、分析各類型網路資訊與情報，並以雲端服務平台供客戶使用。OpView服務的資料涵蓋範圍包括台灣最具代表性的新聞網站、

相關文件下載

- OpView Insight DM
- OpView品牌口碑雷達 DM
- OpView品牌口碑雷達訂購單

更多



Sentiment Analysis

- Sentiment
 - A thought, view, or attitude, especially one based mainly on emotion instead of reason
- Sentiment Analysis
 - opinion mining
 - use of natural language processing (NLP) and computational techniques to automate the extraction or classification of sentiment from typically unstructured text



Applications of Sentiment Analysis

- Consumer information
 - Product reviews
- Marketing
 - Consumer attitudes
 - Trends
- Politics
 - Politicians want to know voters' views
 - Voters want to know politicians' stances and who else supports them
- Social
 - Find like-minded individuals or communities



Sentiment detection

- How to interpret features for sentiment detection?
 - Bag of words (IR)
 - Annotated lexicons (WordNet, SentiWordNet)
 - Syntactic patterns
- Which features to use?
 - Words (unigrams)
 - Phrases/n-grams
 - Sentences



Problem statement of Opinion Mining

- Two aspects of abstraction
 - Opinion definition
 - What is an opinion?
 - What is the structured definition of opinion?
 - Opinion summarization
 - Opinion are subjective
 - An opinion from a single person (unless a VIP) is often not sufficient for action
 - We need opinions from many people, and thus opinion summarization.



Abstraction (1) :

what is an opinion?

- Id: **Abc123** on **5-1-2008** “*I bought an iPhone a few days ago. It is such a nice phone. The touch screen is really cool. The voice quality is clear too. It is much better than my old BlackBerry, which was a terrible phone and so difficult to type with its tiny keys. However, my mother was mad with me as I did not tell her before I bought the phone. She also thought the phone was too expensive, ...*”
- One can look at this review/blog at the
 - Document level
 - Is this review + or -?
 - Sentence level
 - Is each sentence + or -?
 - Entity and feature/aspect level



Entity and aspect/feature level

- Id: **Abc123** on **5-1-2008** “*I bought an iPhone a few days ago. It is such a nice phone. The touch screen is really cool. The voice quality is clear too. It is much better than my old Blackberry, which was a terrible phone and so difficult to type with its tiny keys. However, my mother was mad with me as I did not tell her before I bought the phone. She also thought the phone was too expensive, ...*”
- **What do we see?**
 - Opinion targets: entities and their features/aspects
 - Sentiments: positive and negative
 - Opinion holders: persons who hold the opinions
 - Time: when opinion are expressed



Two main types of opinions

- **Regular opinions:** Sentiment/Opinion expressions on some target entities
 - **Direct opinions:** sentiment expressions on one object:
 - “The touch screen is really cool.”
 - “The picture quality of this camera is great”
 - **Indirect opinions:** comparisons, relations expressing similarities or differences (objective or subjective) of more than one object
 - “phone X is cheaper than phone Y.” (objective)
 - “phone X is better than phone Y.” (subjective)
- **Comparative opinions:** comparisons of more than one entity.
 - “iPhone is better than Blackberry.”



Subjective and Objective

- **Objective**

- An objective sentence expresses some **factual information** about the world.
- “I **returned** the phone yesterday.”
- Objective sentences can implicitly indicate opinions
 - “The **earphone** **broke** in two days.”

- **Subjective**

- A subjective sentence expresses some **personal feelings** or **beliefs**.
- “The voice on my phone was **not so clear**”
- Not every subjective sentence contains an opinion
 - “I wanted a phone with **good voice quality**”

- **→ Subjective analysis**



Sentiment Analysis

VS.

