

Game Theory in Practice

Moving to Search: Game Theory and the Future of Marketing

David McAdams
Professor of Economics

Outline

Intro: Marketing Platforms

1. New Search & Display Platforms
2. The Rise of Attention Filters
3. The Searchification of Display
4. The Fall of Facebook / The Rise of “Belvedere”

Lost in New York City

"12 strangers in New York City must find each other ... with only \$100 and no idea who they're looking for."



- ABC News game theory experiment (2006)

Lost in New York City

- Six teams total [each with two people], dropped off in various neighborhoods of Manhattan
- How many found someone by 5PM?
 - 0
 - 2-3
 - 4-5
 - 6

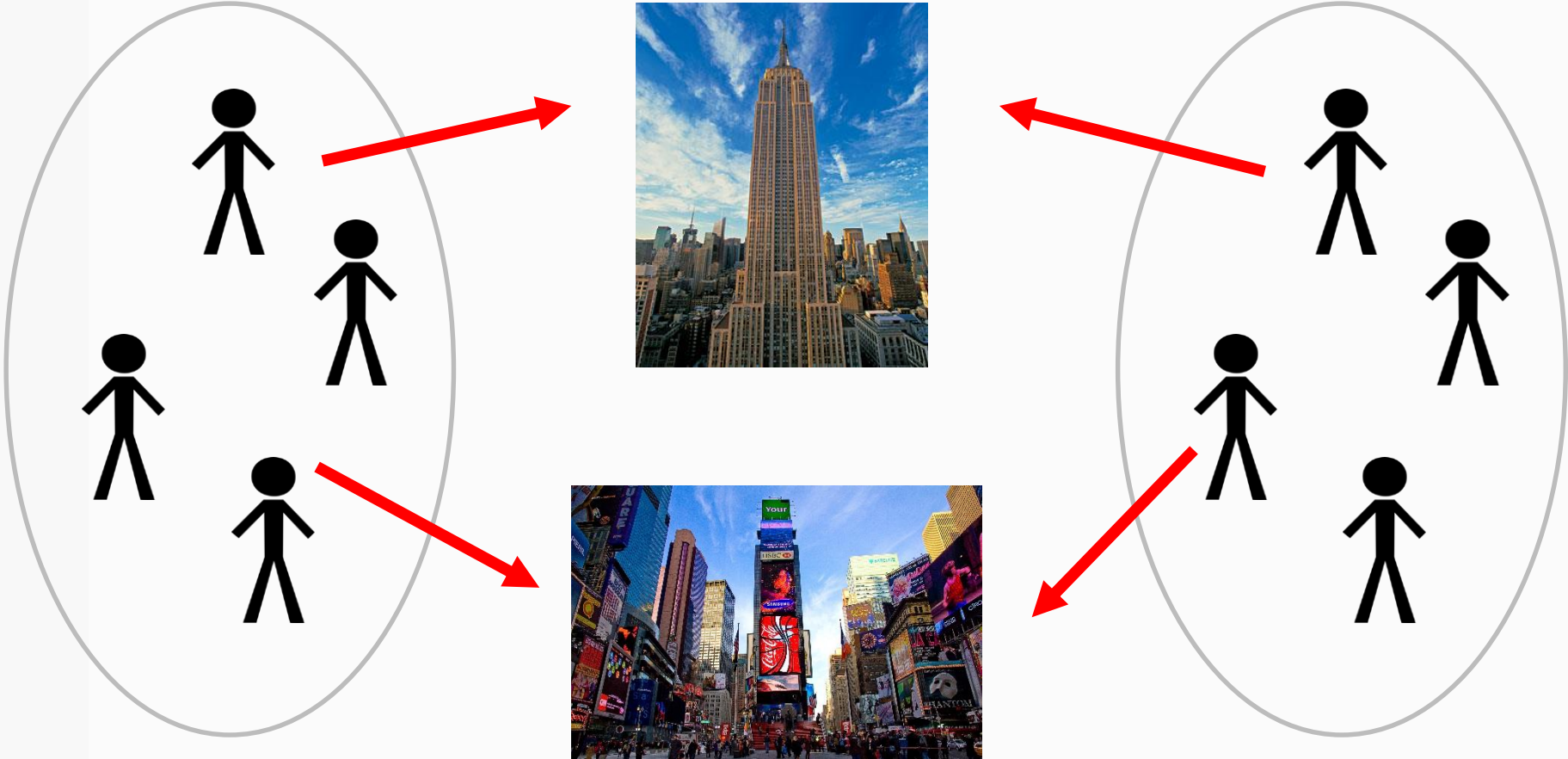
Lost in New York City

- In the ABC experiment, everyone found another team by noon
 - half at Empire State Building
 - half in Times Square
- They used signs, air horns, etc to find each other more easily

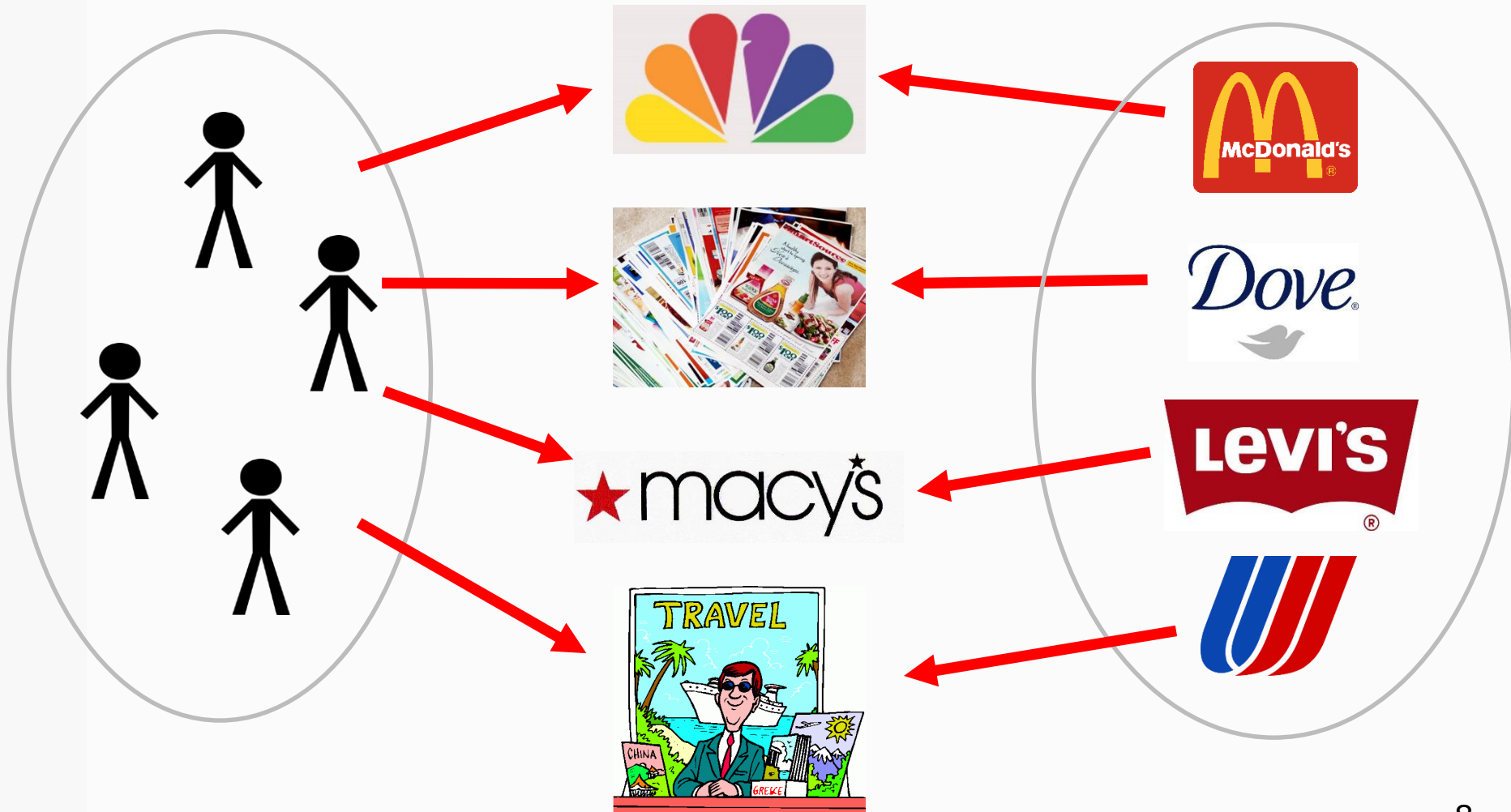
Lost in New York City

- In the ABC experiment, everyone found another team by noon
 - half at Empire State Building
 - half in Times Square
- They used signs, air horns, etc to find each other more easily
- *That's interesting, but ... what's the connection with marketing?!?*

