Knowledge Management and Protection Systems (KMaPS) **Corso di Laurea in Ingegneria**

Part 7b (2015) – Internet Advertising e Social Networks

Prof. Paolo Nesi

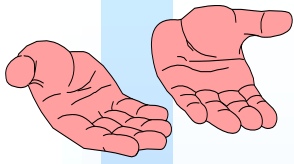**DISIT Lab** http://www.disit.dinfo.unifi.it/

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DISIT

Part 2: Advertising

- ¿ Internet Advertising
  - ♣ Why Advertising
- ¿ Business models and Advertising
- ¿ Consumer analysis
- ¿ TV, Magazine Advertising
- ¿ Internet Advertising Measures
- ¿ Other Business Models with Advertising
- ¿ Advertising Services: Google ADWords
  - ♣ Lessons Learned
- ¿ Google AdSense
- ¿ Recommendation and Advertising
- ¿ Semantic processing and Issues of Advertising
- ¿ Facebook advertising
- ¿ Twitter Analytics and Advertising

Advertising via media

¿ **Advertising to**

♣ Increase selling and revenues

♣ inform consumers about some news with aim of selling them the products and/or services

♣ a sort of implicit contract Seller←→Consumer

¿ **Actors and terms**:

♣ Product Seller: who would like to sale the product

♣ Advertising: Ads, Ad

♣ Consumer/User: the person or group that is going to receive the Ad

♣ Target User/Consumer: the User with a given profile, specifically tuned for the Ad, t hose that should buy the product

♣ ….
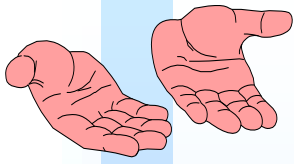
Concetti di Base

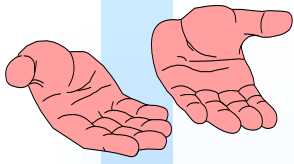- **Advertisers**: quelli che hanno dei prodotti da pubblicizzare
  - ♣ Produttori e distributori di prodotti
- **Publishers**: quelli che pubblicano media o contenuti che possono veicolare Ads
  - ♣ Social Network, netmeeting (e.g., skype)
  - ♣ Web Portal providers: web, VOD
  - ♣ Broadcasters: TV, Radio, streaming
  - ♣ Mobile applications, games
  - ♣ Media Distributors
- **Mediators**:
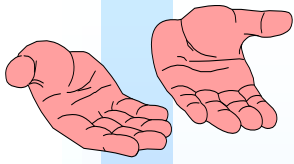 - ♣ Ad Servers: aiutano an Adverstiser to perform campaigns
  - ♣ Ad Networks: connect Advertisers ←→ Publishers
  - ♣ Ad Exchanges: …. reciprocal advertising ….

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Internet Advertising

¿ **Banners**: simple images and/or text containing Ad

♣ Initially static

♣ Then dynamic, changed in some how (iframe, etc…)

¿ Internet advertising is rapidly growing with respect to other advertising

¿ Intelligence and semantic processing have changed the Ad processing tools and mechanisms
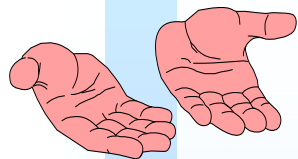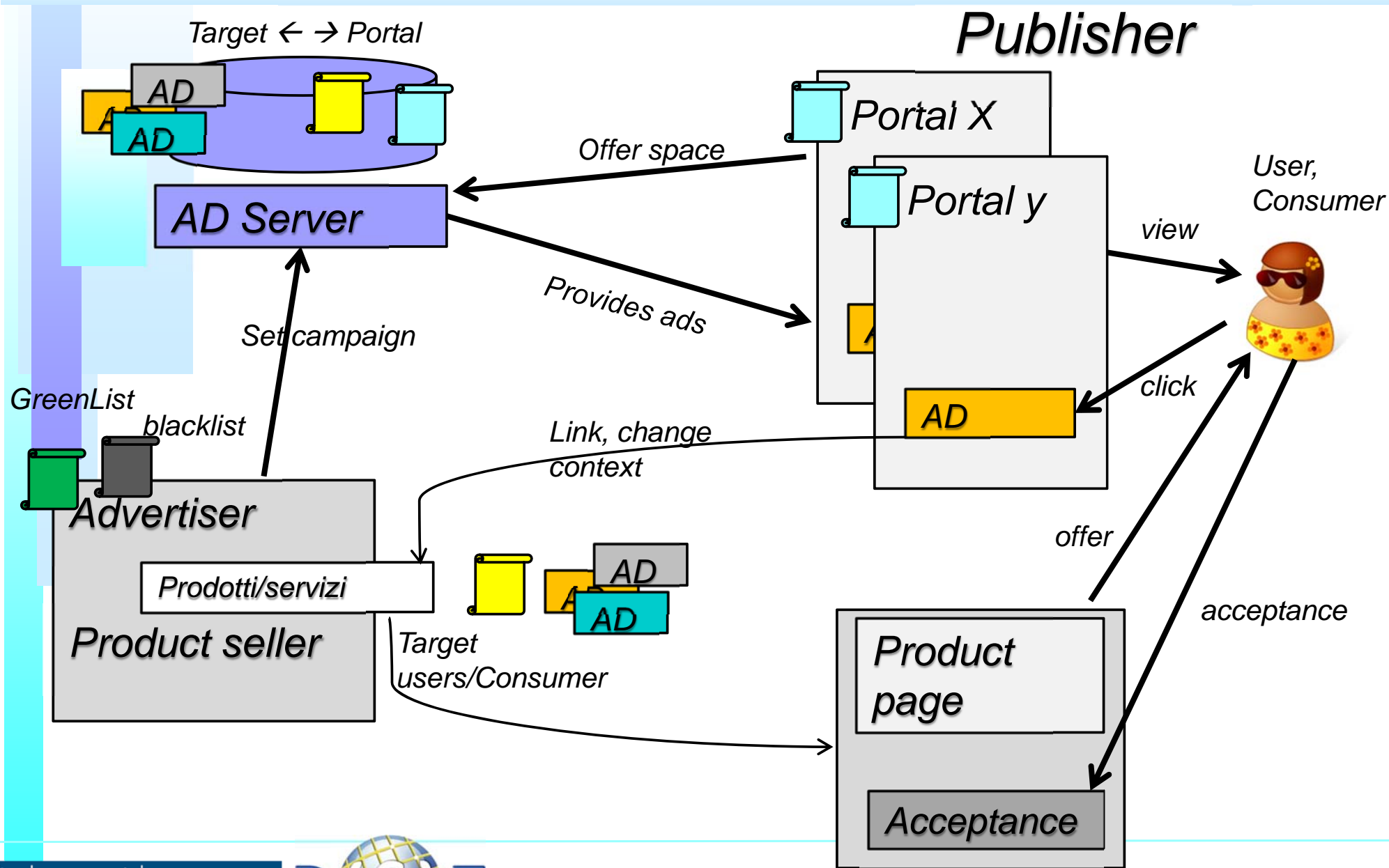
Real Time Bidding

¿ **A user visit a WebSite of a Publisher**

- ♣ Trigger a *Bid request* (providing user profile), location and the media provided

- ♣ This *Bid request* goes to the Ad Server that submits it to multiple Advertisers (or simulators for them) that provide their bids in real time to place their Ads according to ***some criteria/algs***

- ♣ The winner Advertiser (highest offer/bid) will be selected by the Ad Server which is providing the Ad with a banner into the Web Site of the Publisher

- ♣ All these phases in 100 ms.

Architettura di Riferimento

Target ← → Portal

Publisher

AD

AD

AD

AD Server

Offer space

Portal X

Portal y

User, Consumer

Provides ads

view

Set campaign

GreenList

blacklist

Link, change context

click

AD

Advertiser

Product seller

Prodotti/servizi

AD

AD

AD

Target users/Consumer

offer

acceptance

Product page

Acceptance

Ad Servers/networks

6: Click to Buy ??

Ka1.1, Ka1.2

Advertiser 1

Advertiser 2

Ka2.1, Ka2.2

■LP

3 virtual request of bid

K, Ad, $

5, click on banner

AD server

4, Ad, Banner

2
Kp, [Uprofile]

1

Publisher, channel

Kp1.1, Kp2.2

U-profile

U-profile

Advertiser defines:
-own keywords, banner
-Advertising Campaings
-languages
-territorial areas
-Landing page
-Preferred Publishers
-Blacklist of K of Publishers
-Blacklist of Publishers
-Limits on Budget
-….

Publisher defines:
-own keywords
-Preferred advertiser cat.
-Blacklist of K of advertiser
-Blacklist of advertiser
-own languages
-own territorial areas
-user profiles
….

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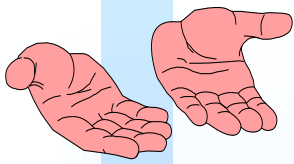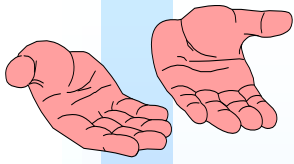
Qualche Numero RTB

¿ Worldwide RTB spending will grow from $1.4 billion in 2011 to $13.9 billion in 2016. RTB share on total display advertising spend will grow from 5% to 20%.

¿ In US, market share of RTB will grow from 10% in 2011 to 27% in 2016.

¿ In Western Europe, market share of RTB will grow from 3% in 2011 to 19% in 2016.

¿ In Japan, market share of RTB will grow from 2% in 2011 to 24% in 2016.