Subjectivity Analysis

Sentiment Analysis	Subjectivity Analysis
Positive	Subjective
Negative	
Neutral	Objective



A (regular) opinion

- **Opinion** (a restricted definition)
 - An opinion (regular opinion) is simply a **positive or negative** sentiment, view, attitude, emotion, or appraisal about **an entity** or **an aspect of the entity** from an **opinion holder**.
- **Sentiment orientation of an opinion**
 - Positive, negative, or neutral (no opinion)
 - Also called:
 - **Opinion orientation**
 - **Semantic orientation**
 - **Sentiment polarity**

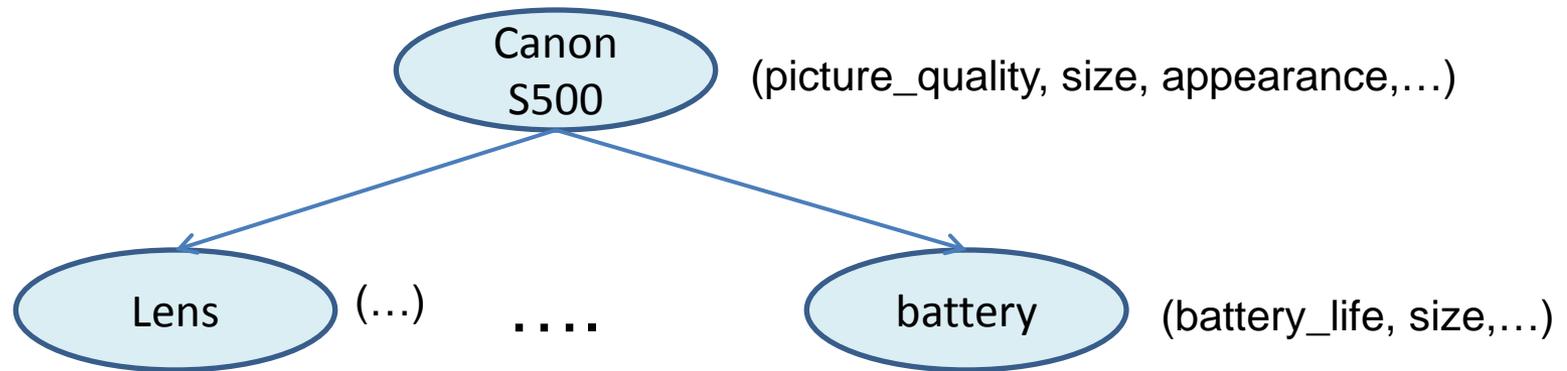


Entity and aspect

- Definition of **Entity**:
 - An *entity e* is a product, person, event, organization, or topic.
 - e is represented as
 - A hierarchy of components, sub-components.
 - Each node represents a components and is associated with a set of attributes of the components
- An opinion can be expressed on any node or attribute of the node
- **Aspects(features)**
 - represent both components and attribute



Entity and aspect





Opinion definition

- An opinion is a quintuple

$(e_j, a_{jk}, so_{ijkl}, h_i, t_l)$

where

- e_j is a target entity.
- a_{jk} is an aspect/feature of the entity e_j .
- so_{ijkl} is the sentiment value of the opinion from the opinion holder on feature of entity at time.
 so_{ijkl} is +ve, -ve, or neu, or more granular ratings
- h_i is an opinion holder.
- t_l is the time when the opinion is expressed.



Opinion definition

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 - h_i is an opinion holder.
 - t_l is the time when the opinion is expressed.
- (e_j, a_{jk}) is also called opinion target



Terminologies

- **Entity**: object
- **Aspect**: feature, attribute, facet
- **Opinion holder**: opinion source

- **Topic**: entity, aspect

- Product features, political issues



Subjectivity and Emotion

- **Sentence subjectivity**
 - An objective sentence presents some factual information, while a subjective sentence expresses some personal feelings, views, emotions, or beliefs.
- **Emotion**
 - Emotions are people's subjective feelings and thoughts.



