MIB605- Lecture 5
Social Media and Word of Mouth

Prof. Cui

Learning Objectives

1
- Have a fundamental knowledge about opinion formation

2
- Understand the factors affect to opinion formation

3
- Form some implications for social media marketing strategy

The Motivation of Posting on Social Media

Wechat

Instagram

1. Why did we post?

➔ Motivation

1. What is their opinion behind the post or comment?

➔ Opinion Formation

➔ *Behind every social media comment or post is a person with an opinion*

Two stage process

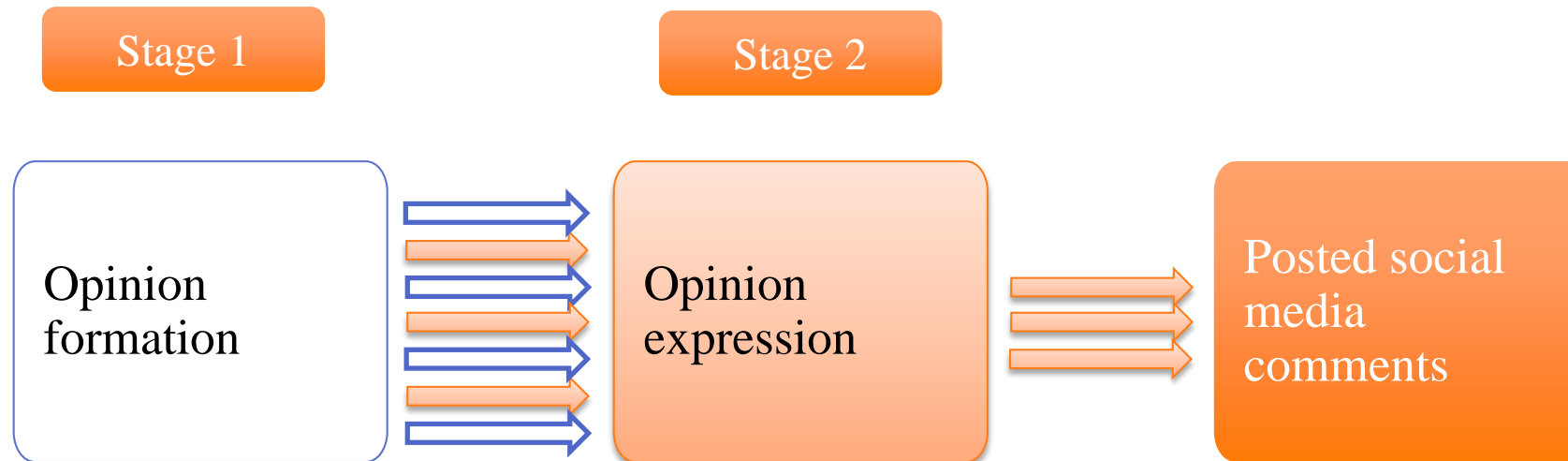The opinion we see posted to social media are an out come of a two stage process

Figure 2.1. *Opinion formation versus opinion expression*

Opinion formation vs opinion expression

- Berinsky's survey about the Opinion on Vietnam war

- Individual who are more likely support the war, were also more likely to answer the war related question.

- Pointed out the potential bias in opinion survey data and analyses

- The opinion of vocal minority can sometimes overshadow the opinions of the silent majority

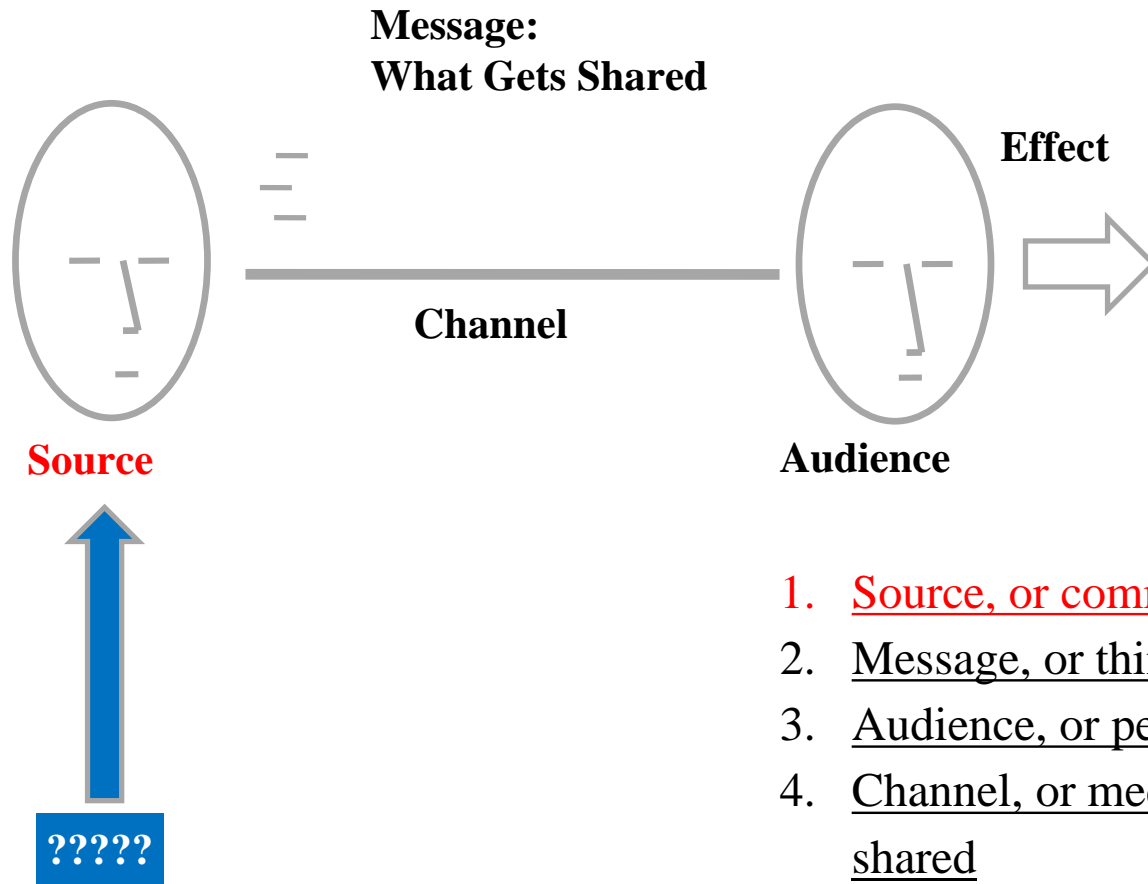- People who decide to express their opinions may not be represent the larger population (vs. silent majority)