¿ Eventually almost all premium inventory will be sold programmatically.

Consumer Analysis

¿ **For each Ad**,

- ♣ it is mandatory to describe/identify the profile of
  - ➔ General Consumers
  - ➔ Target Consumers
  - ➔ Any other side consumer category

¿ **To assess** the appreciation of

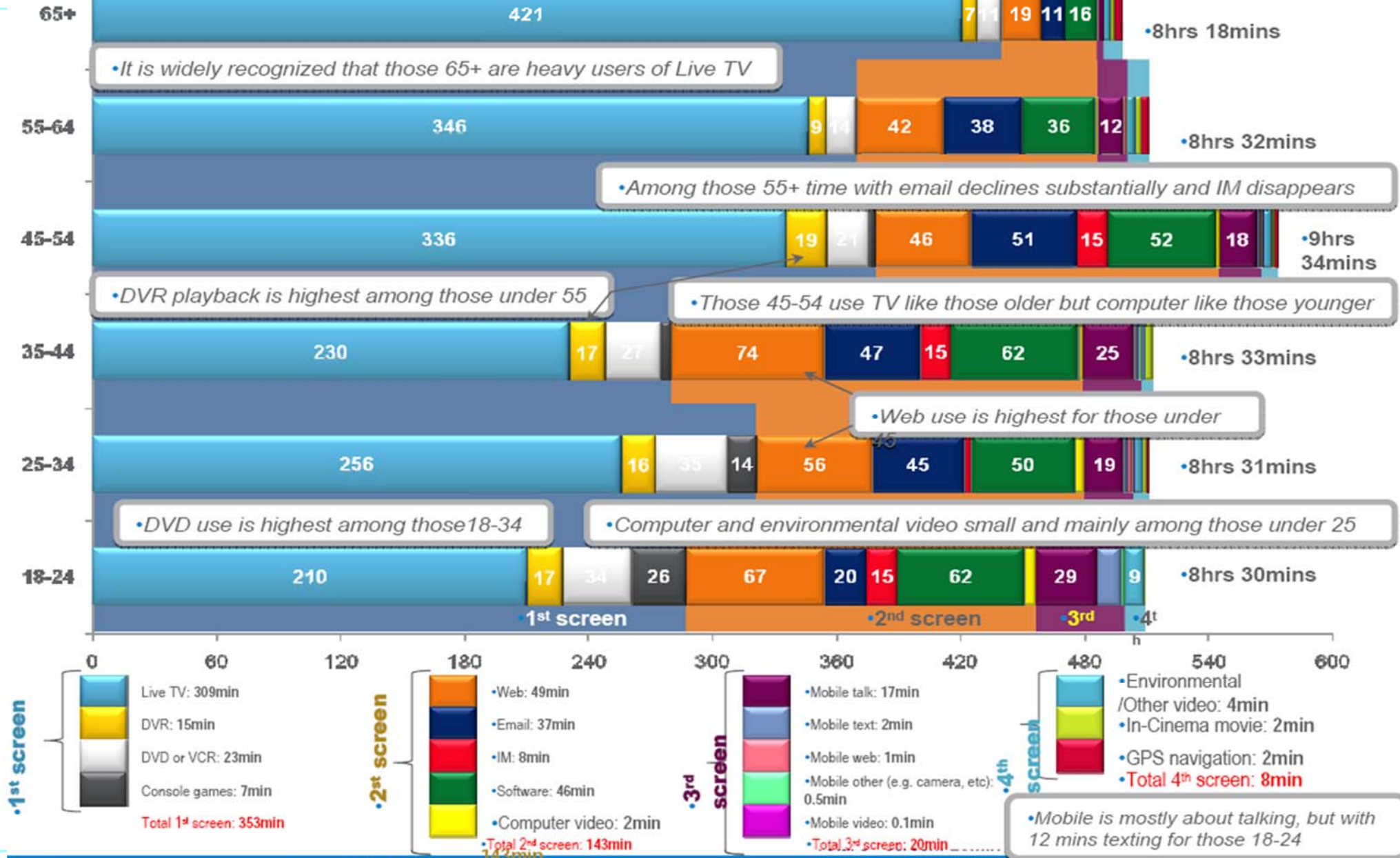- ♣ Target Consumers:

¿ **To understand**:

- ♣ what they do, where they are,
- ♣ when and how they buy,
- ♣ why they buy,
- ♣ etc.

How Consumers Accumulated Their Screen Time

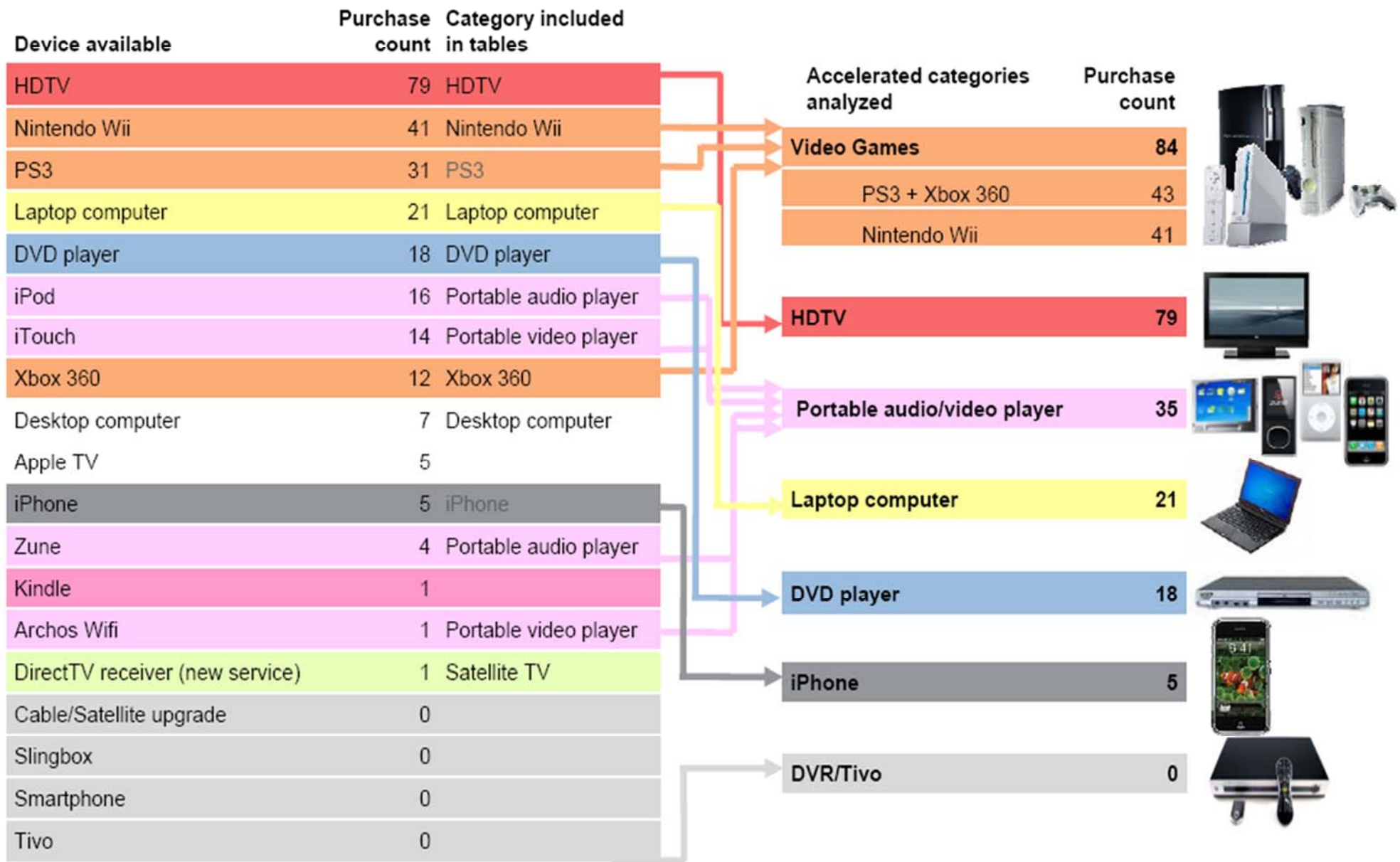Average Daily Minutes, Core Sample, N=752 observed days, Spring and Fall 2008