Emotion

- Six main emotions
 - Love
 - Joy
 - Surprise
 - Anger
 - Sadness
 - Fear



Abstraction (2): opinion summary

- With a lot of opinions, a summary is necessary.
 - A multi-document summarization task
- For factual texts, summarization is to select the most important facts and present them in a sensible order while avoiding repetition
 - 1 fact = any number of the same fact
- But for opinion documents, it is different because opinions have a quantitative side & have targets
 - 1 opinion \leftrightarrow a number of opinions
 - Aspect-based summary is more suitable
 - Quintuples form the basis for opinion summarization



An aspect-based opinion summary

Cellular phone 1:

Aspect: **GENERAL**

Positive: 125 <individual review sentences>

Negative: 7 <individual review sentences>

Aspect: **Voice quality**

Positive: 120 <individual review sentences>

Negative: 8 <individual review sentences>

Aspect: **Battery**

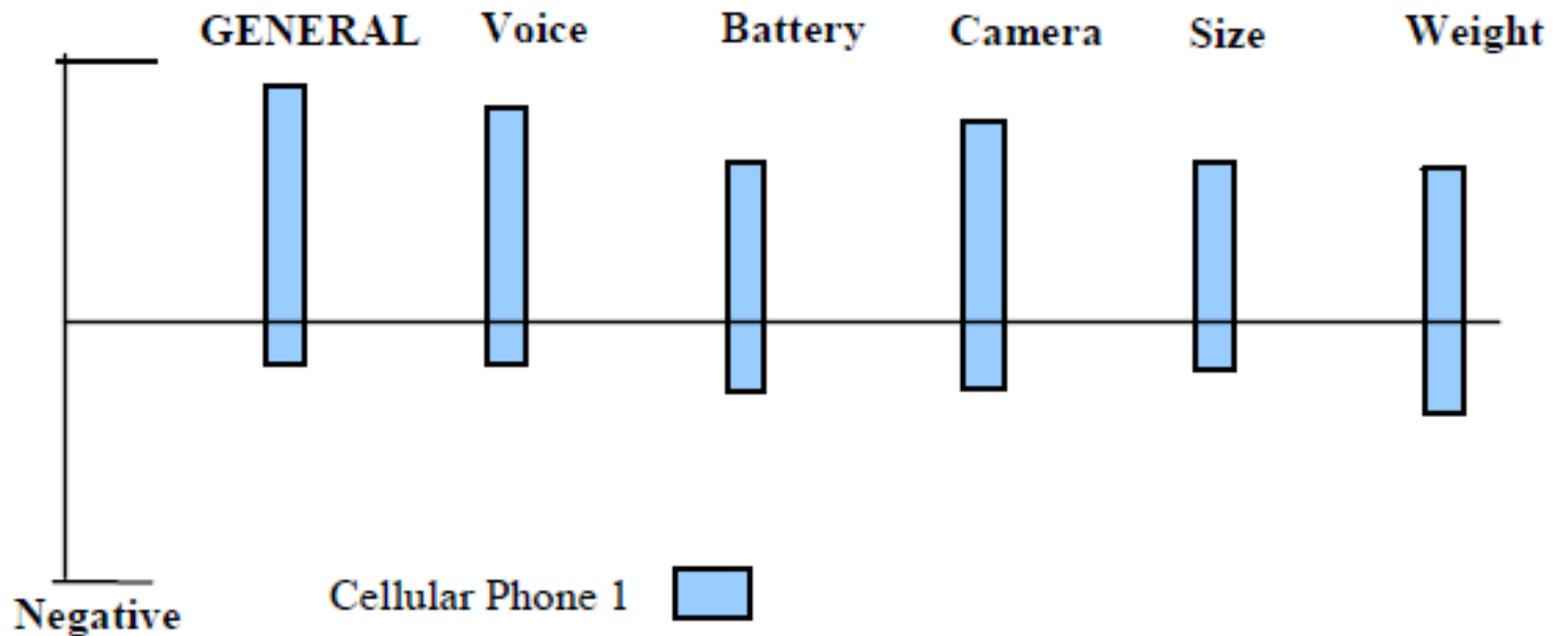
Positive: 80 <individual review sentences>

Negative: 12 <individual review sentences>

...