# US President Election 2017…
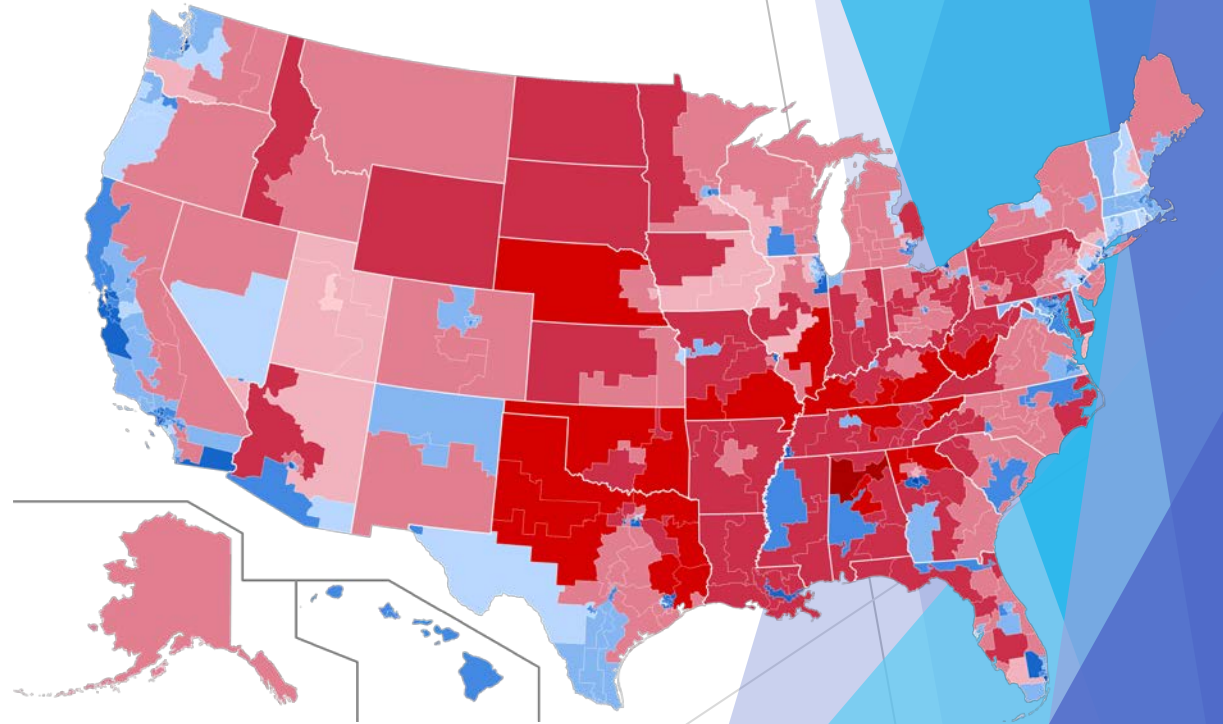
Factors that affect opinion formation

Psychology Behind the Influence:
What *drives* source (sender) to transmit the opinion

Message:
What Gets Shared

Effect

Channel

Source

Audience

?????

1. Source, or communication sender
2. Message, or thing that is being communicated
3. Audience, or person that is receiving the message
4. Channel, or medium through which the message is being shared
5. Effect, or consequence of the communication.

Factors that affect opinion formation
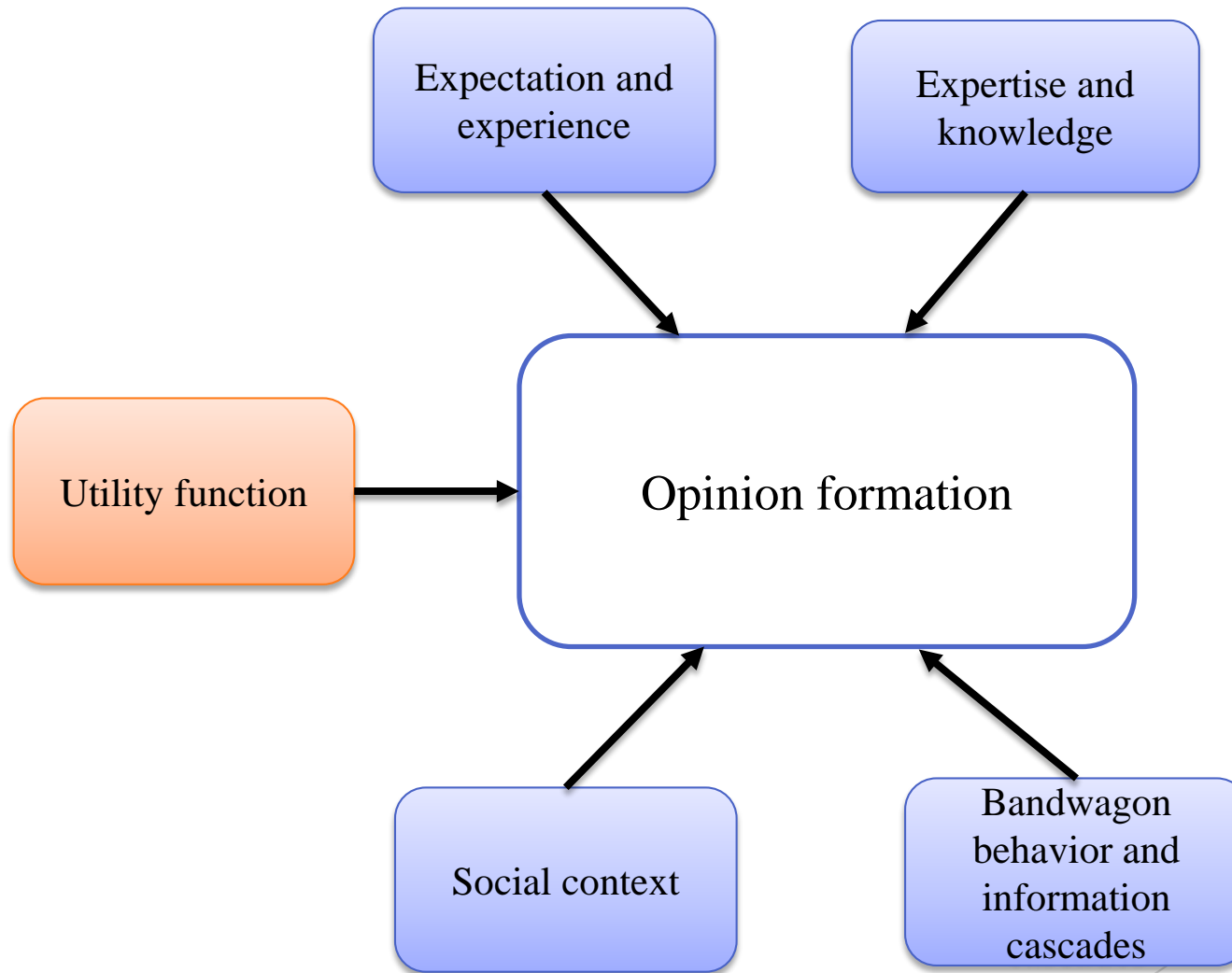
How do we form the opinion? About firms, brands, products