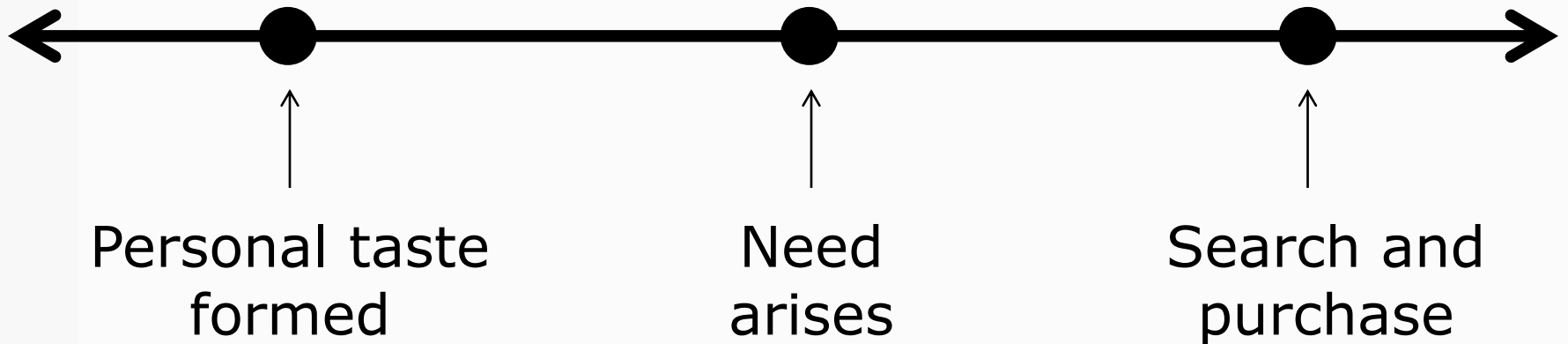
Coordination Platforms



Marketing Platforms



Marketing Moments



Marketing Moments



PREFER

Shape consumer tastes

↑
Need arises

↑
Search and purchase

Marketing Moments



PREFER

Shape consumer tastes

NEED

Influence arrival of needs

Search and purchase

Marketing Moments



PREFER

Shape consumer tastes

NEED

Influence arrival of needs

FIND

Steer consumers to products

Marketing Moments



KAYAK[®]



PREFER

Shape consumer tastes

NEED

Influence arrival of needs

FIND

Steer consumers to products

Marketing Platforms: Display vs Search

“Display platforms”

- firms put products / offers / messages *where consumers will see them*

SOME EXAMPLES



Magazines



TV channels



Grocery end-caps

Marketing Platforms: Display vs Search

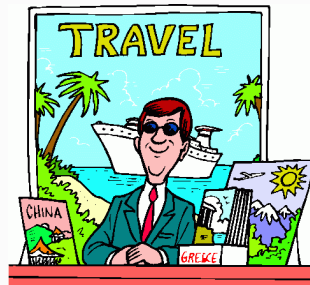
“Search platforms”

- firms put products / offers / messages *where consumers can find them*

**SOME
EXAMPLES**



Directories

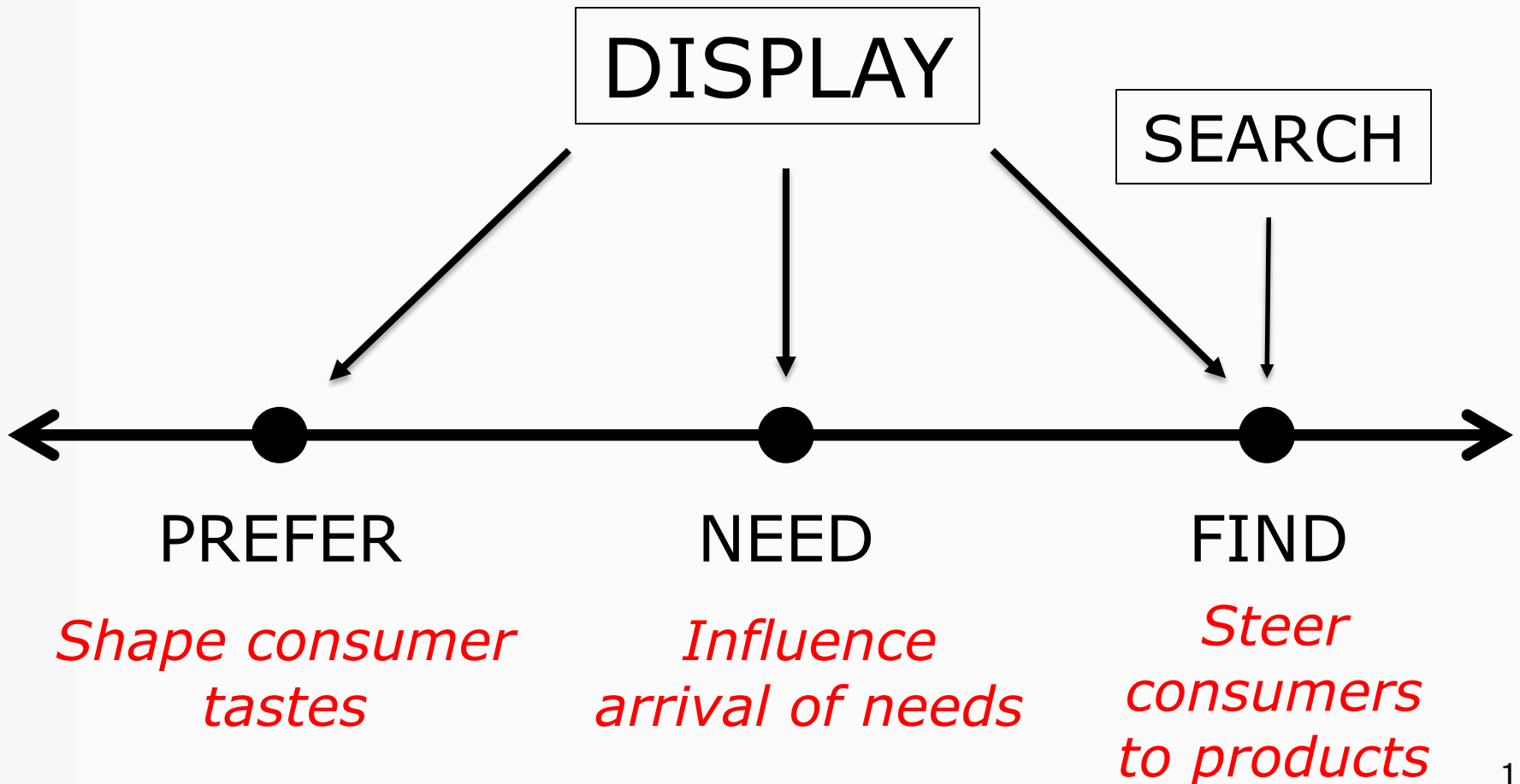


Travel agents



Search engines

The Traditional Dominance of Display



How Information Technology Changes the Game

- 1. New Search & Display Platforms**
2. The Rise of Attention Filters
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The Internet as *Online* Display and Search Platform