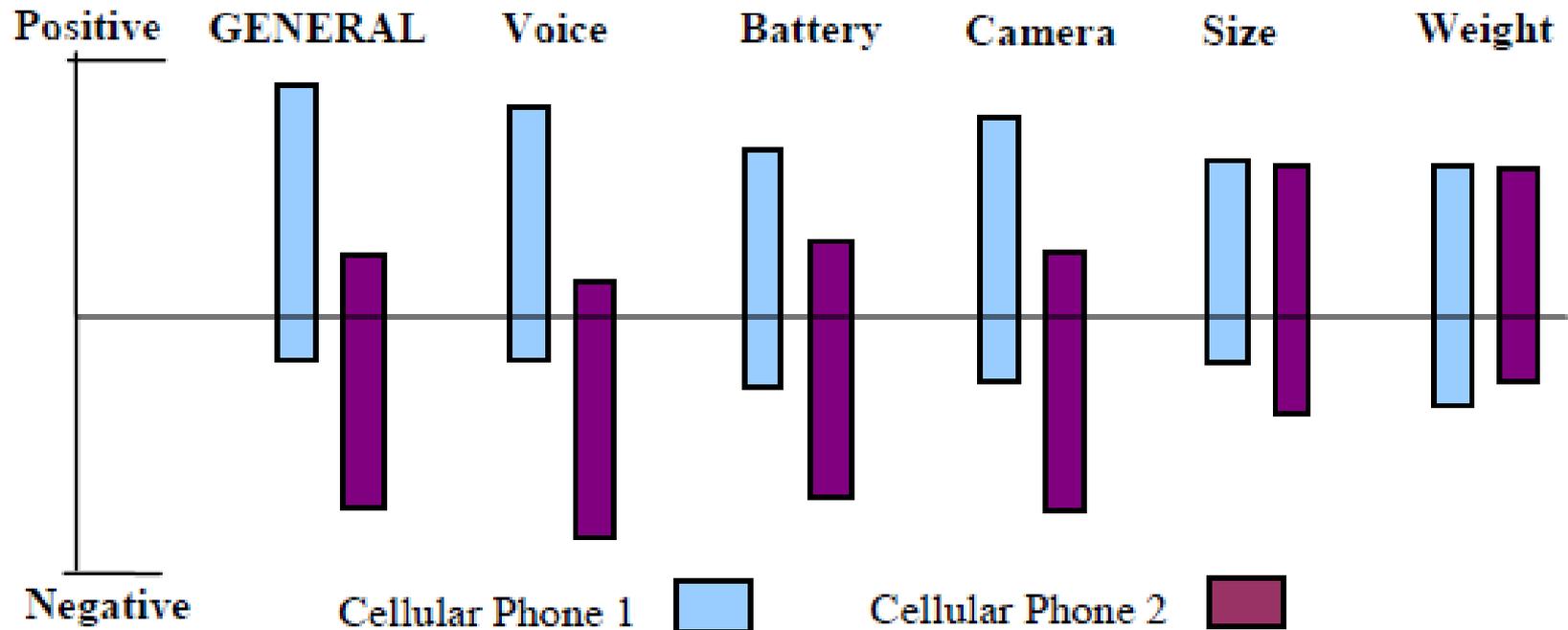


Visualization of aspect-based summaries of opinions





Visualization of aspect-based summaries of opinions





Classification Based on Supervised Learning

- Sentiment classification
 - Supervised learning Problem
 - Three classes
 - *Positive*
 - *Negative*
 - *Neutral*



Opinion words in Sentiment classification

- topic-based classification
 - topic-related words are important
 - e.g., *politics, sciences, sports*
- Sentiment classification
 - topic-related words are unimportant
 - **opinion words** (also called **sentiment words**)
 - that indicate **positive** or **negative** opinions are important,
e.g., *great, excellent, amazing, horrible, bad, worst*



Features in Opinion Mining

- *Terms and their frequency*
 - TF-IDF
- *Part of speech (POS)*
 - Adjectives
- *Opinion words and phrases*
 - *beautiful, wonderful, good, and amazing are positive opinion words*
 - *bad, poor, and terrible are negative opinion words.*
 - opinion phrases and idioms,
e.g., *cost someone an arm and a leg*
- *Rules of opinions*
- *Negations*
- *Syntactic dependency*