Economic theory

*People's references can be described a **UTILITY FUNCTION***

- Utility function will break down values to the users of the product or service into its component parts

- Consumers value each component part

- How they value the product base on the underlying utility function that combine the value we ascribe to the component part

Ex: How much we like a car is how much we value its safety feature, comfort, performance…

Utility function

- Understand utility function can help company understand how each component of the product contributes to the consumers preference and hence their opinions toward the brand

- Utility function shift over time $\rightarrow$ our opinions also evolve

  - Life cycle change – opinion evolve

  - Opinion evolve with experience

Life cycle change

EX: Pregnant women will shift their preference buying significantly

- Organic product

- Decaffeinated product

→Company predict the life cycle changes

→Predict the shift in utility function

→Affect product opinions and references

Utility function evolve with experience

- Utility function shift over time → our opinions also evolve

➢Experience shapes our expectation

➢Expectation shapes new experience through utility function

Expectation and Experience

- Expectations affect experience-based opinions

- Expectations affect feeling

Expectations affect experience-based opinions

Example - movie

- pre-launch comments based on expectations (cast of stars, trailor, advertising)
- No effect on the real quality
- Social media has a long memory, difficult to shift unless
- N(post-launch) > N(pre-launch)
- The word-of-mouth level change

Expectations affect feeling

Experience > Expectations
  ➢Positive

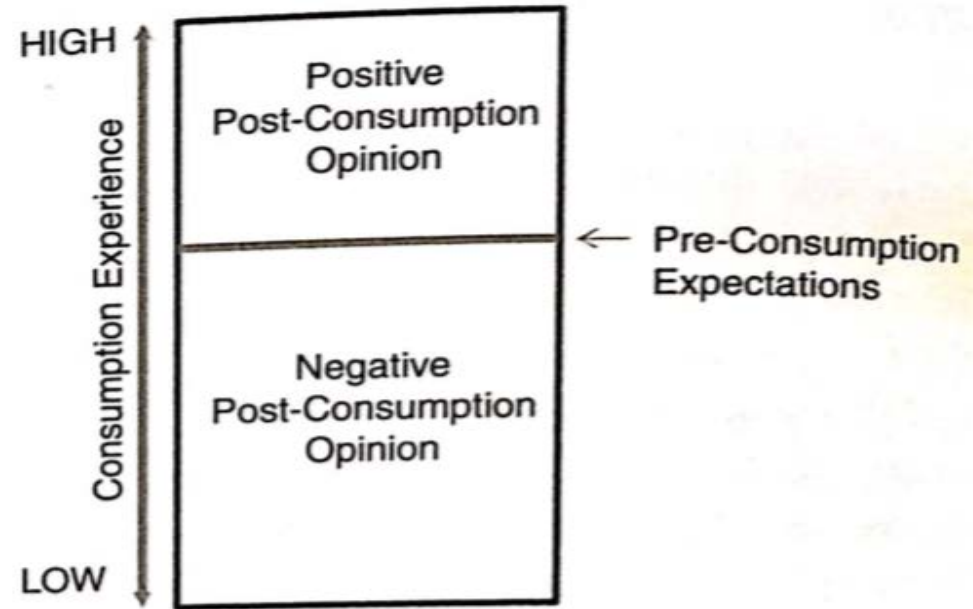Experience < Expectations
  ➢More negative

Figure 2.2. Pre-consumption expectations, consumption experience, and post-consumption opinion

(Dis)Satisfaction

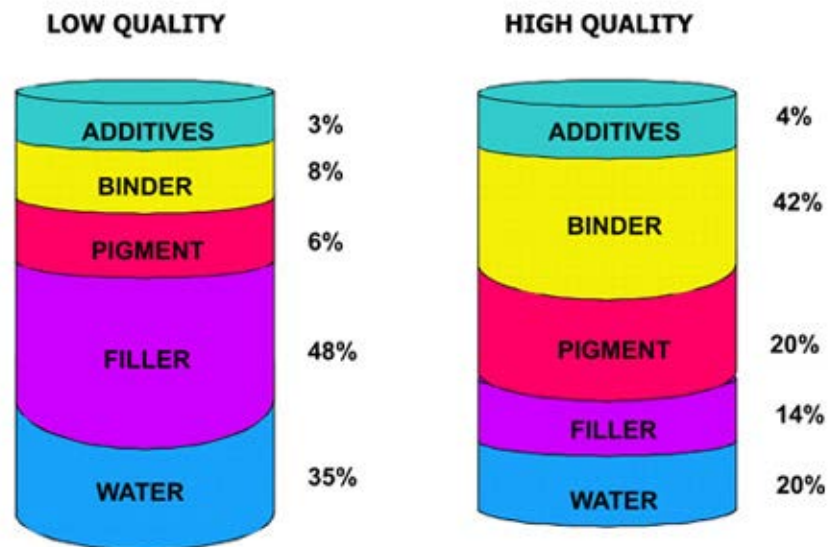# Expertise and knowledge -- source credibility (celebrities!)

➢ Less knowledge

Use heuristics or simple rules of thumb to form opinions (not willing to expend mental resources)