All participants, including non-users of various media, including concurrent media exposure
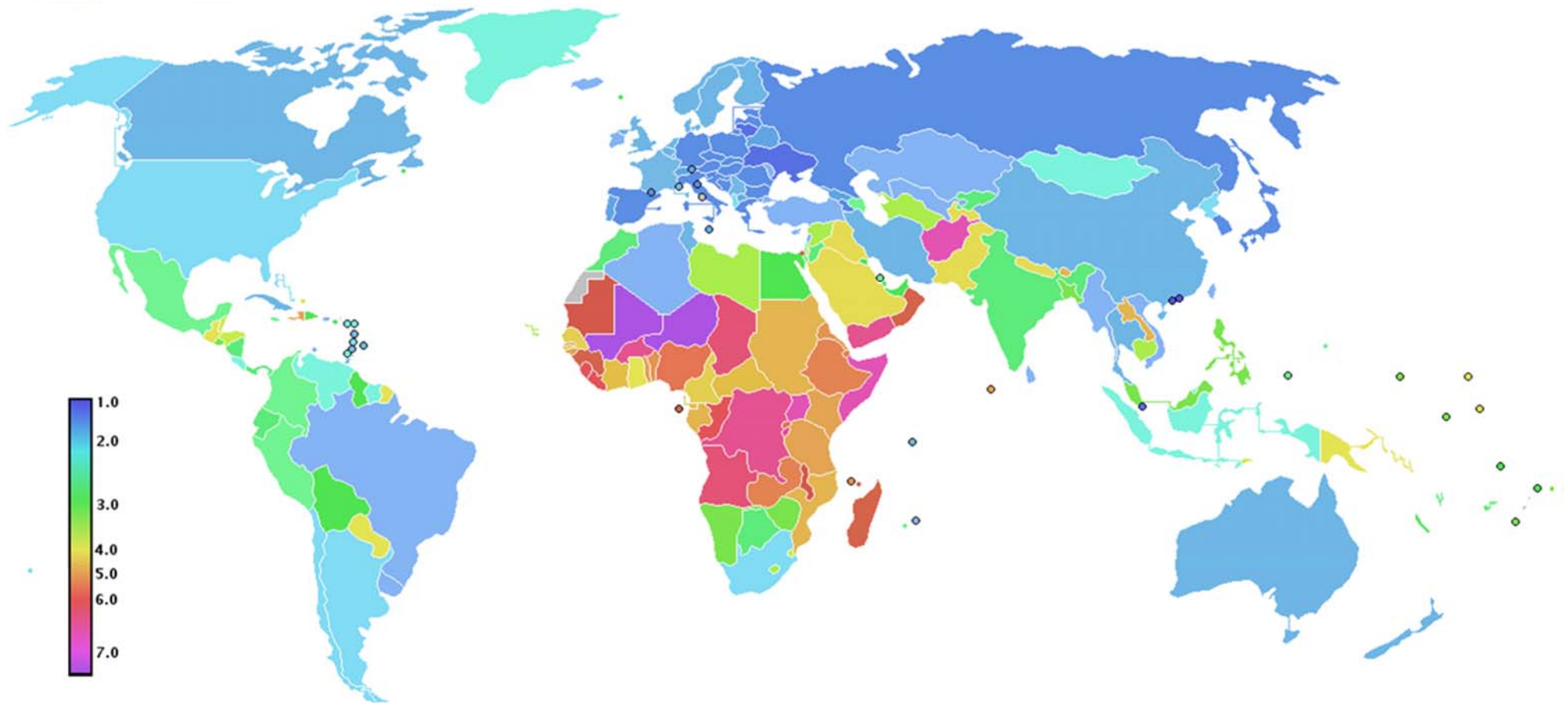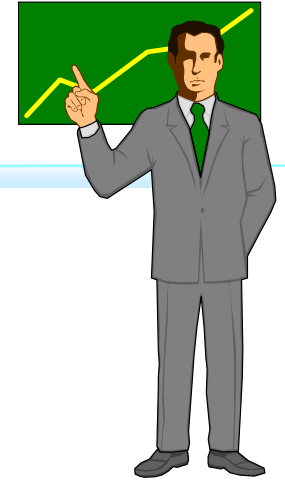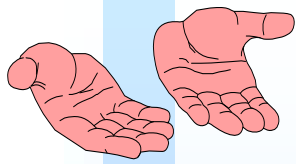
By age group

Age	1st screen				2nd screen						3rd	Total
65+	421	7	11		19	11		16				8hrs 18mins
55-64	346	9	14		42	38		36	12			8hrs 32mins
45-54	336	19	21		46	51	15	52	18			9hrs 34mins
35-44	230	17	27		74	47	15	62	25			8hrs 33mins
25-34	256	16	35	14	56	45		50	19			8hrs 31mins
18-24	210	17	34	26	67	20	15	62	29	9		8hrs 30mins

- It is widely recognized that those 65+ are heavy users of Live TV
- Among those 55+ time with email declines substantially and IM disappears
- DVR playback is highest among those under 55
- Those 45-54 use TV like those older but computer like those younger
- Web use is highest for those under 45
- DVD use is highest among those 18-34
- Computer and environmental video small and mainly among those under 25

1st screen
- Live TV: 309min
- DVR: 15min
- DVD or VCR: 23min
- Console games: 7min
- Total 1st screen: 353min

2nd screen
- Web: 49min
- Email: 37min
- IM: 8min
- Software: 46min
- Computer video: 2min
- Total 2nd screen: 143min

3rd screen
- Mobile talk: 17min
- Mobile text: 2min
- Mobile web: 1min
- Mobile other (e.g. camera, etc): 0.5min
- Mobile video: 0.1min
- Total 3rd screen: 20min

4th screen
- Environmental/Other video: 4min
- In-Cinema movie: 2min
- GPS navigation: 2min
- Total 4th screen: 8min

- Mobile is mostly about talking, but with 12 mins texting for those 18-24

Nielsen netview

Acceleration Learning

Device available	Purchase count	Category included in tables		Accelerated categories analyzed	Purchase count
HDTV	79	HDTV		Video Games	84
Nintendo Wii	41	Nintendo Wii		PS3 + Xbox 360	43
PS3	31	PS3		Nintendo Wii	41
Laptop computer	21	Laptop computer		HDTV	79
DVD player	18	DVD player			
iPod	16	Portable audio player		Portable audio/video player	35
iTouch	14	Portable video player			
Xbox 360	12	Xbox 360		Laptop computer	21
Desktop computer	7	Desktop computer			
Apple TV	5				
iPhone	5	iPhone		DVD player	18
Zune	4	Portable audio player			
Kindle	1			iPhone	5
Archos Wifi	1	Portable video player			
DirectTV receiver (new service)	1	Satellite TV		DVR/Tivo	0
Cable/Satellite upgrade	0				
Slingbox	0				
Smartphone	0				
Tivo	0				

Nielsen netview

Fertility rate of Population

Consumer Analysis

¿ To provide the Ad to Target Consumers with **maximizing** the efficiency:

♣ **EfficiencyTouching** = NRTU/NRC

➔ NRTU: Number of Reached Target Users

• Non e' detto che abbiano comprato

➔ NRC: Number of Reached Consumers

♣ **EfficiencySale** = NSP/NRC

➔ NSP: Number of Sold Products

• Gli utenti possono prendere 1 o piu' prodotti
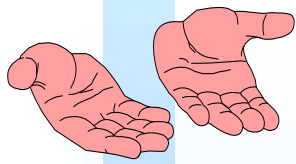
➔ NRC: Number of Reached Consumers

Consumers

Target users

Reached users
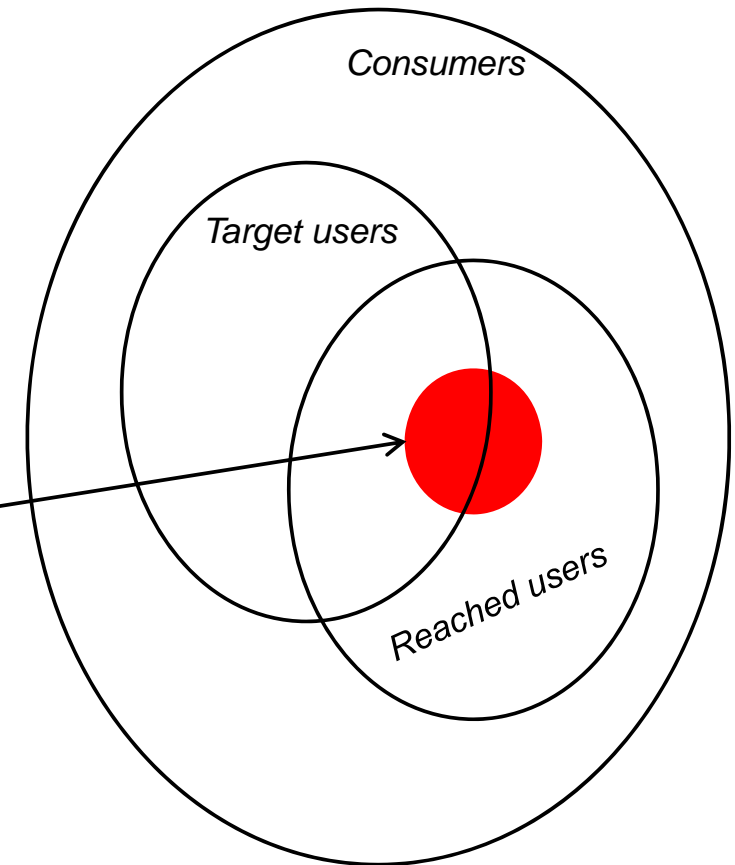
Ad Efficiency

¿ Poor Ad efficiency is not interesting, it is too expensive

¿ **examples of massive Ad** (marginally targeted)

- ♣ Mailing spam is not efficient
- ♣ Broadcasting: TV, Radio, etc. (generally thematic)
  - → Product placement on context and content
- ♣ Phone calls
- ♣ Distributing flyers foils on the street or mail boxes
- ♣ News papers and journals (general or thematic..)

¿ **Consumers Segmentation (segmenting user profiling)**:

- ♣ addresses, locations, areas, age, sex,
- ♣ time of watch, time of reading
- ♣ topic of interest, preferences, ….
- ♣ cross marketing for profiling
- ♣ etc.