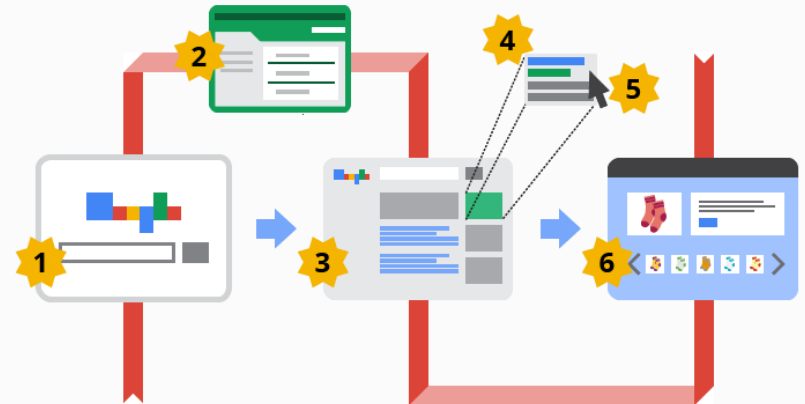
DISPLAY

Google
Display Network



Source: comScore Media Metrics, March 2009, google.com/adwords/contentnetwork/

SEARCH



The Fall of the Yellow Pages

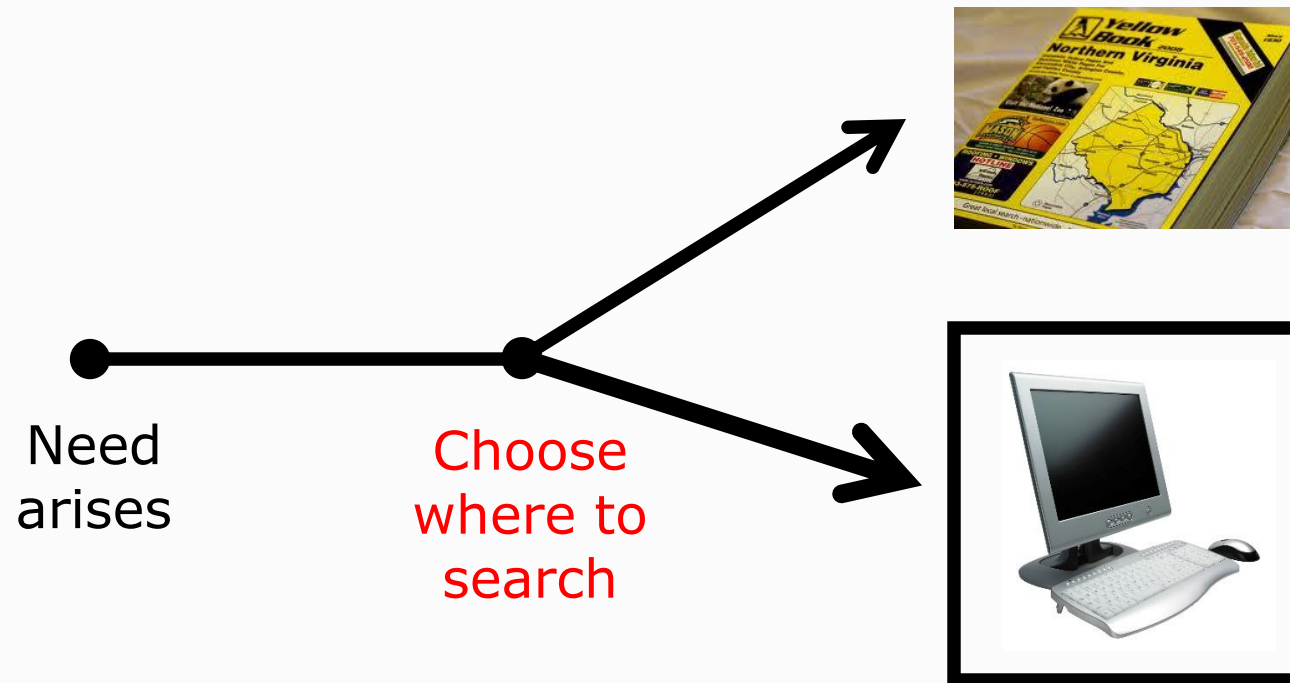


"Google schmoogle."

- Telstra CEO Sol Trujillo in 2005, when he rejected an opportunity to sell Telstra's yellow/white pages business for \$12 billion

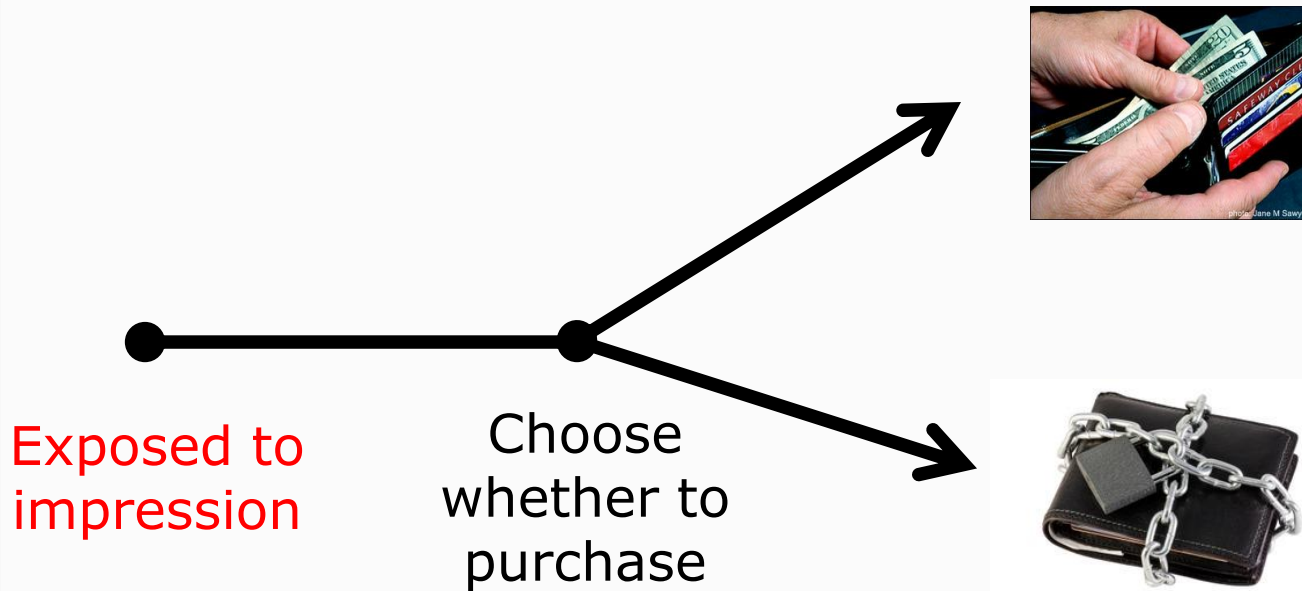
In Jan 2014, Telstra sold the business for ~\$500 million

Why Yellow Pages Lost



- Because consumers CHOOSE where/how to look, search is a **winner-take-all business** with natural monopoly to whoever provides the best results.

Online vs Offline Display



- By contrast, online display has no inherent advantage over offline display

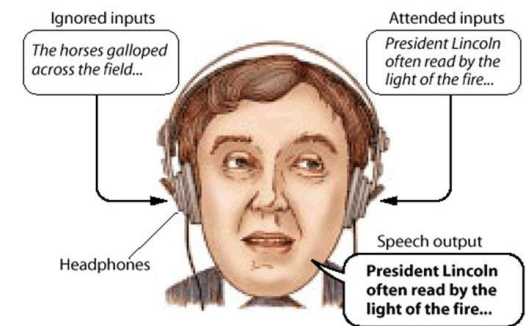
How Information Technology Changes the Game

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2. **The Rise of Attention Filters**
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Selective Attention

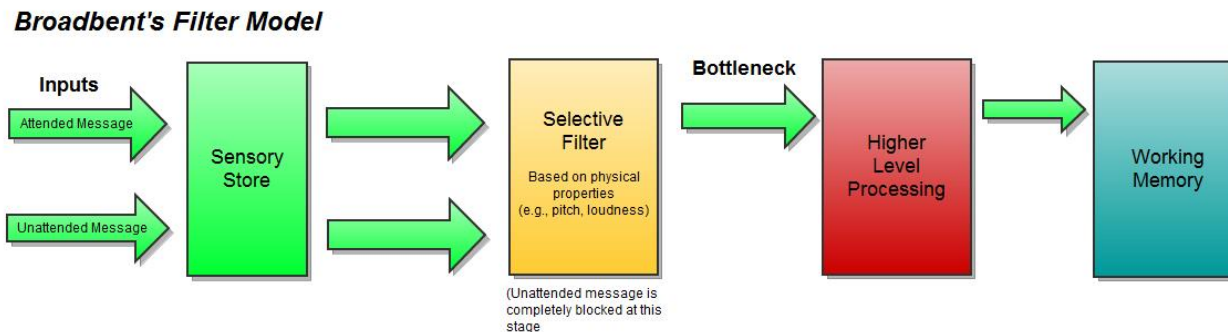
- When presented with many channels of input, people attend selectively to one at a time:
 - Broadbent (1958), "Perception and Communication"
 - Treisman (1962), "Selective Attention and Speech Perception"
- Information in unattended channels attenuates and is more likely to be ignored