➢ Environmental cues affect a lot

- Price
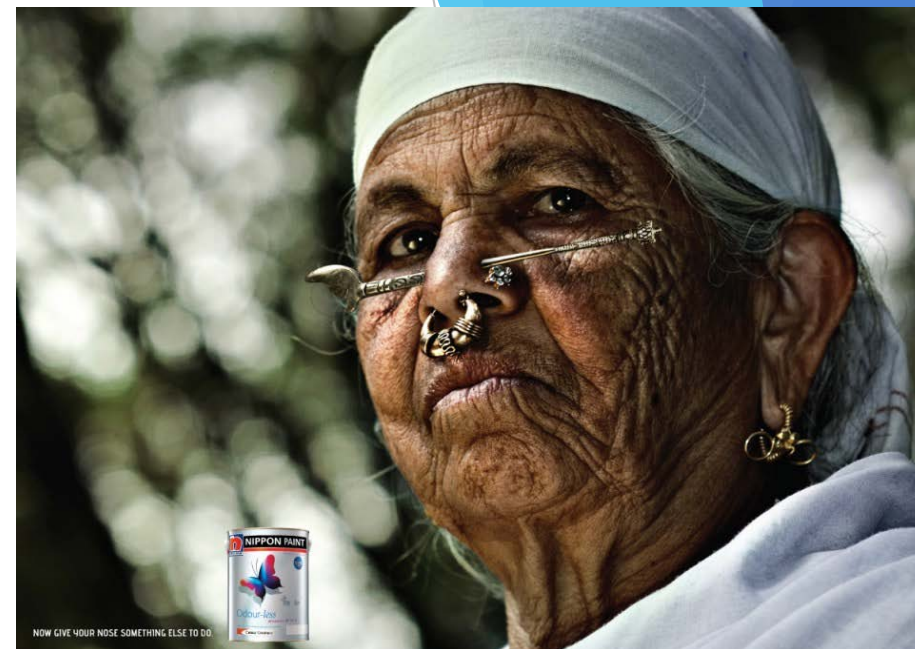
- Advertisement

- Word-of-mouth

Expertise and knowledge

Nippon

VS

Dulux

Mamonde

Innisfree

成份	中文名称	概略特性	粉刺	刺激	安心度
Aqua	水	溶剂			1
Butylene Glycol	丁二醇, 1, …	溶剂 保湿	1	0	1
Camellia Sinensis	茶	抗氧化			1
Camellia sinensis Kuntze	茶				
Alcohol	乙醇, 酒精	溶剂			2
Hydrogenated polyisobutene	氢化聚异丁烯	柔润剂			1
Opuntia Coccinellifera Fruit Extract	胭脂仙人掌果提取				
Citrus Unshiu Peel Extract	温州蜜柑果皮提取				1
Citrus Unshiu Pericarp Extract	温州蜜柑果皮提取				
Camellia kissi	山茶	油性润滑			
White Willow Bark	白柳树皮, 白柳	收敛			1
Centaurium Erythraea Extract	百金花提取				1
Glycerol	甘油, 丙三醇	溶剂 保湿	0	0	2
Ethylhexylglycerin	乙基己基甘油	保湿			1
Behenyl Alcohol	脂肪醇类, …	粘度控制			

Expertise and knowledge – result

- More knowledge and experience community

  ➢ Benefit marketing research – resource to know the product

  ➢ Benefit potential customers – supply their knowledge

- Less knowledge and experience community

  ➢ Reflection of signals in the marketplace - **Echo chambers**

  ➢ Less valuable for the marketing research and the customers

Social Context

- Opinions and behaviors
  - ▶ Your own attitudes and beliefs
  - ▶ Those of others in our social environment

    Subjective Norms

- Group Psychology

Social Context

- However, social influence is not restricted to word-of-mouth.

e.g. When car shoppers see more cars of a particular model being driven around town, they are more likely to buy that car.

• In the aggregate, that means cars sell better if there are more of that model driving around town.
•(critical mass or threshold)

Group Psychology

- Individual's opinions become interdependent in a group setting.

- The utility functions
  - Malleable
  - Shaped by the social context

e.g. What we order often changes depending on what the others at the table have ordered before us.

Bandwagon Behavior – Susceptibility to social influence

- The convergence of consumers toward blockbuster products is most common with *experiential goods*.

- One who supports a particular sports team, despite having shown no interest in that team until it started gaining success, can be considered a "bandwagon fan".

Winner of FIFA world cup 2014, Germany

Fans who support Germany

Information Cascades

- An information cascade occurs when a person observes the actions of others and then – despite possible contradictions in his/her own private information signals- engages in the same acts.

Positive signals of quality can snowball over time as the product gains more supporters.

Information Cascades

Historical examples
(Jasmin revolution!
WOM can be subversive!

- Small protests began in Leipzig, Germany in 1989 with just a handful of activists challenging the German Democratic Republic.
- In October, the number of protesters reached 100,000 and by the first Monday in November, over 400,000 people marched the streets of Leipzig. Two days later the Berlin Wall was dismantled.

Roles: Posters vs. Lurkers

▶ What makes one become a poster or a lurker?

▶ Motivation: Information sharing vs. Information seeking

▶ Social media content consumption: Create vs. Consume

▶ WOM: Senders (speakers) vs. Receivers (listeners)

Discussion: How can we increase the **Strength** of one's motivation?

Implication: We can then encourage people to "post" or to "share"

How can we motivate consumers to share with positive experiences?

How to handle negative comments/reviews?

WOM (Poster) Motivation I (textbook)

- Can you apply the two approaches to these three types of WOM motivation?

  - Self-enhancement

  - Altruistic motivation

  - Product-involvement

# WOM Motivation II (Godes et al. 2005): Incentives Theories

- Intrinsic motive (*certain characteristics explain their sharing behavior*)
  - Opinion leader who enjoy disseminating information;
  - Early adopter have an information advantage, but why they want to share?
  - Market maven has a need for uniqueness which they express through brands.
- Extrinsic motive (*where social media marketers could provide directly*)
  - Chase for something that caused by external influence
  - Example:
    - Monetary reward / coupon / discount-based incentives
    - Free gift by liking to our Facebook/ checking in at our store
    - Customer referral program

WOM Motivation III (Dichter): Speaker Motivation

- Product-involvement
- Self-involvement
- Other-involvement
- Message-involvement

- Remember social media is about participation, which relates to one's involvement in communication!

Managerial implications: The Role of Firm (SEO)

- Firms' management of social interaction (Godes et al. 2005); from passive to aggressive:
  - The firm as observer/bystander
    - Collects social interaction information to learn about its ecosystem
  - The firm as moderator
    - Fosters social interactions
  - The firm as mediator
    - Actively manages social interactions
  - The firm as active participant
    - Plats a role in the social interactions
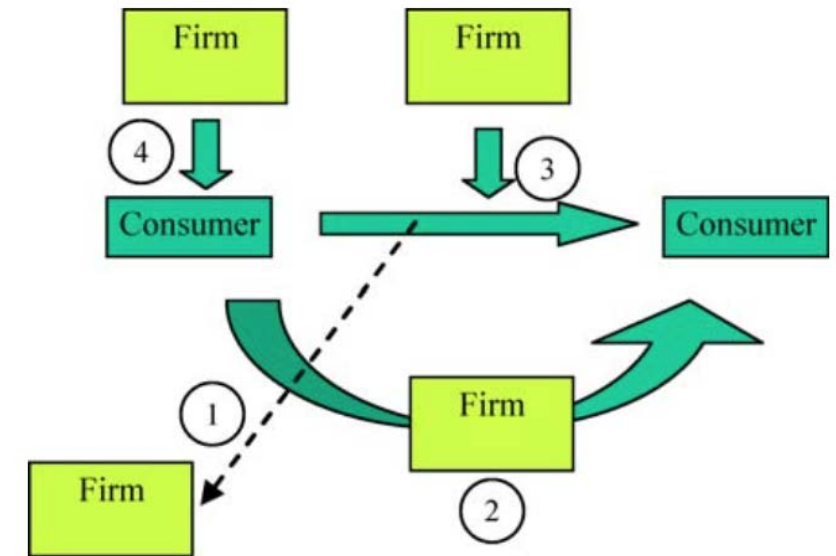
How Word-of-Mouth Advertising Works
Dichter (1966; Harvard Business Review)