Problems of Internet Ad

- ¿ **Very few web sites have enough visitors** to be of some interest for advertisers companies such as Google, etc..
- ¿ **majority of consumers are not on Internet**
  - ♣ Internet is accessed by only a specific kind of Consumer
    - ➡ the majority of Target Consumers is not reached
    - ➡ Demographic problems
    - ➡ Economic problems
    - ➡ Internet user Profile: age, education, hobbies, income, gender, locations, religion, etc…
- ¿ **Entry points:**
  - ♣ General service and community Portal: social networks, ISP providers, etc…
  - ♣ Query Search Service Portal: Google, ….
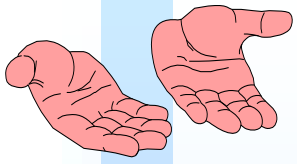
Concepts of Dynamic Advertising

When a given Consumers accesses to the Web page

the advertiser proposes/recommend Ads according to a reasoning on semantic descriptors of:

¿ User/Consumer Profile/Descriptor

- ♣ Static aspects: Age, language, location, etc.
- ♣ Dynamic aspects
  - ➡ Context of the current web page
  - ➡ Context of the query performed
  - ➡ History of the actions performed by the user (also email, past opened web pages, video played on youtube, profiles inherited from other Social Networks, etc.)

¿ Target user profile/descriptor for a given Ad:

- ♣ Age, income, etc.

¿ Classified Ad, Ad Descriptor:

- ♣ kind, theme, topic, etc.

Concepts

Conversione per l'advertiser

ADS

```
┌─────────────────────┐        ┌─────────────────────┐
│                     │        │ ■ ADS               │
│  ┌──────────┐       │        │ ■ web page          │
│  │   ADS    │  User │        │ ■ ....              │
│  └──────────┘  Click│        │ ■ ....              │
│                     │        │   ┌──────────────┐  │
│                     │        │   │ acceptance   │  │
│                     │        │   └──────────────┘  │
└─────────────────────┘        └─────────────────────┘
```

Exposition
Impression

Customer goal

Conversione per il customer
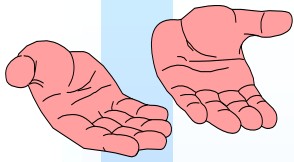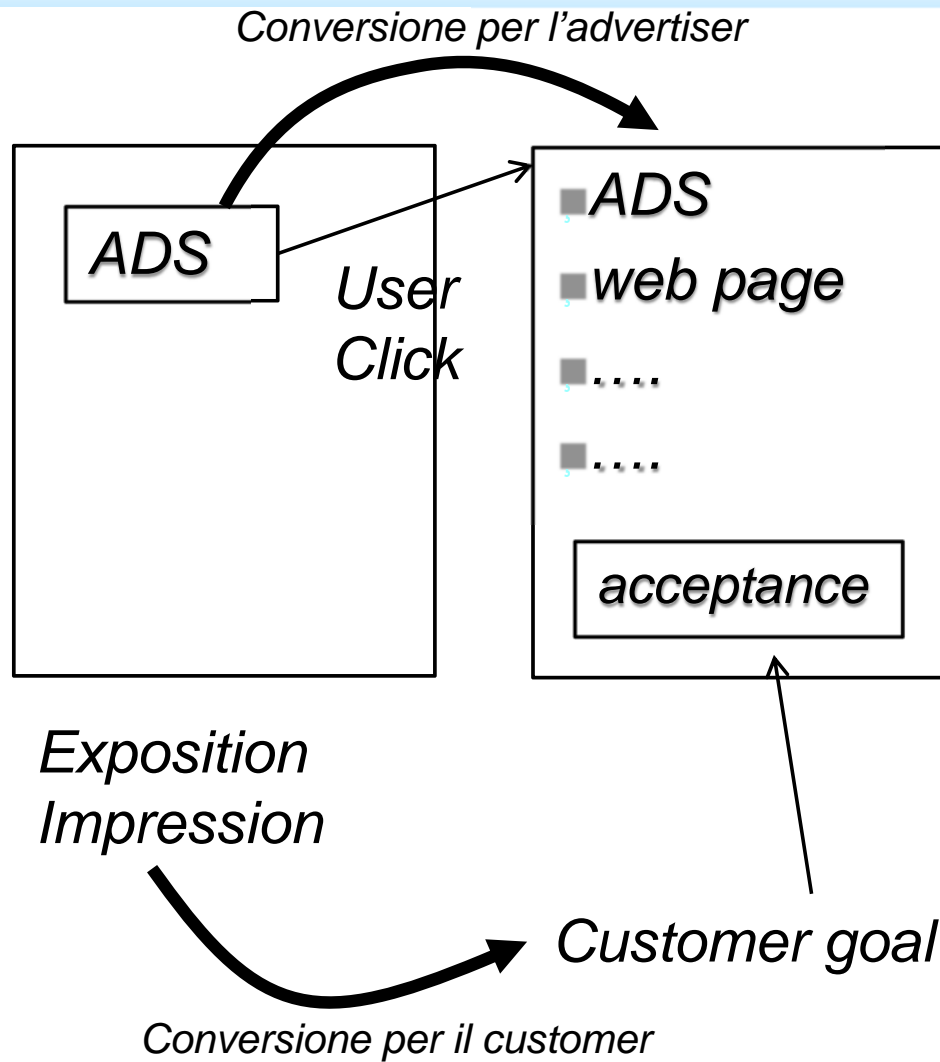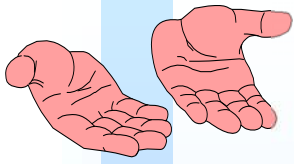
Internet Advertising Business Models

¿ **Advertiser ← → Seller**

¿ **Static**:
- ♣ A Fee/Cost for the exposition of the Ad on the web page independently on the number of visits

¿ **Dynamic**:
- ♣ **Pay per Exposition/Visits/Impression**: A Fee for each exposition of the Ad, counting of the expositions
- ♣ **Pay per Click:** A Fee for each click on the Ad, counting of the click
- ♣ Maximizing the click probability according to some reasoning on descriptors mentioned before

¿ **→ Semantic Computing of Descriptors, of the WEB 2.0**

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Internet Advertising Measures

¿ **Hits**: number of references on that page/keyword. Number of web pages on Google for a given query

¿ **Impressions or Views**: number of times a given page or banner has been presented to Customers

¿ **Visits**: number of times a certain user has been exposed to certain web page (in some cases for at least a certain time period)

¿ **Unique Visitors**: number of different visitors (typically distinct IPs) that have visited a given web page, per year or per month or from the whole life.

¿ **Interested/Attracted Visitors**: those that click on the Ads to go on the WEB page. Their profiles should match with the Target Consumers.

Internet Advertising Measures

¿ **Number of Clicks (Click Through)**: a click is the action to select an Ad that bring the Customer to open the Web page of the Ad. So that it should correspond to the number of Visits on the Seller Web page for a given product.

¿ **Click Fraud**: False generation of site click to generate payment for click without to have them provoked by real customers.

¿ **Web Analytic Software**: a software to track the accesses on a given portal

¿ **Trend Software**: a software to analyze the trend of visibility for queries or visits on web pages, counting them along time
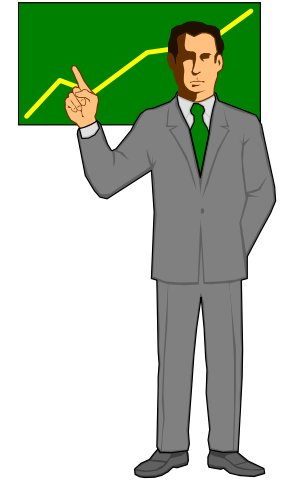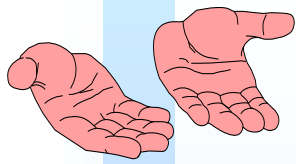
Internet Click Fraud

¿ Typically performed by Competitors to make you Ad Campaign very expensive and not useful

¿ Robots to perform click fraud with rotating user agent!!!