Rules of opinions

Syntactic template

<subj> passive-verb

<subj> active-verb

active-verb <dobj>

noun aux <dobj>

passive-verb prep <np>

Example pattern

<subj> was satisfied

<subj> complained

endorsed <dobj>

fact is <dobj>

was worried about <np>



A Brief Summary of **Sentiment Analysis** Methods

Study	Analysis Task	Sentiment Identification		Sentiment Aggregation		Nature of Measure
		Method	Level	Method	Level	
Hu and Li, 2011	Polarity	ML (Probabilistic model)	Snippet			Valence
Li and Wu, 2010	Polarity	Lexicon/Rule	Phrase	Sum	Snippet	Valence
Thelwall et al., 2010	Polarity	Lexicon/Rule	Sentence	Max & Min	Snippet	Range
Boiy and Moens, 2009	Both	ML (Cascade ensemble)	Sentence			Valence
Chung 2009	Polarity	Lexicon	Phrase	Average	Sentence	Valence
Wilson, Wiebe, and Hoffmann, 2009	Both	ML (SVM, AdaBoost, Rule, etc.)	Phrase			Valence
Zhang et al., 2009	Polarity	Lexicon/Rule	Sentence	Weighted average	Snippet	Valence
Abbasi, Chen, and Salem, 2008	Polarity	ML (GA + feature selection)	Snippet			Valence
Subrahmanian and Reforgiato, 2008	Polarity	Lexicon/Rule	Phrase	Rule	Snippet	Valence
Tan and Zhang 2008	Polarity	ML (SVM, Winnow, NB, etc.)	Snippet			Valence
Airoldi, Bai, and Padman, 2007	Polarity	ML (Markov Blanket)	Snippet			Valence
Das and Chen, 2007	Polarity	ML (Bayesian, Discriminate, etc.)	Snippet	Average	Daily	Valence
Liu et al., 2007	Polarity	ML (PLSA)	Snippet			Valence
Kennedy and Inkpen, 2006	Polarity	Lexicon/Rule, ML (SVM)	Phrase	Count	Snippet	Valence
Mishne 2006	Polarity	Lexicon	Phrase	Average	Snippet	Valence
Liu et al., 2005	Polarity	Lexicon/Rule	Phrase	Distribution	Object	Range
Mishne 2005	Polarity	ML (SVM)	Snippet			Valence
Popescu and Etzioni 2005	Polarity	Lexicon/Rule	Phrase			Valence
Efron 2004	Polarity	ML (SVN, NB)	Snippet			Valence
Wilson, Wiebe, and Hwa, 2004	Both	ML (SVM, AdaBoost, Rule, etc.)	Sentence			Valence
Nigam and Hurst 2004	Polarity	Lexicon/Rule	Chunk	Rule	Sentence	Valence
Dave, Lawrence, and Pennock, 2003	Polarity	ML (SVM, Rainbow, etc.)	Snippet			Valence
Nasukawa and Yi 2003	Polarity	Lexicon/Rule	Phrase	Rule	Sentence	Valence
Yi et al., 2003	Polarity	Lexicon/Rule	Phrase	Rule	Sentence	Valence
Yu and Hatzivassiloglou 2003	Both	ML (NB) + Lexicon/Rule	Phrase	Average	Sentence	Valence
Pang, Lee, and Vaithyanathan 2002	Polarity	ML (SVM, MaxEnt, NB)	Snippet			Valence
Subasic and Huettner 2001	Polarity	Lexicon/Fuzzy logic	Phrase	Average	Snippet	Valence
Turney 2001	Polarity	Lexicon/Rule	Phrase	Average	Snippet	Valence

(Both = Subjectivity and Polarity; ML= Machine Learning; Lexicon/Rule= Lexicon enhanced by linguistic rules)