- **How to stimulate WOM?**
  - Provide "intention"
    - e.g., activate a goal
    - Get "badge" when you checking in at 100 stores. (Yelp: http://ybadges.com/yelp-badge-list/)
    - Assign a status level once you engage plenty of sharing activities. (Tripadvisor: http://www.tripadvisor.com/ShowTopic-g60878-i74-k5083706-Where_to_stay_looking_for_the_center_of_the_action-Seattle_Washington.html)

  - Improve one's authentic relationship to the product
    - e.g., build up a brand community OR fan page
    - Stay connected

Summary:
E-WOM via Consumer-Opinion Platforms: What Motivates Consumers to Articulate Themselves on the Internet

- ▶ Platform assistance

- ▶ Venting negative feelings

- ▶ Concern for other consumers

- ▶ Extraversion/ positive self-enhancement

- ▶ Social benefits

- ▶ Economic incentives

- ▶ Helping the company

- ▶ Advice seeking

What is in the WOM? What kind of experience is likely to be shared?

- Positive experience
  - Positivity bias (of writers)
- Vs. Negative experience
  - Negativity bias (of readers)

Self-selection (bias)

Do we interact with people who are similar to or different from us?

In the information age, do we understand each other better, become more similar or different ?

Entrenched in our own communities, with polarized opinions!

网上消费者评论对新产品销售的影响：
几点新奇发现及透识
Online Consumer Reviews as a Driver of New Product Sales:
Some Surprising Findings and New Insights

Geng Cui, Lingnan University, Hong Kong
崔耕，香港岭南大学商学院市场及国际商学系
Hon-Kwong Lui, Lingnan University, Hong Kong
Xiaoning Guo, University of Cincinnati, OH, USA

Sample

The Study

▶ Social Networks and Social Learning Theory

▶ Panel data of 332 new products from Amazon.com

▶ Over a period of nine months

▶ HRA (分层回归), Serial regression (系列回归) and Fixed Effect Model (规定效应模型)

▶ Significant theoretical and managerial implications

WOM and New Product Diffusion

▶ WOM is more powerful than printed information (Kock 2001; Grewal et al. 2003).

▶ Not experts or firms – but opinions of previous consumers (neutral third parties) are more credible and reflect true product quality.

▶ Absence of face-to-face human pressure (Phelps et al. 2004).

▶ "Bad news travel faster"

▶ "Any publicity is good publicity(宣传)"

▶ A double-edged sword

▶ Strategies to influence online product reviews (Chen and Xie 2008; Dellarocas 2006; Li and Hitt 2008; Miller et al. 2009).

Figure 1: Adoption Due to External and Internal Influences in the Bass Model:
Increasing Influence of WOM in the early stage
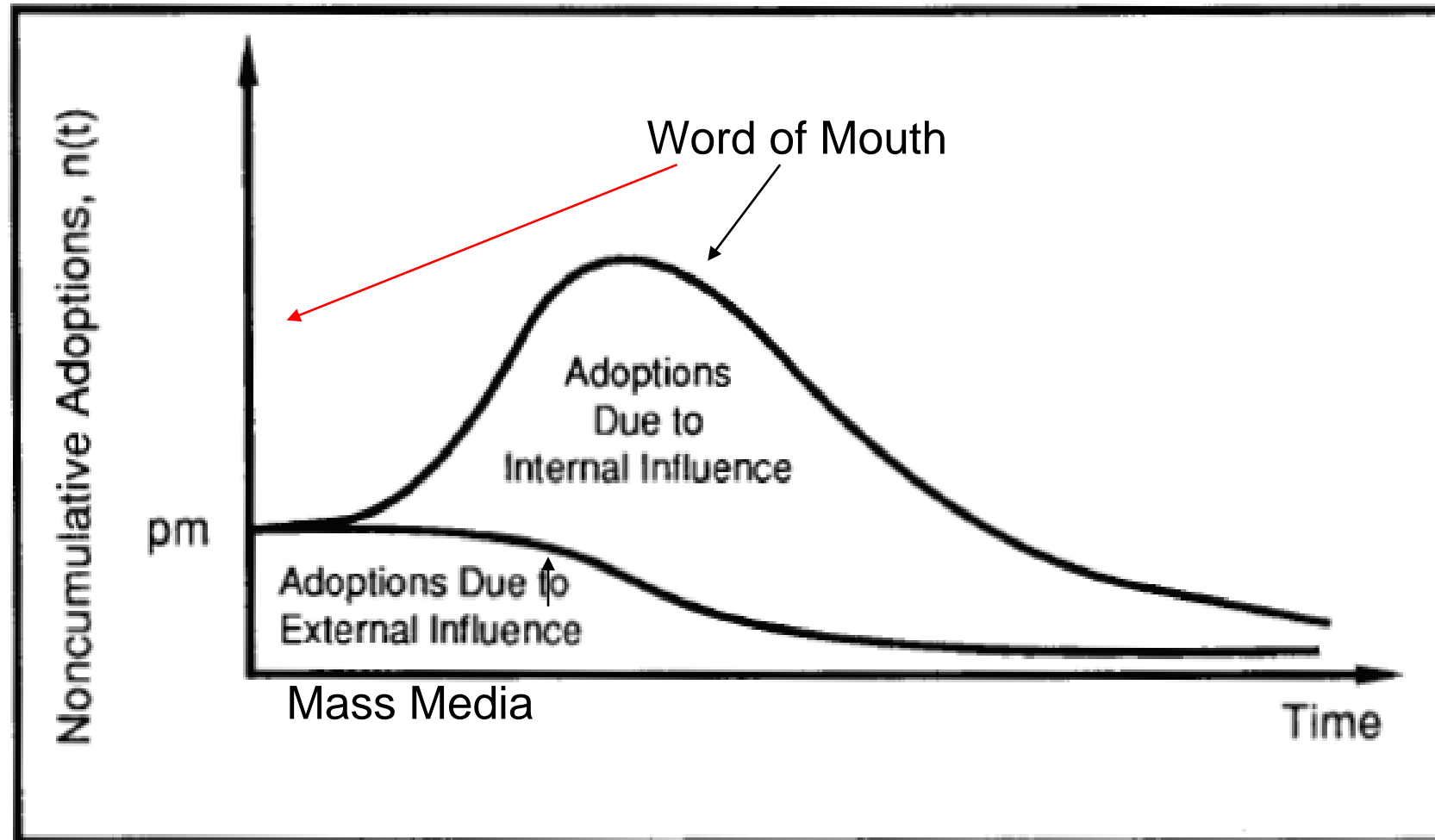
Recent Theoretical Development

▶ Social networks and social contagion

▶ Followers are more influential in the diffusion process than opinion leaders

▶ Computer simulations by Miller et al. (2009), Watts and Dodds (2007)

▶ Large cascades (瀑布效应) of influence

▶ The threshold model (临界点模型) based on the Social Networks Theory (Granovetter 1978).