Dichotic Listening Task



Digital Attention Filters

- Human attention-filtering suffers from a so-called **sensory bottleneck** → we don't always attend to the most useful inputs



- Advances in information technology will drive rise of **digital attention filters**
 - "gatekeepers of the mind"**

Implications for Display

- Digital attention filters will accelerate the ongoing trend of **consumer "opt-out"** from exposure to marketing messages
- Opt-out forces marketers to create display content that consumers will choose to watch
 1. by changing the ads themselves
 2. or by changing who watches them



How Information Technology Changes the Game

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TV Ads and Online Search

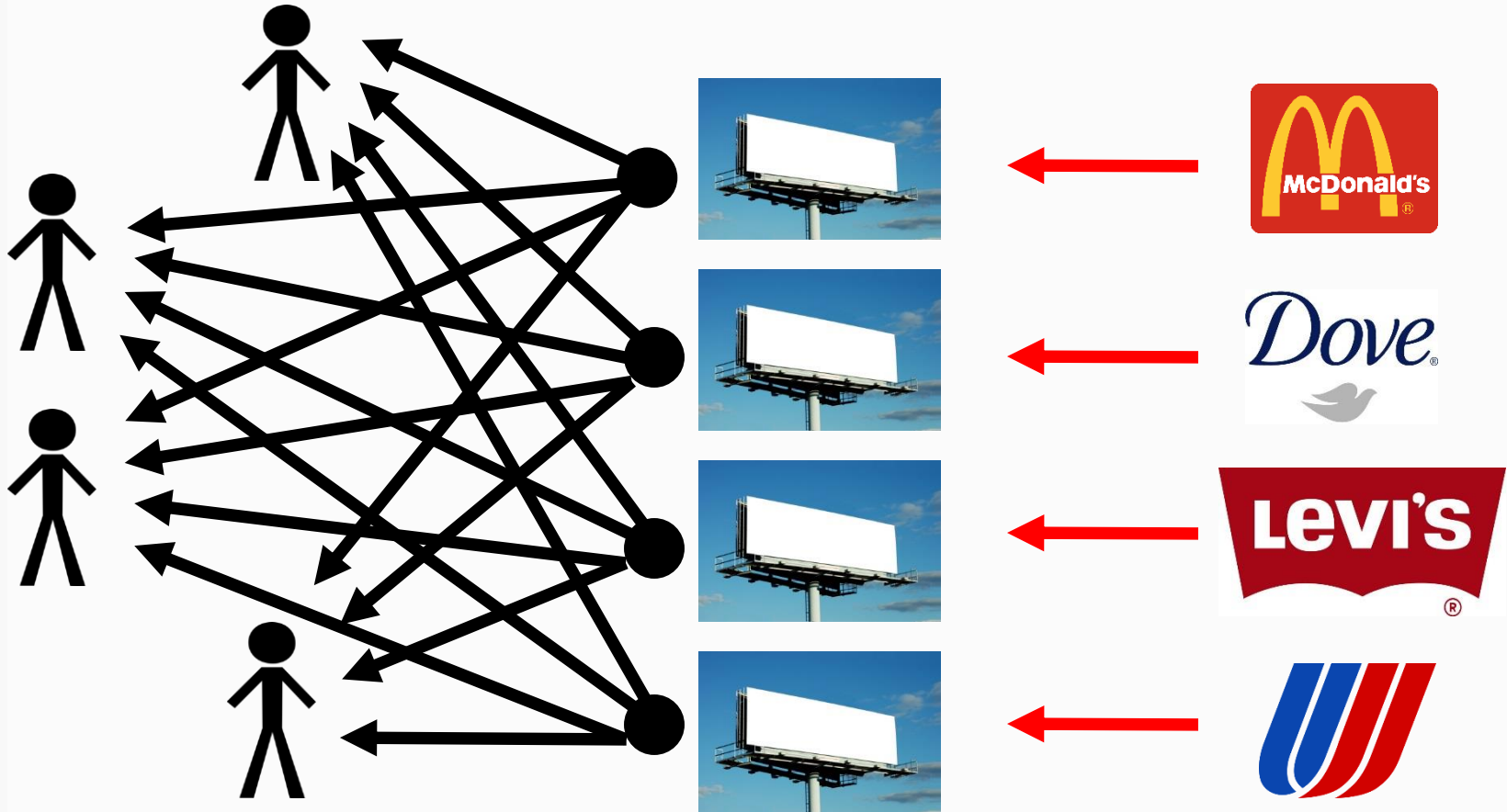


"Television advertising increases both the number of related Google searches and searchers' tendency to use branded keywords."

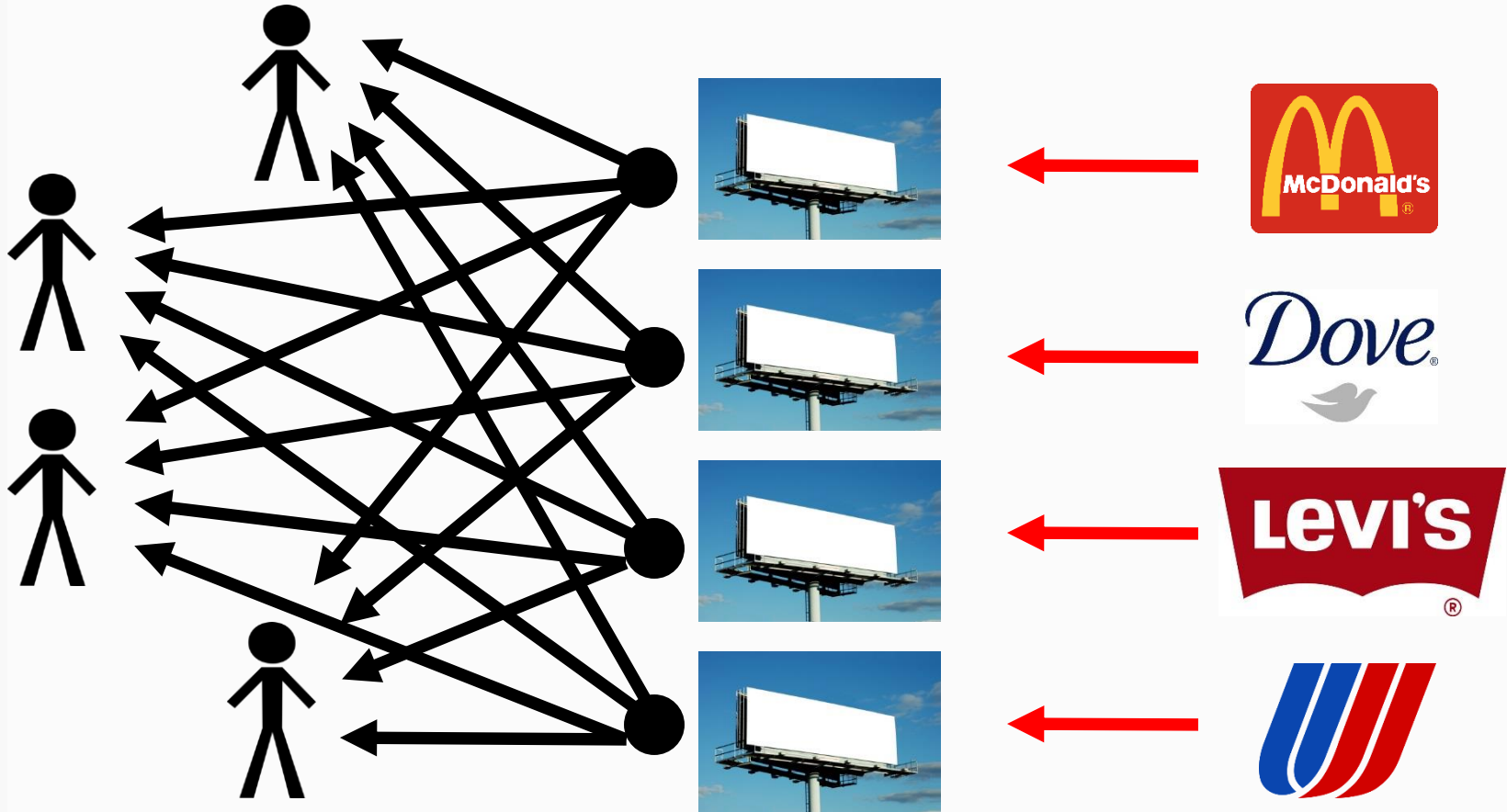


- "Television Advertising and Online Search," Joo et al, Management Science, 2014