¿ Services may monitor who is clicking on your Ad

♣ http://www.whosclickingwho.com/

WCW Report Chart
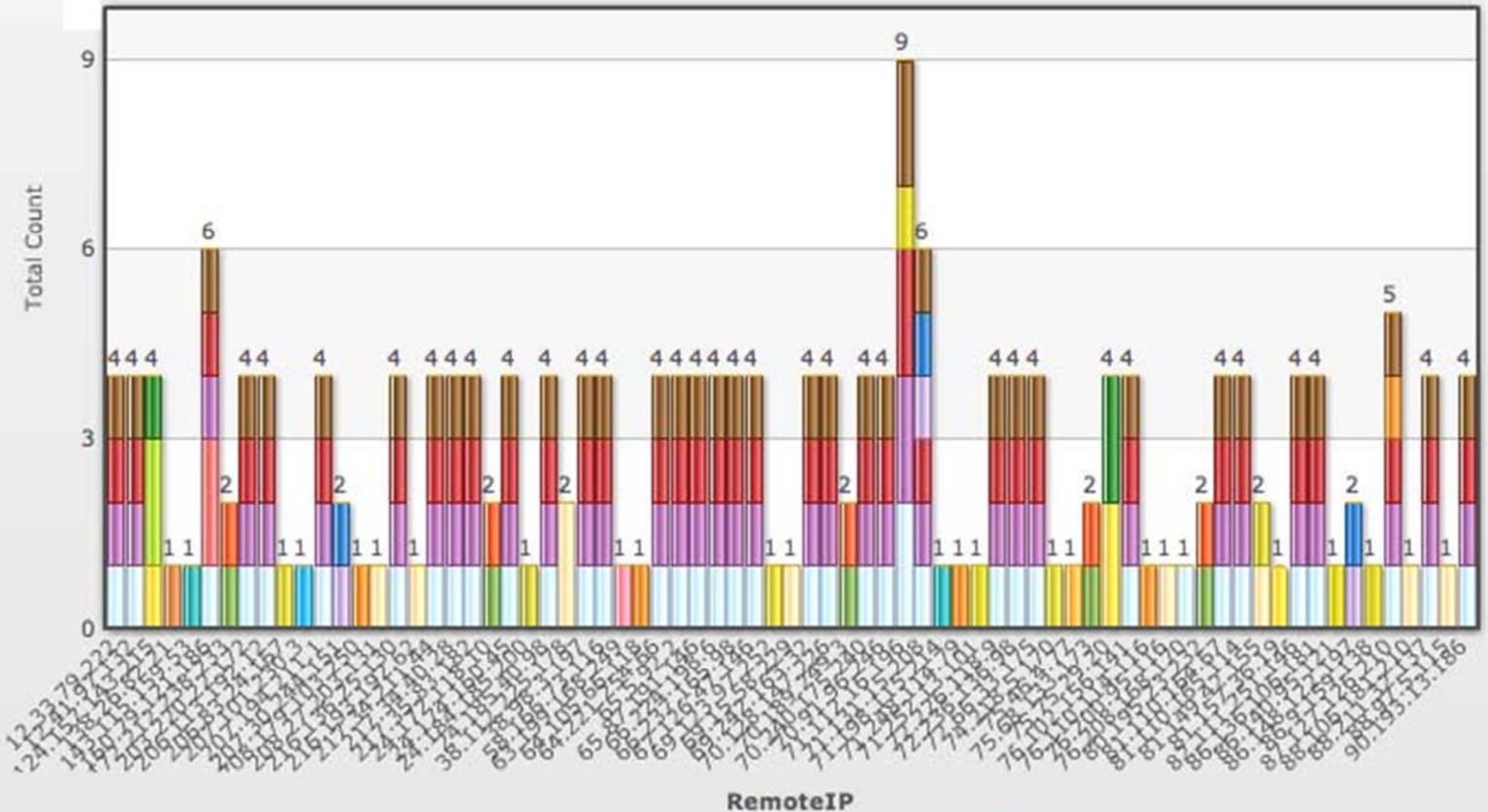
Internet Advertising Measures
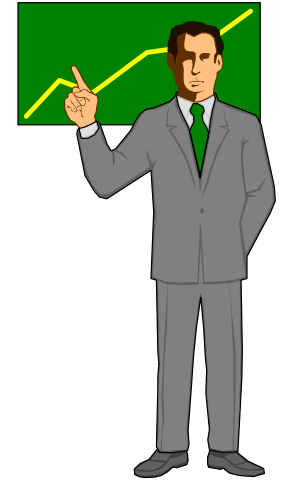
- **Conversion Rate, Conversion**:
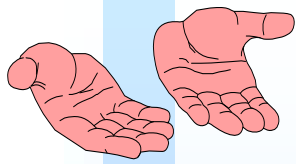   - ♣ number of Clicks with respect to the number of Impressions/expositions (in some cases scaled by 1000 or more).
- **Conversion in Contacts**:
    - ♣ number of Contacts with respect to the number of Impressions (in some cases scaled by 1000 or more).
        - ➔ Potrebbe essere il numero di visite nel sito web di vendita che non sono ancora conversioni per il customer.
- **Conversion in Sales**:
    - ♣ number of Sales with respect to the number of Impressions (in some cases scaled by 1000 or more).

Advertising Business Models

- **Costs per Impressions, CPI (Costs per Thousands of Impressions, CPM, M is derived from M as 1000 in Roman numbers):**
  - ♣ a fee for each impression of the Ad
- **Cost per Click, CPC:**
  - ♣ a fee for each click on the Ad
- **Cost per Sale, CPS:**
  - ♣ a fee for each Sale of a given product/service
- **Flat Fee, FF**
  - ♣ A fee for each Ad exposed for a given period without any assurance about the number of impressions or clicks
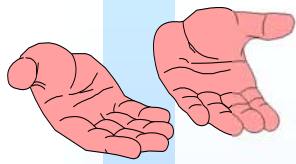- **Pay per View: PPV**
  - ♣ A fee for each view of the connected Web page to an Ad
- **Pay per Purchase, PPP**
  - ♣ A fee for each selling provoked by the Ad exposition on some web portal
- **Hybrid**
  - ♣ Different prices for the above models on the same web portal

Audience Measures Used in Media Planning

- *Un altro modello*

  - *Gross* (Target) Impressions: Total number of exposures, regardless of audience size or makeup

    - If 1000 people are exposed to an Ad 1 time, total impressions is 1000

    - If 100 people are exposed to an Ad 10 times each, total impressions is 1000

  - *Gross (Target) Rating Points:* (Impressions / Population) × 100

    - While it looks like a percentage, it CAN be more than 100.

  - *Reach*: Percentage of population exposed at least once

    - Total Unique Audience / Population
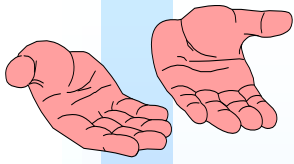
  - *Frequency*: Average number of times a person in the reached audience is exposed to the ad

    - Total impressions / total unique audience

  - *CPM*: Cost per thousand impressions

    - (Ad Cost / Impressions) × 1000   OR   Ad Cost / Impressions (000)

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Inserzioni a pagamento del tipo Pay per Click

Pay per click, mediated via advertisers
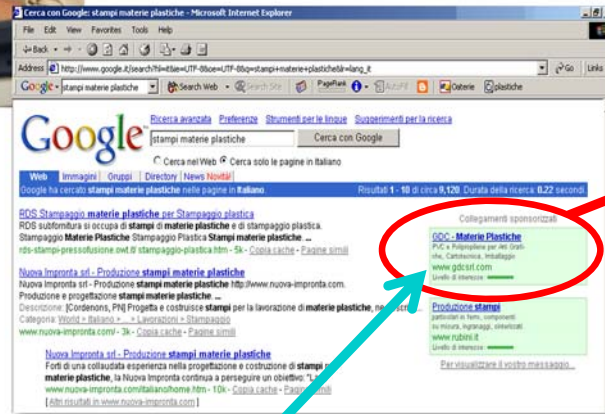
Visit

WEB Page of the Seller

click

WEB portal capable to:
- present products
- monitor user actions, IPs, etc.
- ask for registration
- collect contact
- provide more and more……

Advertising Management & Semantic Computing

profiling   Advertising

Google Advertising, AdWords

¿ **Mainly pay per click of your Ad on:**

¿ Google search pages

- ♣ The user performs a query and the Ad is provided on the left or right side according to:
  - ➔ **Matching query⬅➔Ad-Descriptor**
  - ➔ Business model, Rate, history

¿ Many many Web sites that have given to Google the possibility of dynamically inserting image banners or text

- ♣ Providing their profile
- ♣ Demonstrating of having a certain volume of traffic
- ♣ Ad is exposed on those web portals on the basis of:
  - ➔ **Matching WebPortal-Descriptor⬅➔Ad-Descriptor**
  - ➔ Business model, Rate, history

Google Advertising, AdWords

¿ **Google also provides support** to:

¿ **Keywords** to be used

- ♣ Profile your web site (extraction of your keywords)
- ♣ Browsing and searching for possible keywords to see their costs, etc.
- ♣ Suggesting keywords related to your web site, pushing you to use quite expensive keywords
- ♣ Providing an estimation about the number of click you may have for each keyword on the basis of their historical data and status.

¿ **Web Portals** in which you can have the AD

- ♣ Browsing and searching possible web portals
- ♣ Suggesting Web portals on which posting Ads

¿ **Monitoring and analyzing your campaigns**

Google Advertising

- **Advertising Campaign**
  - ♣ A set of Ads (see below)
  - ♣ A set of business models: pay per click, etc.
  - ♣ A period of validity
  - ♣ A max cost per day/months, etc..
  - ♣ A bank account
  - ♣ …
- **A set of ADS: one or more announces for each Ad**
  - ♣ Multilingual, for the corresponding countries
  - ♣ Multi-statement/slogans:
    - ➔ rotate them in polling or smart selection
  - ♣ Keep trace of their single effectiveness:
    - ➔ Conversion rate, Clicks, Impressions, etc.

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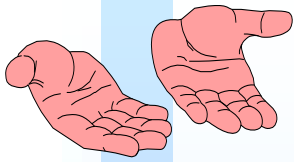
Google Advertising

¿ **For each announce**

- ♣ A URL, general or specific
- ♣ A maximum rate to pay per click, specialized per Ad
  - → Max CPC (click), Max CPM (1000 impressions)
- ♣ A set of keywords/key-phrases for URL (service/product) description (a tool to perform an automated analysis is provided)
  - → *Keywords may have different CPC on the basis of their Quality and Click Through Rate*
- ♣ A set of black listed keywords
  - → To avoid placing the Ad when keywords match with the Web page in which it should be placed.
- ♣ A set of preferred placements URLs
  - → WEB sites in which it can be located/placed (specific communities, specific portals, social networks, etc.)
- ♣ A set of black listed placements URLs to be avoided
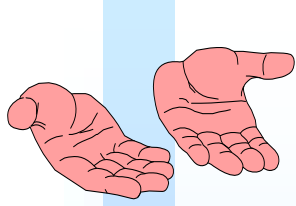
Quality and Click Through Rate

¿ The Cost per keyword depends on quality and on Click Through Rate, CTR

¿ This is determined on the basis of the history of query performed on Google Search
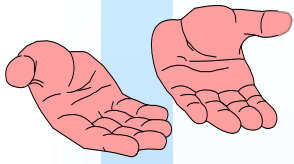
Lessons Learned in using AdWords

¿ **Identify specific keywords** for each of your Ads

¿ **Make it very specific**, regions, web sites, etc.