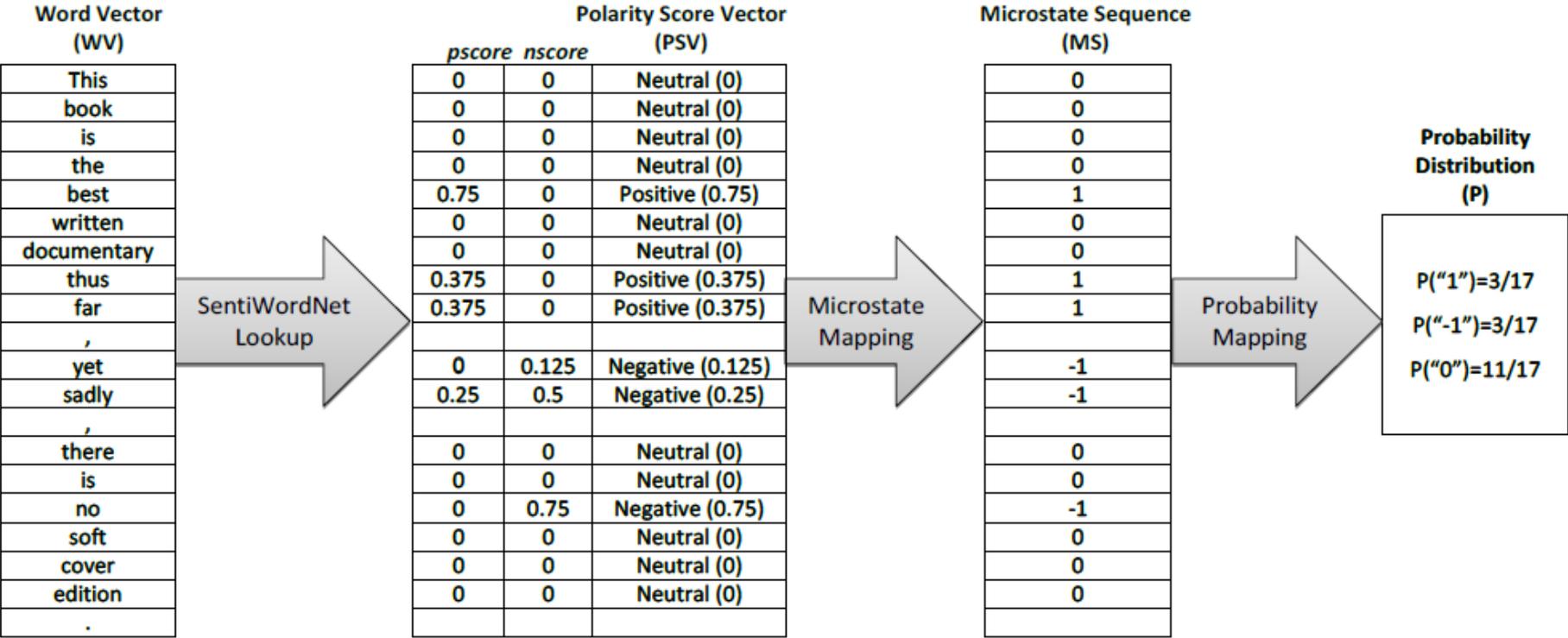
Word-of-Mouth (WOM)

- “This book is the best written documentary thus far, yet sadly, there is no soft cover edition.”
- “This book is the **best** written documentary **thus far**, **yet sadly**, there is **no** soft cover edition.”



	Word	POS
This	This	DT
book	book	NN
is	is	VBZ
the	the	DT
best	best	JJS
written	written	VCN
documentary	documentary	NN
thus	thus	RB
far	far	RB
,	,	,
yet	yet	RB
sadly	sadly	RB
,	,	,
there	there	EX
is	is	VBZ
no	no	DT
soft	soft	JJ
cover	cover	NN
edition	edition	NN
.	.	.