Display Competition

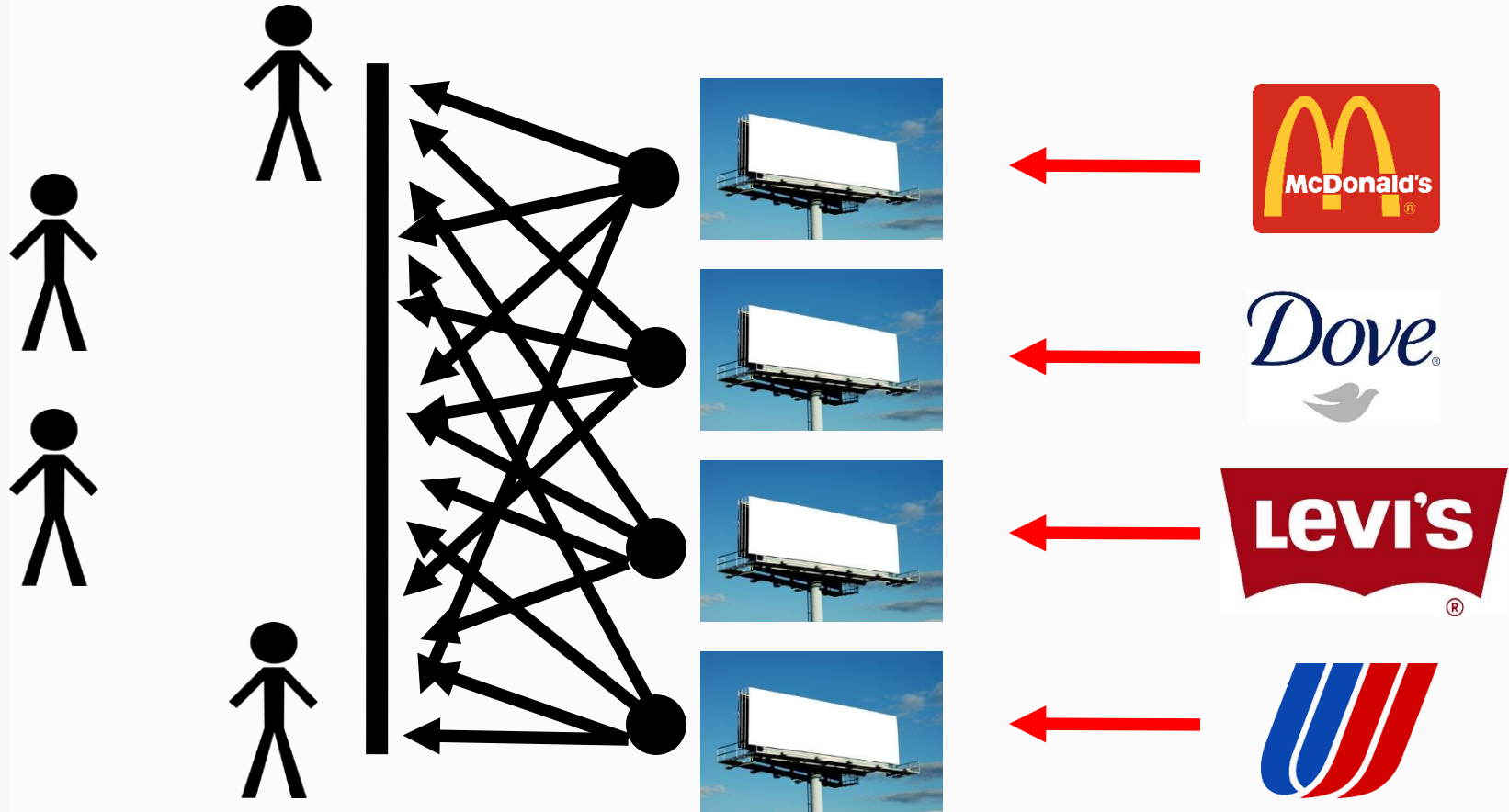


Display Competition



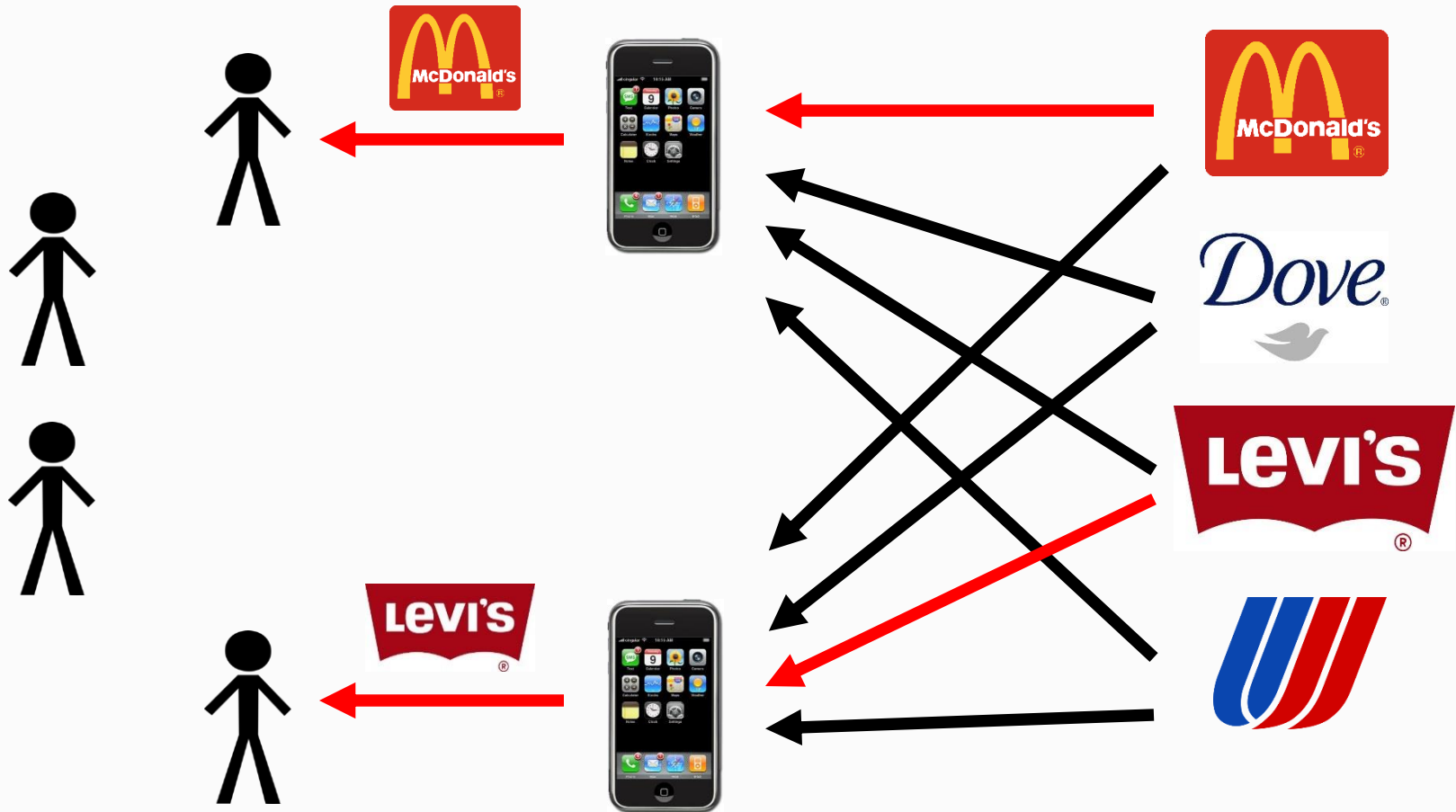
P.S. to "Game Theory" alumni: Prisoners' Dilemma!!