▶ Tipping effect (倾斜效应), the effect of early reviews being positive or negative (spiral of silence循环沉默)

Measures and Effects of e-WOM

- Volume(数量): the number of online message posted for a topic
  - the volume of messages on newly released movies (Liu 2006)
- Valence(效价-平均分数): the fraction of positive and negative opinions in the mix of messages
  - Ratings of movies ((Dellarocas et al. 2007)
- Dispersion(扩散): the spread of communicationMessage and TV shows (Godes and Mayzlin 2004)
- e-WOM as a driver of new product sales (Dellarocas et al. 2007; Godes and Mayzlin 2004; Zhu and Zhang 2010)

Research Gaps

- Fear of negative reviews
- Patterns of effect over PLC: later or early
- Effect of followers vs. leaders
- Qualitative (volume) vs. quantitative (valence)
- Product category:
  - Entertainment and information products
  - How about search products: electronics

Theoretical Framework

Figure 2: The Effects of Online Reviews on Sales of New Products
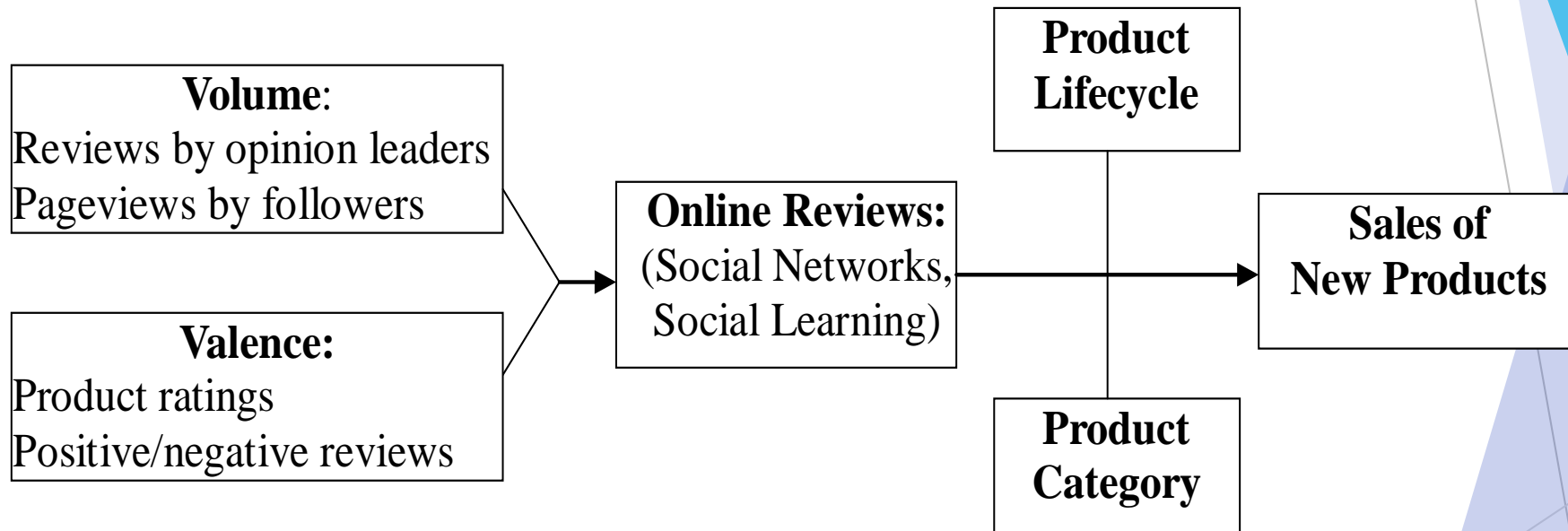
Research Method (Mphil thesis of Grace Guo)

Data collection:

(1) Duration: 9 months from August 2007 to April 2008

(2) Interval: one week

(3) Website: Amazon.com

▶ Popularity and good extensive review system

▶ No fee to post or browse

▶ Well designed website to collect information

▶ WOM message archived and indexed numerically

▶ Easy to collect sales data by finding out the sales ranking

Amazon.com rating system

Number of stars	The meaning of stars
1 star *	I hate it
2 stars **	I don't like it
3 stars ***	It's OK
4 stars ****	I like it
5 stars *****	I love it

According to the definition of ratings, reviews with 1 or 2 stars are negative; reviews with 3 stars are neutral; reviews with 4 or 5 stars are positive.

Table 2. A Fixed Effects Model of New Product Sales with Lagged Variables.

Dependent variable: New product sales

Model/fitness	Experience products	Search products	Chow-test/ t-test
Adjusted R^2	0.660	0.689	
F-value	342.92	93.23	42.37
Sig. F	0.000	0.000	0.000
Control variables			
Free shipping	0.030*	0.176***	7.656***
Price	-0.021†	-0.102**	0.686
Promotion	0.005	0.190***	9.525***
Other stores	-0.043***	-0.072**	2.814**
Week age	-1.150***	-0.380***	0.300
Week age squared	0.759***	0.186*	1.204
eWOM metrics			
Volume of reviews	1.042***	0.171*	5.280***
Valence	0.131***	0.329***	11.072***
Volume of page views	0.272***	0.248**	6.747***
Volume of reviews squared	-0.591***	-0.133†	9.144***

Notes: The results are standardized beta coefficients. † Significant at ≤ 0.1; * significant at ≤ 0.05; ** significant at ≤ 0.01; *** significant at ≤ 0.001.