    ¿ Start your campaign narrow,

    ¿ Enlarge on the basis of your result analysis

    ¿ Use multiple statements and Ads

    ¿ Try to target your consumers and avoid accepting many clicks from curious consumers that are not converted in sales

¿ **Do not accept all suggestions** if you are not prepared to make a massive campaign
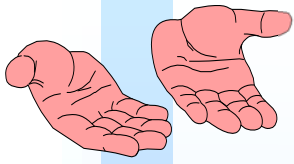
Lessons Learned in using AdWords

¿ **Monitor your web site:**

♣ Before, during and after the campaign

♣ During, to measure:

➥ conversions,

➥ What potential Consumers do on the Web site: how much time they state linked, how many clicks, what they click, etc.

¿ **Assessing the number of Impressions and Clicks per Ads**

♣ Provides hints on their effectiveness/conversion

♣ Provides hints on which portals *Interested Users* may be found

♣ Making analysis to compare Interested and Target Users

♣ Making analysis to identify Suitable WEB portal in which place the Ad according to the product and Conversion
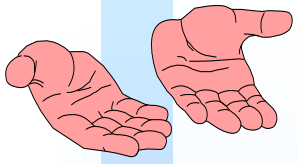
Google AdSense in your webside

¿ Solution to allow **Google to place Ads on your Web Portal** or site

¿ As a counterpart, Google will provide you a certain fee for each Click performed by one of your visitor on the inserted Ad.

♣ Each single provided fee per click may depend on

➔ how much the Seller accepted to pay for a certain keyword and on

➔ your web site keyword and costs.

¿ *Specific contract has to be signed*

¿ It has sense only **over a certain amount of traffic**

¿ For a portal it is also possible to have a Google Search box into the page and get revenue sharing from it.
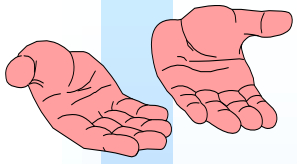
Part 2: Advertising

- **Internet Advertising**
  - ♣ Why Advertising
- **Business models and Advertising**
- **Consumer analysis**
- **TV, Magazine Advertising**
- **Internet Advertising Measures**
- **Other Business Models with Advertising**
- **Advertising Services: Google ADWords**
  - ♣ Lessons Learned
- **Google AdSense**
- **Recommendation and Advertising**
- **Semantic processing and Issues of Advertising**
- **Facebook advertising**
- **Twitter Analytics and Advertising**
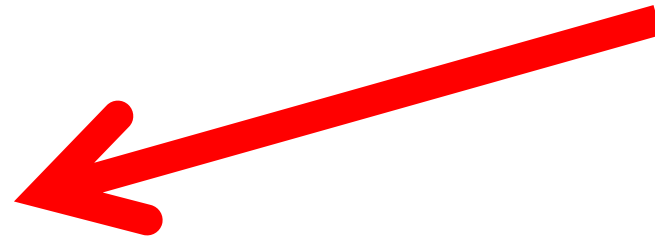
Issues of Ad Recommendations

¿ The associations of Ad is performed by using technologies of Semantic Computing, that will be better described in the part related to Social Networks

   ¿ **Taking into account static aspects and dynamic evolution of descriptors**

   ¿ **Taking into account the Content of the Web page and the Description of the Ad**

Semantic Matching, similarity distance among:

   ¿ Query-Description←→Ad-Description

   ¿ Web-Portal-Description←→Ad-Description

   ¿ Web-Page-Description←→Ad-Description

   ¿ User-Description←→Ad-Description

   ¿ Content-Media-Description←→Ad-Description

   ¿ Etc…

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Recommending Systems
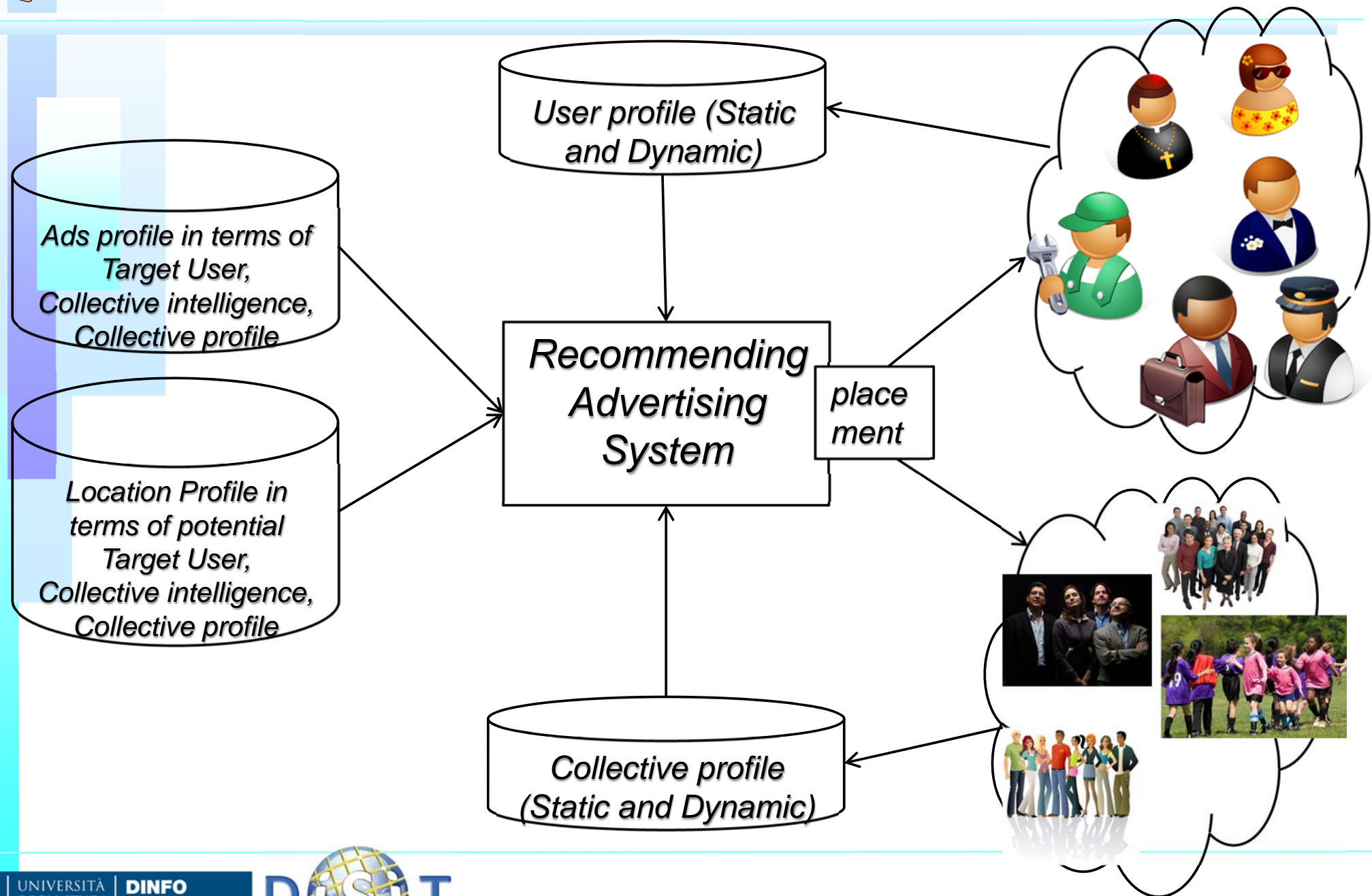
Issues of Ad Recommendations

- **Avoiding wrong associations:**
  - Bad keywords and Web Portal, blacklists (for instance, Sex, XXX, etc.)
  - Strange/unfair associations of Ad to content

- **Examples of bad/unfair associations:**
  - A web page of a news regarding an Aircraft crash with an Ad about a low cost Airline
  - A web page about a Dog that has aggressed/eat (given an bit) to a young Boy; with an Ad about Dog Food

- **Sentiment analysis is needed**
  - Natural language processing is needed
  - …