Total Attention Filtering

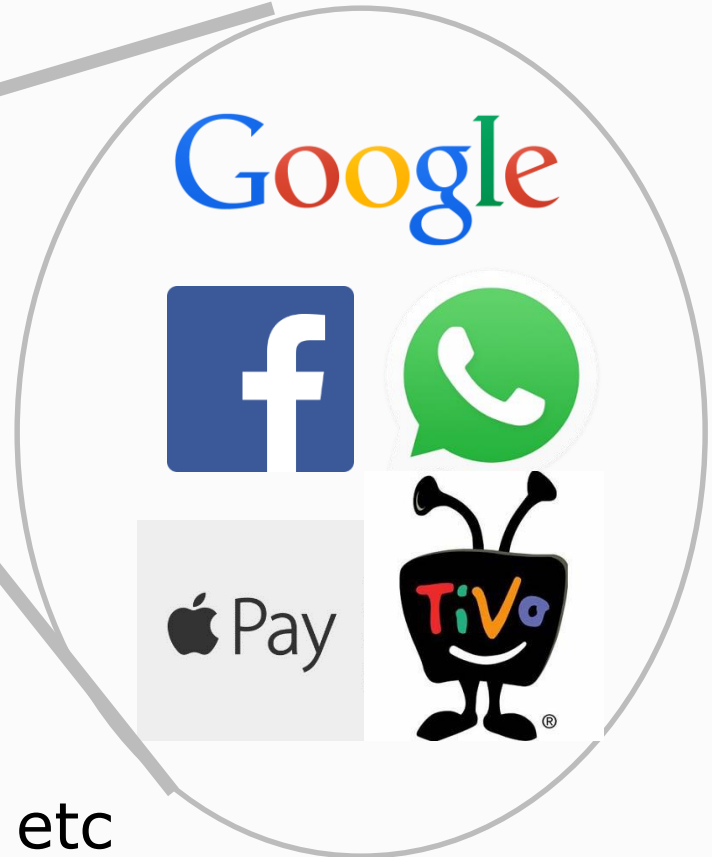


Even if some ads are of interest, all may be ignored if processing them is too costly

Selective Attention Filtering



Selective Attention Filtering *as "Standing Search"*



Attention filter gathers information -- automatically and/or as disclosed -- about consumers' needs, interests, etc

Selective Attention Filtering *as "Standing Search"*

- hungry
- near McD



- price-conscious
- no jeans in last six months



"The Perfect Search Engine"



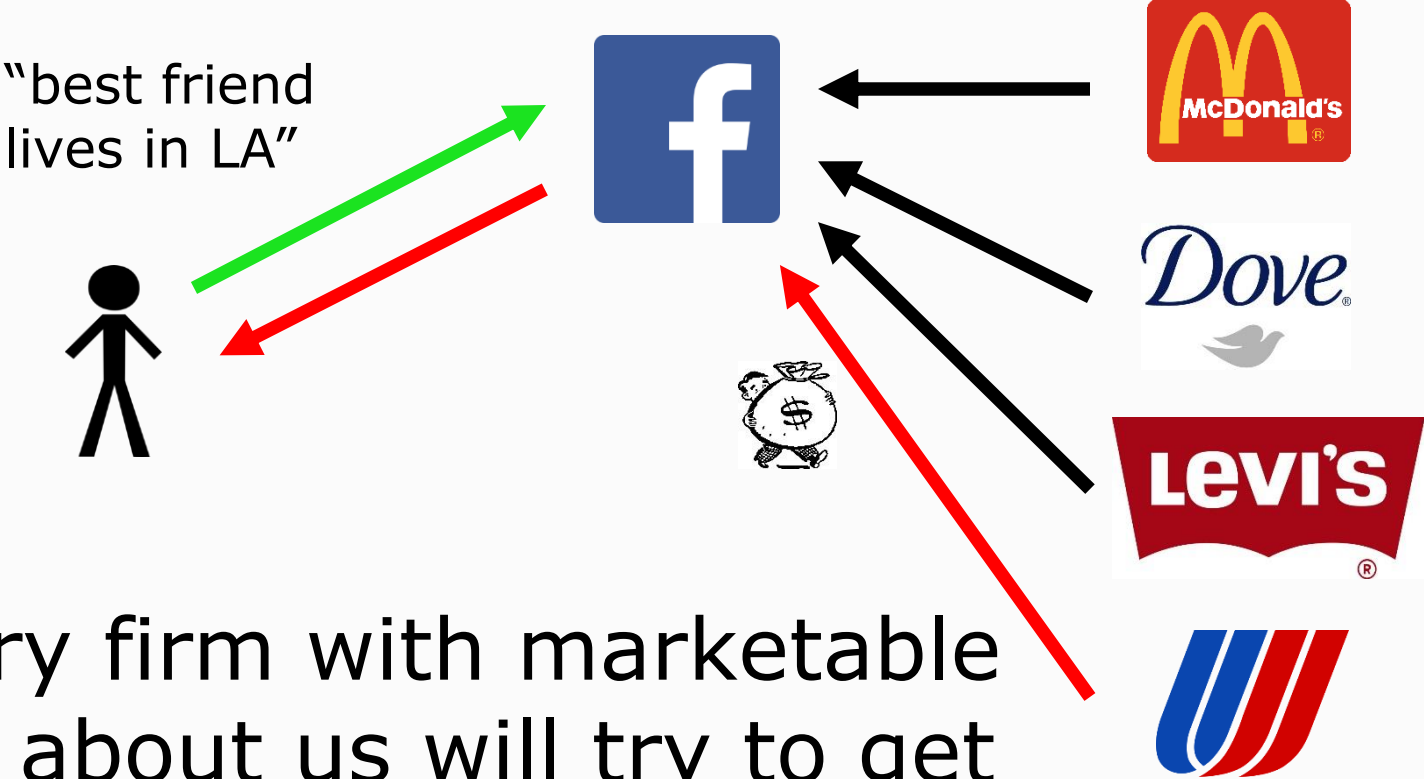
"The perfect search engine would understand whatever your need is [and] give you back kind of exactly what you need."

*- Larry Page, Google CEO,
in 2012*

How Information Technology Changes the Game

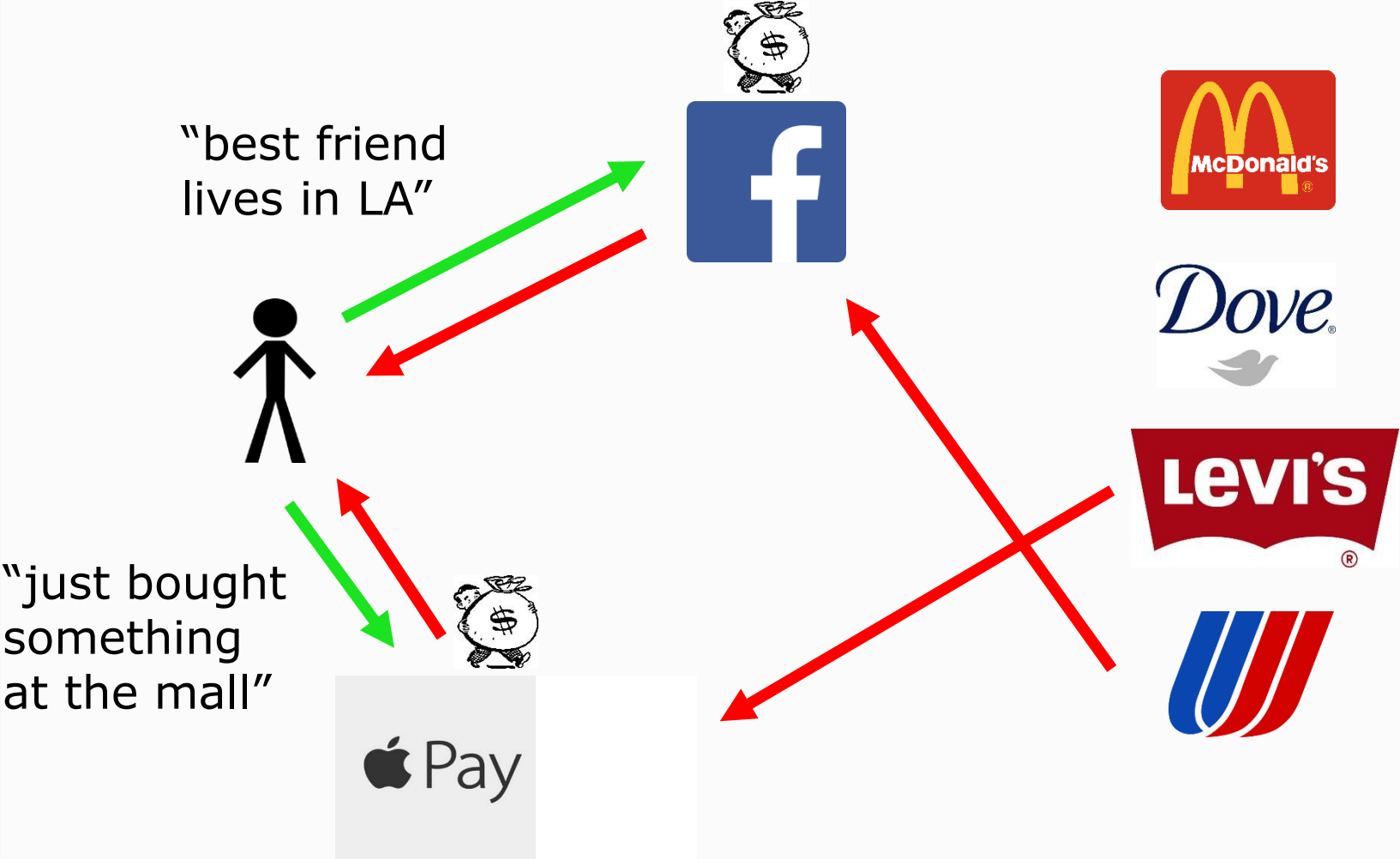
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Gatekeeper Game