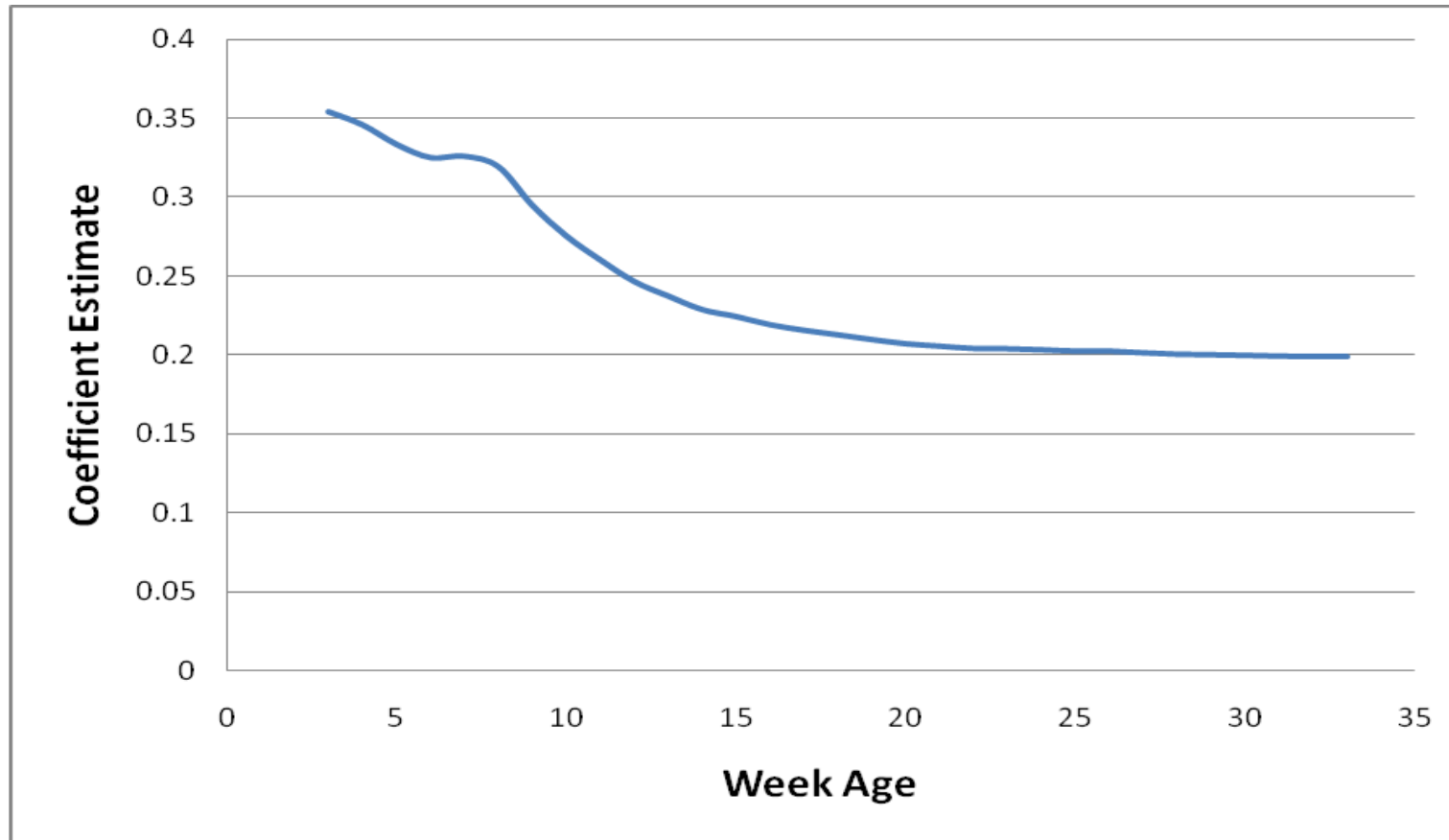**Figure 5. The Effect of Valence over Time**

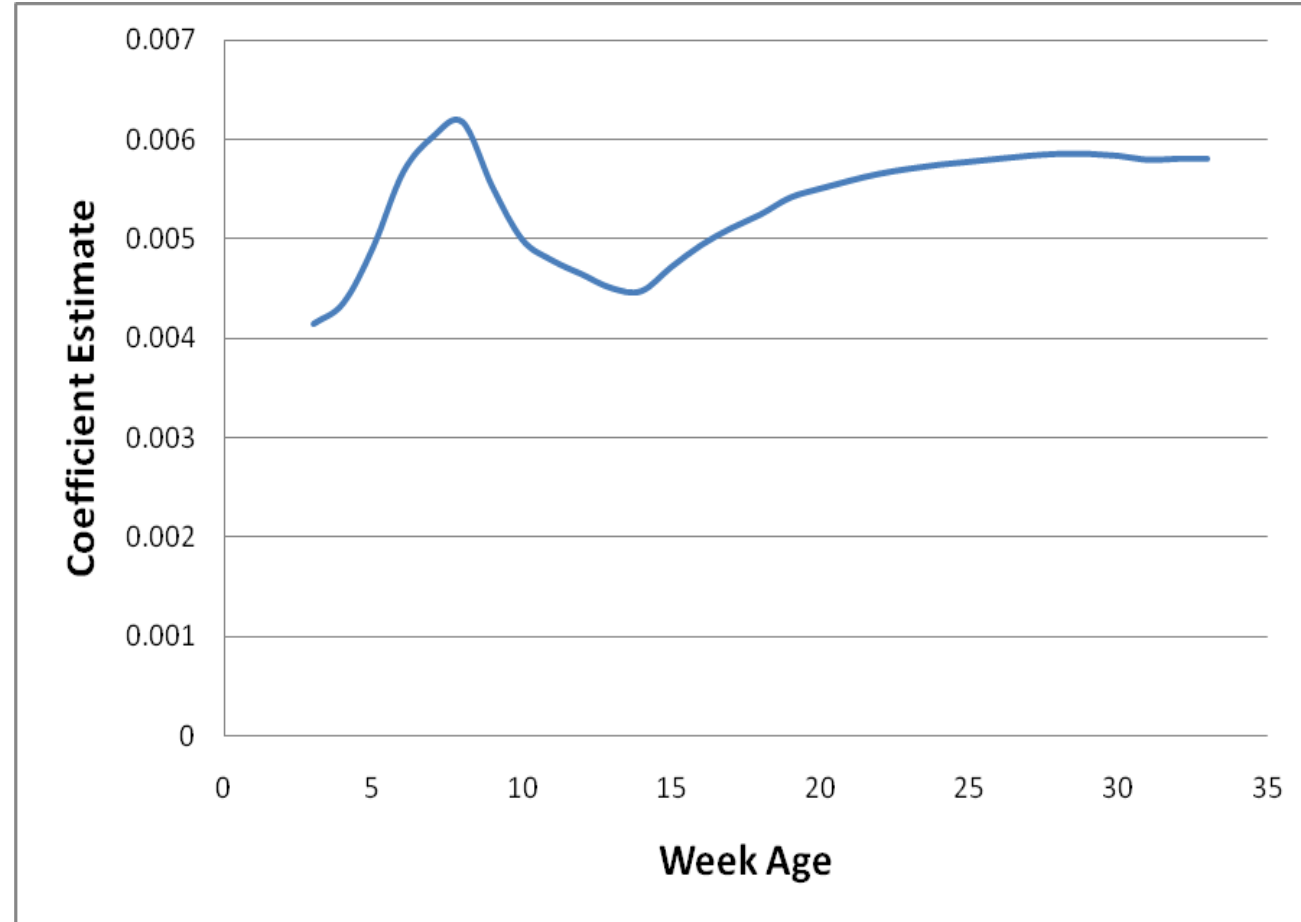# Figure 3. The Effect of the Volume of Reviews over Time