Google Trends
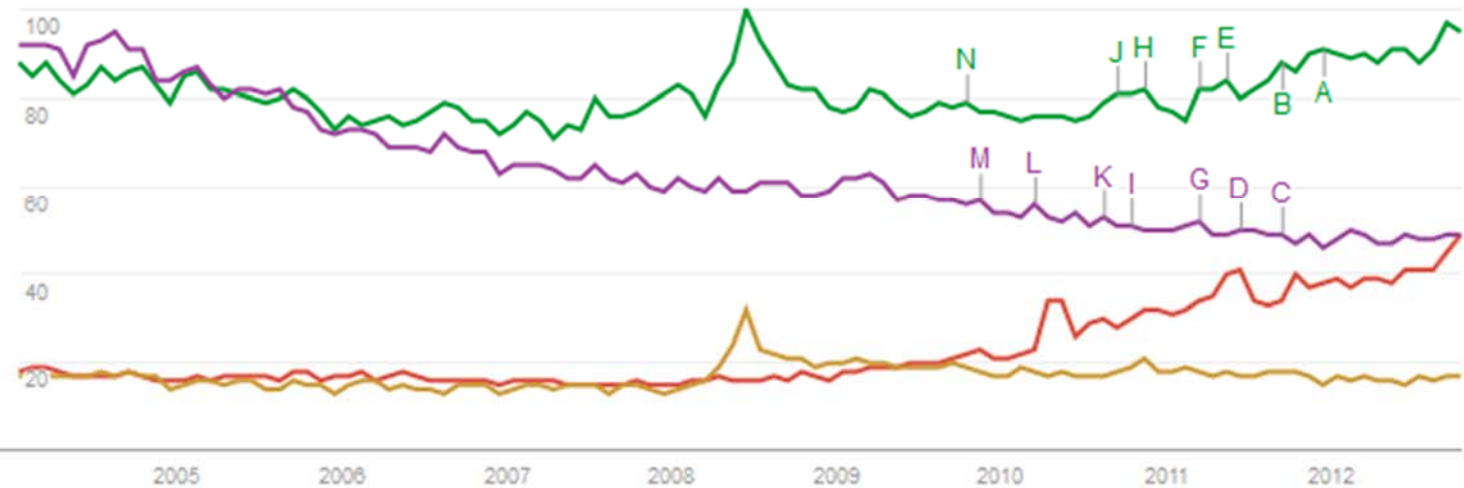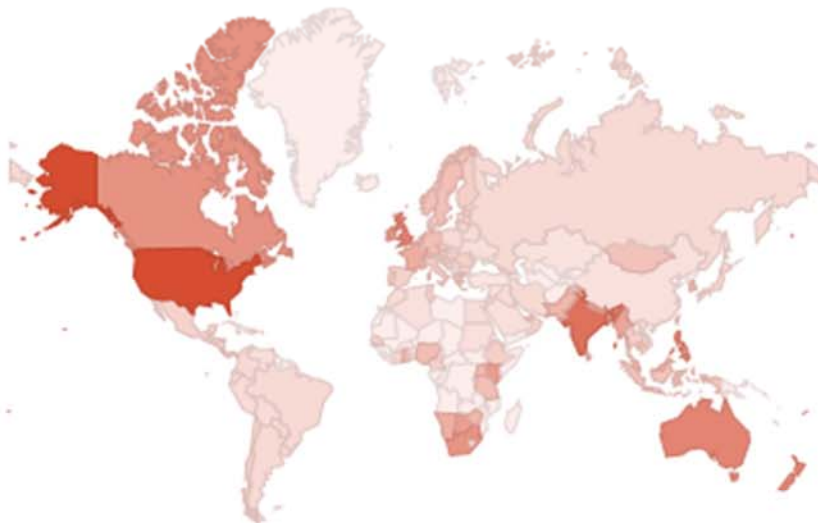
Advertising Estimation

- **A$\rightarrow$ U: suggestion/recommendation** of and Advertising to a User

- To be provided when user is connected to some service

- Based on Similarity distance between
    - ♣ Ad descriptor versus User Profile
    - ♣ Taking into account aspects of User Profile which can be
        - ➜ Static: who is, age, language, etc…
        - ➜ dynamic: last preference, user behavior, etc.
    - ♣ Taking into account of user collectivity, collective intelligence
        - ➜ Expanding on the basis of the collective intelligence of the user kind
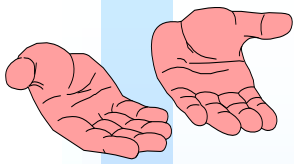
Advertising Estimation

- **A →O: suggestion/recommendation** of and Advertising to a Object/Content

- To be provided when user access to a Content

- Based on Similarity distance between

  - ♣ Ad descriptor and Content Description

    - ➡ Ad description may have:

      - Target audience
      - Evocating keywords, if you searched for "xxxxx" means that you are interested on "yyyy"
      - Example: Soap for Dogs to images of dogs, etc.

  - ♣ Taking into account aspects of Content-Ad which can be

    - ➡ Static: distance of descriptors
    - ➡ dynamic: clicks, effective responses.
    - ➡ Past record of acceptance for that Content, content kind
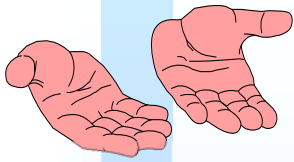
Similarity distances

¿ **Technologies such as**:

- ♣ **Semantic descriptors** and computing
  - ➡ Coding of semantic information
- ♣ **Clustering**
  - ➡ K-Means, K-Medoids, …
- ♣ **Statistics analysis**, heuristic analysis
  - ➡ PCA, Principal Component Analysis
  - ➡ Multilinear regression
  - ➡ Holistic regression
- ♣ **Cosine Distance**
- ♣ **Text similarity**,
  - ➡ frequency of keywords
  - ➡ Natural language processing
- ♣ **Content based retrieval** similarities solutions
- ♣ Etc.

¿ These issues are discussed in the next Part of the course in which the issues of Social Networks are addressed

DISPLAY LUMAscape

MARKETER

PUBLISHER

CONSUMER

Agencies: OmnicomGroup, WPP, PUBLICIS, IPG Interpublic Group, HAVAS, AEGIS, MERKLE, MDC PARTNERS, AKQA, LBi, ROSETTA, H, icrossing, Innovation INTERACTIVE, camelot, at&t interactive, essence, yodle, ReachLocal, WebVisible

Agency Trading Desks: Accuen The Trading Desk, XAXIS, MEDIA INNOVATION GROUP, vivaki, CADREON, RUN, DIGILANT, accordantmedia, IMPAQT, VARICK MEDIA

Creative Optimization: teracent, TUMRI, dapper, AdExtent, Impossible Software, adroit, struq, MIXPO, SPONGECELL, engageclick, ipromote, STEELHOUSE, Dynamix, adcado, snapads, AdReady, CERTONA, richrelevance, ADISN

Retargeting: dotomi, criteo, TellApart, AdRoll, STEELHOUSE, TRIGGIT, sociomantic, buysight, crosspixelmedia, MYBUYS, FetchBack, 3DGFORGE, ReTarger, MAGNETIC, myThings, mediaFORGE

Ad Servers: doubleclick by Google, atlas, Mediaplex, pictela, mediamind, Sizmek, point roll, flashtalking, adgear, adform

DSPs: TURN, invite media, MediaMath, DataXu, EfficientFrontier, theTradeDesk, Chango, Simplifi, sitescout, AdBuyer.com, adz, BRANDSCREEN

Media Planning and Attribution: MarketShare, COGNITIVE MATCH, NETWORKED INSIGHTS, M FACTOR, pulsepoint, visual IQ, convertro, C3 Metrics, has offers, ThinkVine, adometry, Encore, COVARIO, MARKETING EVOLUTION, Korrelate

Tag Mgmt: TagMan, ensighten, TEALIUM

Verification / Privacy: DV DoubleVerify, Integral Ad Science, A, AdXpose, The Media Trust, TRUSTe, privacychoice, EVIDON

Measurement and Analytics: OMNITURE, unica, Coremetrics, tracksimple, webtrends, FLURRY, nielsen, bizrate, comScore, WHATWHENWHO, MOAT, ijento, vizu, aprimo

appnexus

Exchanges: doubleclick by Google, RIGHTMEDIA, Facebook Exchange, ADECN, OpenX, ZENOVIA, adBrite, adjug

DMPs and Data Aggregators: bluekai, [x+1], ako, Demdex, PARIO, exelate, quantcast, brilig, AUDIENCESCIENCE, bizo, LOTAME, jovianDATA, krux, Red Aril, datonics, upfront, LiveRamp, proximic, acerno, PEER39, ADmantX

Data Suppliers: Experian, acxiom, datalogix, epsilon, TARGUSinfo, TruSignal, NETEZZA, where, bluecava, IXI, infogroup, Vi2, DATALINE, SymphonyIRI Group

Ad Networks — Horizontal: YAHOO!, Google, CONVERSANT, Microsoft Media Network, amazon, AOL, adconion, Undertone, Tribal FUSION, CPXi, Casale MEDIA, 24/7, audience, certive media, Brand.net, BurstMedia, SOLVE media, 5:1, AT&T AdWorks, ADVERTY.COM, AdDynamix, traffic marketplace, UNDERDOG Media

Video / Rich Media: SAY, TREMOR VIDEO, videology, YuMe, BBE, TubeMogul, BrightRoll, spotXchange, adoTube, smartclip, gumgum, BREAK, meebo, BrainScout, eggnog, Mixpo

Vertical / Custom: Gravora, GORILLA NATION, Sportgenic, LONGBOARD MEDIA, ADIFY, GourmetAds, jumpstart, NetShelter, GLAM MEDIA, Q1Media, martini media, quadrantONE, InflectionPointMedia, IDGTechNetwork, SQUEN, Interel, Ideas People, Tono Fuse

Targeted Networks / AMPs: rocketfuel, interclick, collective, dstillery, acuity, specificmedia, choicestream, 33across, Taykey, precisiondemand, resonate, true[X] media, radiumone, Turn, NetSeer, Adblade, adaramedia, Peer Set, inadco, IGNITIONONE, XGRAPH, CONTEXTWEB

Performance: epic, MATOMY, VM Vantage Media, advertise.com, convertmedia, ENGAGE, maxymedia, COMMISSION JUNCTION, VIBRANT, Kontera, IML, MadisonLogic, LinkShare, phg, adknowledge, MARCHEX, neverblue, Datran Media, hydra, TattoMedia, TheUseful, MediaTrust

Mobile: admob, quattro, Jumptap, mojiva, pontiflex, millennialmedia, rhythm, INMOBI, transpera