Every firm with marketable info about us will try to get in on the Gatekeeper Game

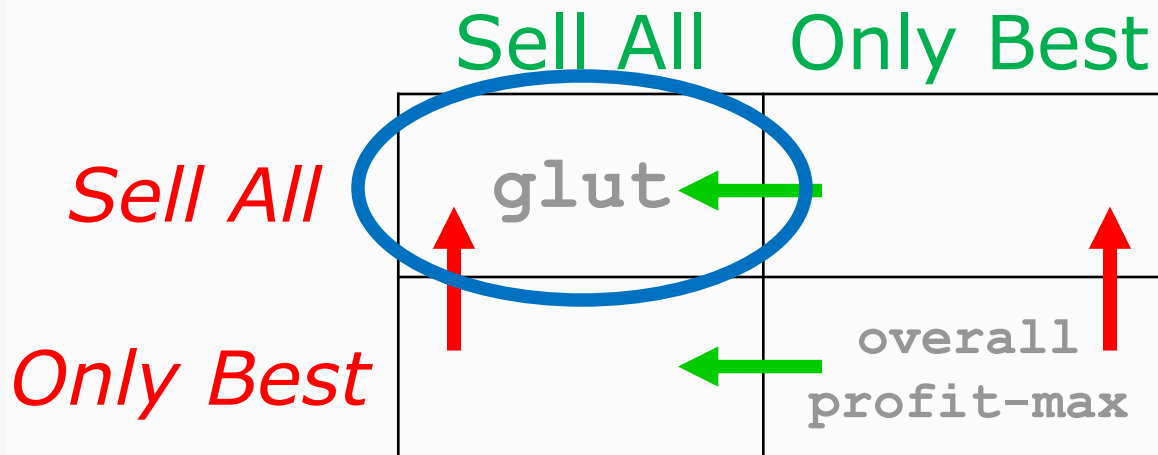
Gatekeeper Competition as *Prisoners' Dilemma*



The Diamond Flood



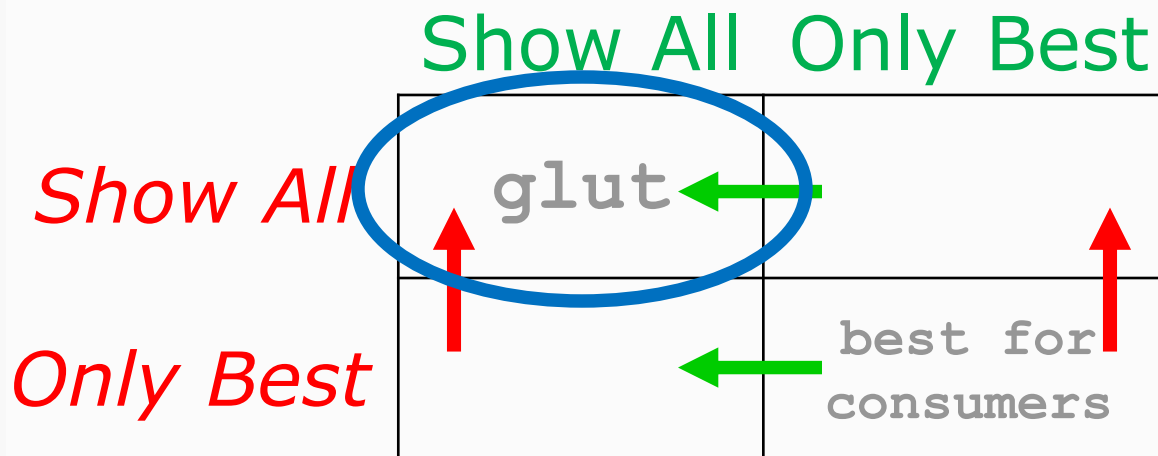
- 1867: Thousands rush to stake claims
 - glut of low-quality diamonds
 - “depression” among miners
 - *Prisoners’ Dilemma!!*



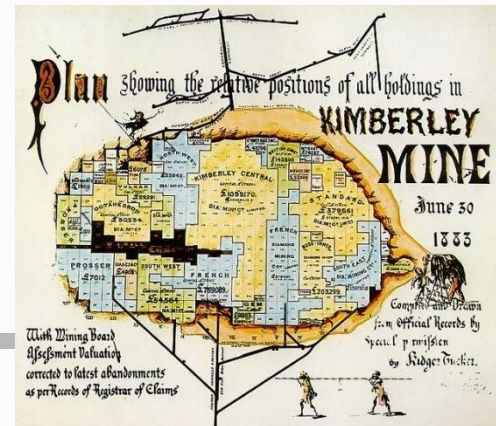


The Display-Ad Flood

- Every gatekeeper will sell whatever it can to maximize own profit
 - glut of low-quality ads
 - *Prisoners' Dilemma!!*



The Diamond Cartel



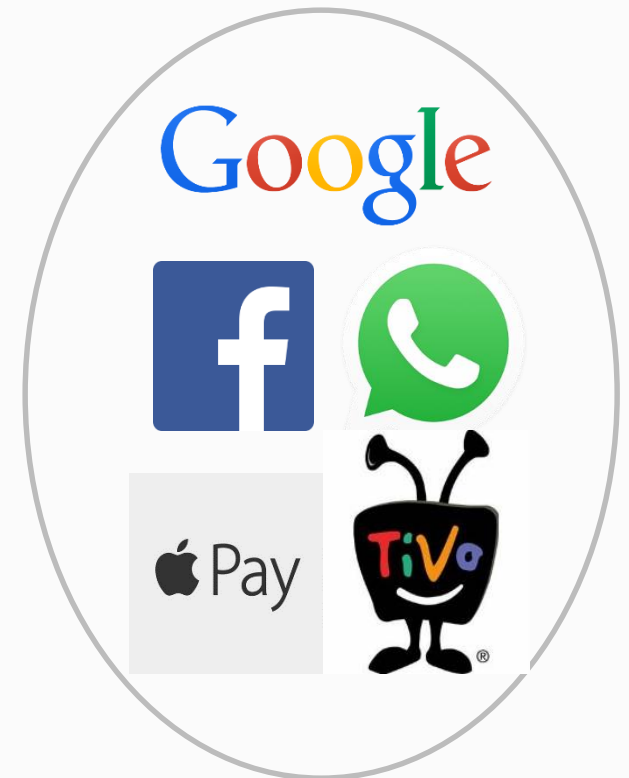
- 1888: Rhodes controls all claims.
 - Prisoners' Dilemma solved!!

	Sell All	Only Best
<i>Sell All</i>	glut	
<i>Only Best</i>		overall profit-max

- Is monopoly a viable solution here?

Gatekeeper Monopoly?