Conversion of text representation



Source: Zhang, Z., Li, X., and Chen, Y. (2012), "Deciphering word-of-mouth in social media: Text-based metrics of consumer reviews," ACM Trans. Manage. Inf. Syst. (3:1) 2012, pp 1-23.,



Datasets of Opinion Mining

- Blog06
 - 25GB TREC test collection
 - http://ir.dcs.gla.ac.uk/test_collections/access_to_data.html
- Cornell movie-review datasets
 - <http://www.cs.cornell.edu/people/pabo/movie-review-data/>
- Customer review datasets
 - <http://www.cs.uic.edu/~liub/FBS/CustomerReviewData.zip>
- Multiple-aspect restaurant reviews
 - <http://people.csail.mit.edu/bsnyder/naacl07>
- NTCIR multilingual corpus
 - NTCIR Multilingual Opinion-Analysis Task (MOAT)



Lexical Resources of Opinion Mining

- SentiWordnet
 - <http://sentiwordnet.isti.cnr.it/>
- General Inquirer
 - <http://www.wjh.harvard.edu/~inquirer/>
- OpinionFinder's Subjectivity Lexicon
 - <http://www.cs.pitt.edu/mpqa/>
- NTU Sentiment Dictionary (NTUSD)
 - <http://nlg18.csie.ntu.edu.tw:8080/opinion/>
- HowNet Sentiment
 - http://www.keenage.com/html/c_bulletin_2007.htm



Example of SentiWordNet

POS	ID	PosScore	NegScore	SynsetTerms	Gloss		
a	00217728	0.75	0	beautiful#1	delighting the senses or exciting intellectual or emotional admiration; "a beautiful child"; "beautiful country"; "a beautiful painting"; "a beautiful theory"; "a beautiful party"		
a	00227507	0.75	0	best#1	(superlative of `good') having the most positive qualities; "the best film of the year"; "the best solution"; "the best time for planting"; "wore his best suit"		
r	00042614	0	0.625	unhappily#2	sadly#1	in an unfortunate way; "sadly he died before he could see his grandchild"	
r	00093270	0	0.875	woefully#1	sadly#3	lamentably#1 deplorably#1	in an unfortunate or deplorable manner; "he was sadly neglected"; "it was woefully inadequate"
r	00404501	0	0.25	sadly#2		with sadness; in a sad manner; "She died last night,' he said sadly"	



《知網》情感分析用詞語集 (beta版)

- “中英文情感分析用詞語集”
 - 包含詞語約 17887
- “中文情感分析用詞語集”
 - 包含詞語約 9193
- “英文情感分析用詞語集”
 - 包含詞語 8945



中文情感分析用詞語集

中文正面情感詞語	836
中文負面情感詞語	1254
中文正面評價詞語	3730
中文負面評價詞語	3116
中文程度級別詞語	219
中文主張詞語	38
Total	9193



中文情感分析用詞語集

- “正面情感” 詞語

— 如：

愛，讚賞，快樂，感同身受，好奇，
喝彩，魂牽夢縈，嘉許 ...

- “負面情感” 詞語

— 如：

哀傷，半信半疑，鄙視，不滿意，不是滋味兒
，後悔，大失所望 ...



中文情感分析用詞語集

- “正面評價” 詞語

— 如：

不可或缺，部優，才高八斗，沉魚落雁，
催人奮進，動聽，對勁兒 ...

- “負面評價” 詞語

— 如：

醜，苦，超標，華而不實，荒涼，混濁，
畸輕畸重，價高，空洞無物 ...



中文情感分析用詞語集

- “程度級別” 詞語
 - 1. “極其|extreme / 最|most”
 - 非常，極，極度，無以倫比，最為
 - 2. “很|very”
 - 多麼，分外，格外，著實
 - ...
- “主張” 詞語
 - 1. {perception|感知}
 - 感覺，覺得，預感
 - 2. {regard|認為}
 - 認為，以為，主張



Summary

1. 社群媒體的特性
2. 社群媒體發展趨勢
3. 社群媒體商業應用
4. 社群口碑趨勢分析
5. 網路文本分析



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Social Word-of-Mouth and Web Content Analysis (社群口碑與網路文本分析)

Q & A

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