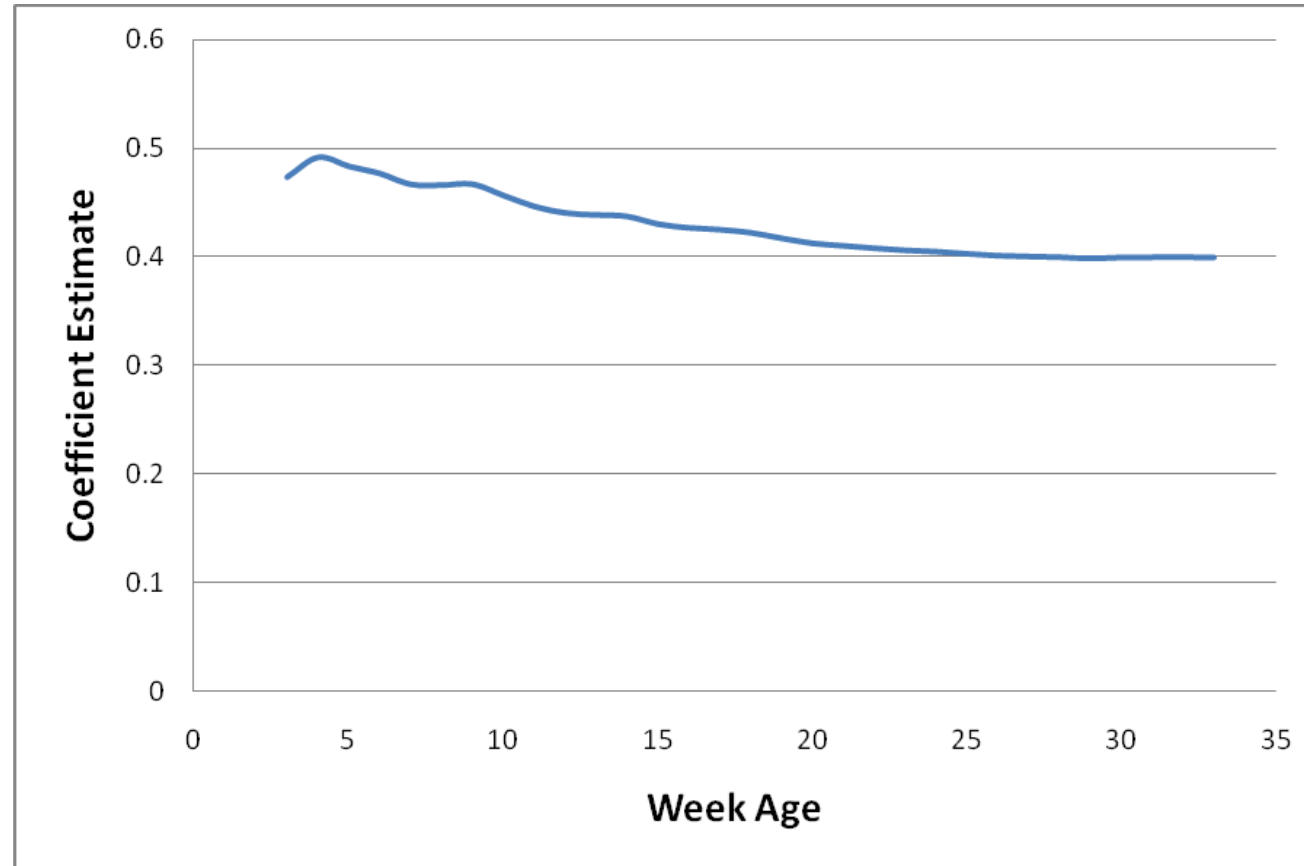# Figure 4. The Effect of the Volume of Pageviews over Time

Table 3. Regression Results of the Percentage of Positive and Negative Reviews.

Dependent variable: New product sales

Model/fitness	Model 1	Model 2	Model 3 (experience)	Model 4 (search)
Adjusted R^2	0.367	0.441	0.495	0.508
F-value	308.61	323.96	365.27	85.86
Sig. F	0.000	0.000	0.000	0.000
Control variables				
Free shipping	0.197***	0.163***	0.311***	0.012
Price	0.068***	-0.014	-0.004	-0.034*
Promotion	0.101***	0.109***	0.343***	0.028*
Other stores	-0.079***	-0.057***	-0.045	-0.081***
Product type (experience)	0.156***	0.109***		
Week age	-0.787***	-0.716***	-0.400***	-0.954***
Week age squared	0.494**	0.438***	0.230*	0.599***
Volume of reviews	0.394***	0.370***	0.064*	0.557***
% of positive reviews		0.104***	0.037	0.057*
% of negative reviews		-0.187***	-0.179***	-0.191***

Notes: The results are standardized coefficients. * Significant at ≤ 0.05; ** significant at ≤ 0.01; *** significant at ≤ 0.001.

Table 5. Results of Separate Regressions for Experience and Search Products

Dependent Variable	New Product Sales		
Model/Fitness	Experience Products	Search Products	Chow's Test /T-test
Adjusted R-square	0.5893	0.5784	
F value	561.82	124.49	
Sig. F	0.000	0.000	
Chow's test			178.86***
Control variables omitted			
Volume of reviews	0.009***	0.001*	222.85***
Volume of pageviews	0.328***	0.453***	205.61***
Valence	0.157***	0.205***	205.03***

Notes: 1) The results are unstandardized coefficients.
2) *: Sig.≤0.05, ***: Sig.≤0.001

Findings

- Volume, valence influences online new product sales early on, and its effect decreases over time.

- Valence has a greater influence than volume of reviews.

- Negative WOM more powerful than positive WOM

- Product type moderates the relationship between volume/valence of online WOM and new product sales.

  - Volume is more important for experience products

  - Valence and dispersion are more important for search products

Managerial Implications

- Key metrics of e-WOM: volume, valence, dispersion
- Better to pay attention to the effect of e-WOM early on in the early stage of PLC.
- More productive to encourage quality and helpful reviews that can attract more followers
- Getting good reviews is more important than having a large volume of reviews.
- Marketers in different industries pay attention to e-WOM differently.

Break

- Followed by leading discussion group 2