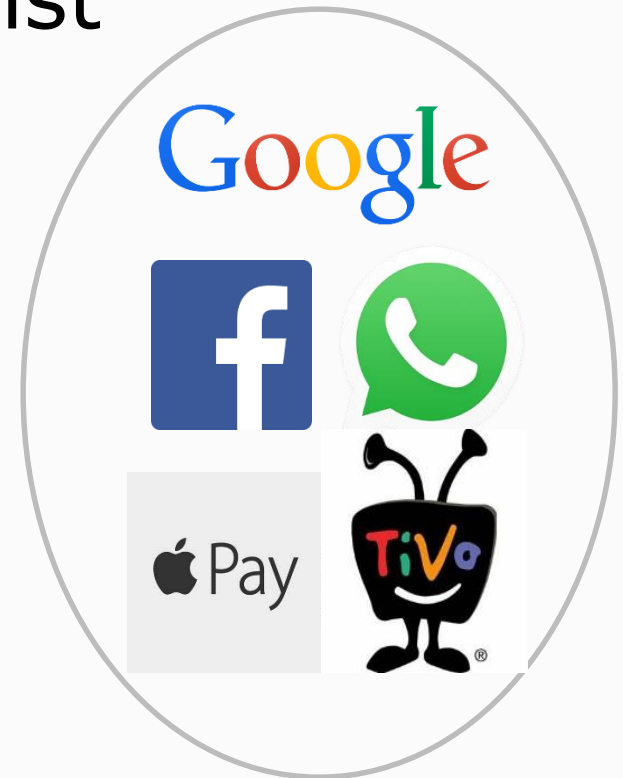
- Is monopoly a viable solution here?
- *Who will winner be?!?*



And the Winner is ... NONE OF THE ABOVE!!

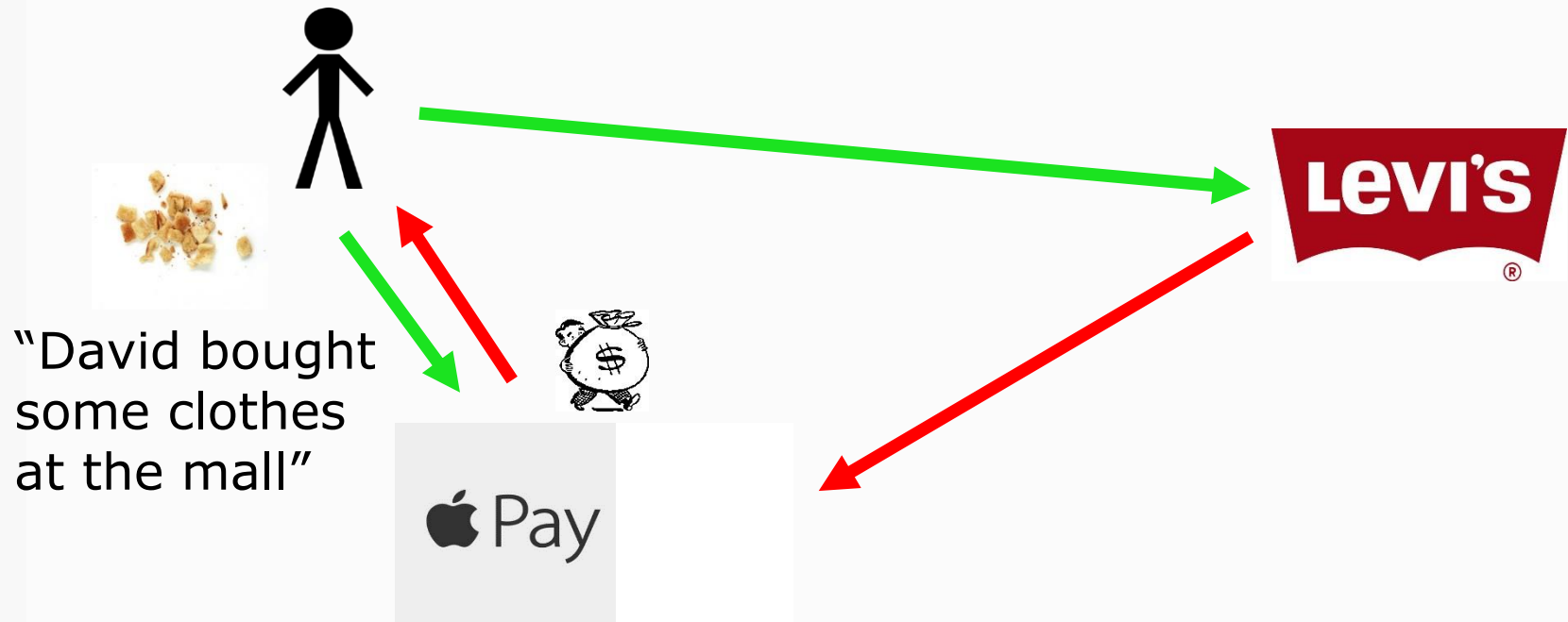
Three factors work against any of the established players dominating the gatekeeper role:

1. *many data streams [difficult to merge]*
2. ***conflict of interest***
3. ***second-best information***



And the Winner is ... NONE OF THE ABOVE!!

Key Idea: *It's not sustainable for someone else to profit off YOUR info.*



The Digital Butler ["Belvedere"]



"Filter my spam, [post to Facebook for me] and generally hold the world at bay, all on my behalf so I don't have to think about it."

- Roger Kay in Forbes, March 2014, on how he dreams of a "digital butler"

The Digital Butler [“Belvedere”]



“Filter my spam, [post to Facebook for me] and generally hold the world at bay, all on my behalf so I don’t have to think about it”
... AND GET ME THE BEST DEALS!

And the Winner is ... BELVEDERE!!

"My boss may want to buy some jeans. What's the best deal you've got? Make it good, or I won't even bother to inform him."



And the Winner is ... BELVEDERE!!

"My boss may want to buy some jeans. What's the best deal you've got? Make it good, or I won't even bother to inform him."



"Sir, may I recommend you buy these clothes anonymously, so I can get a better deal on those jeans you need"



Anonymity is an Option!

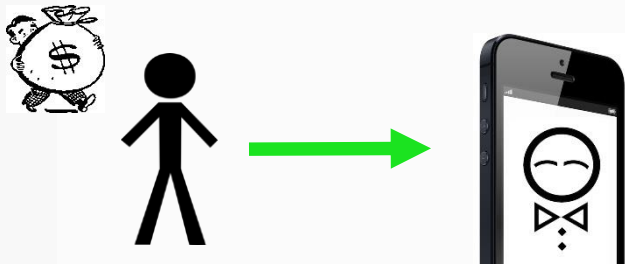


"The beauty this tracking is that companies can now target offers to their customers ... Making an anonymous payment can get you out of a lot of these kinds of messages."

*- 2013 Privacy Report by
Mercator Advisory Group*

And the Winner is ... BELVEDERE!!

"My boss may want to buy some jeans. What's the best deal you've got? Make it good, or I won't even bother to inform him."

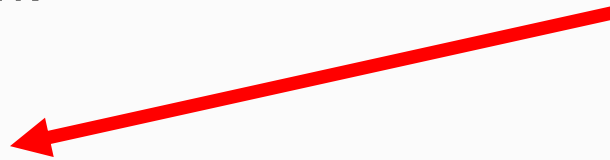


"Sir, before you post that selfie at the mall, let me quickly [in the next split second] find out what deals I can get you on a pair of jeans."



And the Winner is ... BELVEDERE!!

"My boss may want to buy some jeans. What's the best deal you've got? Make it good, or I won't even bother to inform him."



"Sir, please, let me manage your logged-in experiences. For this search, we really should be blocking all cookies."



Conclusion: Welcome to the Age of *Relational* Marketing

Information technology advances are transforming how marketers reach consumers, in a two-stage process:

1. "searchification" [Google/Facebook - now]
2. "selective filtering" [Belvedere - coming]

Conclusion: Welcome to the Age of *Relational* Marketing

BAD NEWS for today's platform giants

- value proposition of Google/Facebook/... based on scraping up "data crumbs"
- such models collapse once consumers have the tools to manage / dole out those crumbs themselves

Conclusion: Welcome to the Age of *Relational* Marketing

BAD NEWS for today's platform giants

GOOD NEWS for marketers

- new and limitless possibility for meaningful *relationship* with consumers
- ... without intermediaries taking a slice