Media Mgmt Systems and Operations: DDS, operative, telmar, centro, media, theorem, MEDIABANK, facilitate, TRAFFIQ, BIONIC, Solbright, AdPro

Sharing Data / Social Tools: facebook, twitter, ShareThis, AddThis, tynt, gigya

SSPs: Admeld, rubicon PROJECT, PubMatic, ReviNet, LIFT DNA, ALTITUDE, sonobi

Publisher Tools: Yieldex, fatTail, ShortTail, Ugo, isocket, sovrn, ADS, BuySellAds, BuzzFeed, yieldbot, DailyMe, scout analytics, daylife, METAMARKETS, Mochila, MAXIFIER, PerfectMarket, Parse.ly, Outbrain, Taboola, Gravity, Luminate

Ad Servers: doubleclick by Google, 24/7 MEDIA, apt, LiveIntent, adgear, ADTECH, ZEDO, OpenX, AdJuggler, adzerk, Match

VIDEO LUMAscape

MARKETER

CONSUMER

Agencies
OmnicomGroup · WPP · PUBLICIS · IPG Interpublic Group · HAVAS · MDC PARTNERS · AKQA · AKQA

Media Buying Desks
Accuen The Trading Desk · mi · XAXIS · ViVAKi · CADREON · DIGILANT · VARICK

DSPs
TubeMogul · videology · MediaMath · TURN · DataXu

Exchanges
Adap.tv · BRX DIGITAL EXCHANGE · spotXchange · doubleclick · adBrite · OpenX

Video Ad Networks
TREMOR VIDEO · YuMe · BrightRoll · BBE · spotXchange · SET · collective · AT&T AdWorks · Undertone · VIEWABLE · Taykey · rhythm · GENESISMEDIA · interclick · BREAK · transpera · pbs media · rocketfuel · yashi · adotube · AdColony · DBG · adconion · Targeted TV · NAVIC · Google · rovi · SIMULMEDIA · Canoe · TELEMEDIA

Video SSPs
LiveRail · Optimatic · ALTITUDE · adkarma

Data Mgmt
bluekai · Demdex · exelate · aka · quantcast · krux · BlueMan · BottArt

CDNs
Akamai · Limelight · Internap · K · amazon.com · edgecast · Level3 · BITGRAVITY · AMERICAFREE · CDNETWORKS · INTERNAP

Video Delivery Mgmt
CONVIVA · VUBIQUITY · BLACKWAVE · vantrix

OVPs
OOYALA · brightcove · episodic · VMIX · Kaltura · twistage · vidquard · thePlatform · DELVE · kyte · Adobe · Silverlight · videojoker · HTPLAYER · Players

Encoding / Transcoding
encoding.com · ELEMENTAL · RHOZET · DivX · digital rapids · INLET · sorenson media · Telestream

Video Ad Servers
FreeWheel · LiveRail · auditude · ADTECH · Adap.tv · doubleclick · OpenX

Video Syndication
grab · ONESPOT · magnify · NDN · PERFORM · TV Everywhere · SYNCTV · RAYV · mobiltv · azuki · Adobe

Branded Content Distribution
ONESPOT · sharethrough · VIEWBIX · Touchstorm · virool

Web Properties General
NBC · CBS · ESPN · CNN · msn · Aol. · YAHOO!

Video Specific
hulu · viki · tv.com · xfinity · YouTube

MCNs
vevo · maker.com · FULLSCREEN · alloydigital · BigFrame

Social Networks
facebook

Aggregators
vimeo · USTREAM · DailyMotion · metacafe · justin.tv

Content Network
blip · SnagFilms · Metal

Video Production
Howcast · TED · Tools · livestream

Media Agencies
Carat · OMD · groupm · MEDIACOM · ME · razorfish · UM · ZenithOptimedia · initiative · Starcom MediaVest · MINDSHARE · ADJUST YOUR SET

Ad Creation
SPONGECELL · SpotMixer · FOUR SPOTS · eyeview · PANACHE · Spot Runner · Jivox · mixpo

Measurement and Analytics
nielsen · iSpot.tv · precision demand · OMNITURE · TRA · Core · webtrends · RENTRAK · ALLIANT · comScore

Video Search / Guide
blinkx · fan · clipblast · ramp · Shelby.tv · digitalsmiths · clicker · Gotv · veveo · TVLinks · mention · Yidio · iQ media · PAV · tveyes · TRUVEO · clicker · SearchVideos · VIDEOSURF

OTT Applications
NETFLIX · amazon.com · vudu · SAMBA TV · TV · adRise · CBS · NBC

OTT Platforms
BOXEE · Roku · global · kitdigital · A · Google TV · chumby

IP-Enabled Set Top Boxes
XBOX · Wii · chromecast · BOXEE · Roku · intel · Apple TV

Video Ad Servers
doubleclick · Adap.tv · pictela · pointroll · atlas · INNOVID · WONDER · vindico

Data / DRM
WIDEVINE · VERANCE · irdeto · Vobile · verimatrix

Creation Tools
SundaySky · StupeFlix · Adobe · animoto

TV / Targeted TV Platforms
blackarrow · rovi · visibleworld · harmonic · SeaChange · FOURTHWALL · enseQuence · concurrent · rgb · dialog · INVIDI · NDS · ActiveVideo

Carriers
at&t · DIRECTV · dish · verizon · CABLEVISION · COX · Time Warner Cable · bright house · COMCAST · Charter

Connected TVs & Traditional STB
CISCO · ARRIS · SAMSUNG · LG · PHILIPS · Panasonic · HITACHI · MOTOROLA · VIZIO · SONY

Media Management & Ops
STRATA · TRADESCAPE · operative · WIDEORBIT · mediamorph · MarketShare · MEDIABANK · DDS

CONTENT MARKETING / NATIVE LUMAscape
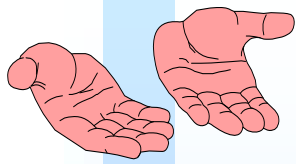
Part 2: Advertising

- Internet Advertising
  - ♣ Why Advertising
- Business models and Advertising
- Consumer analysis
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- Internet Advertising Measures
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- Advertising Services: Google ADWords
  - ♣ Lessons Learned
- Google AdSense
- Recommendation and Advertising
- Semantic processing and Issues of Advertising
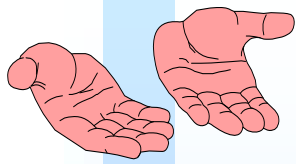- Facebook advertising
- Twitter Analytics and Advertising

Facebook Advertising

Facebook Advertising

Mi piace

"Mi piace", commenti e condivisioni
Queste azioni ti permetteranno di raggiungere più persone.

Legend: — "Mi piace" — Commenti — Condivisioni

Il successo dei vari tipi di post in base al coinvolgimento e alla copertura media.

Mostra tutti i post ▼

Legend: ▇ Copertura ▇ Clic sul post ▇ "Mi piace", commenti e condivisioni

Tipo		Copertura media	Coinvolgimento medio	
🔗	Link	1.394	49	
			33	
🖼	Foto	1.047	149	
			35	
💬	Stato	821	70	
			30	
📹	Video	321	71	
			18	

Le persone a cui piace la tua Pagina

Donne
53% I tuoi fan

	13-17	18-24	25-34	35-44	45-54	55-64	65+
Donne	1%	2%	6%	17%	16%	9%	2%

Uomini
47% I tuoi fan

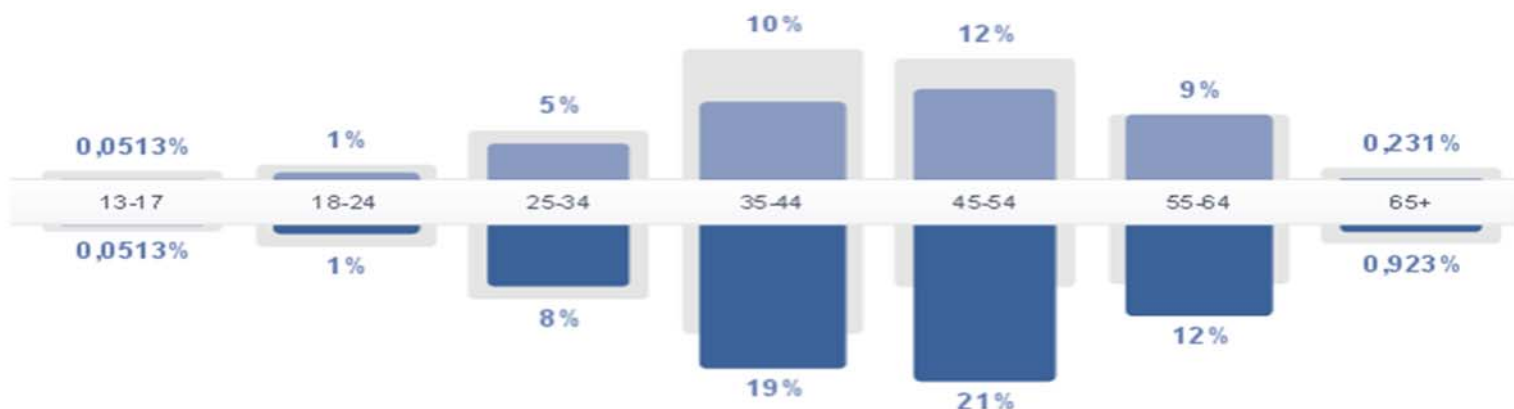|	13-17	18-24	25-34	35-44	45-54	55-64	65+
Uomini	0,806%	3%	10%	14%	9%	8%	2%
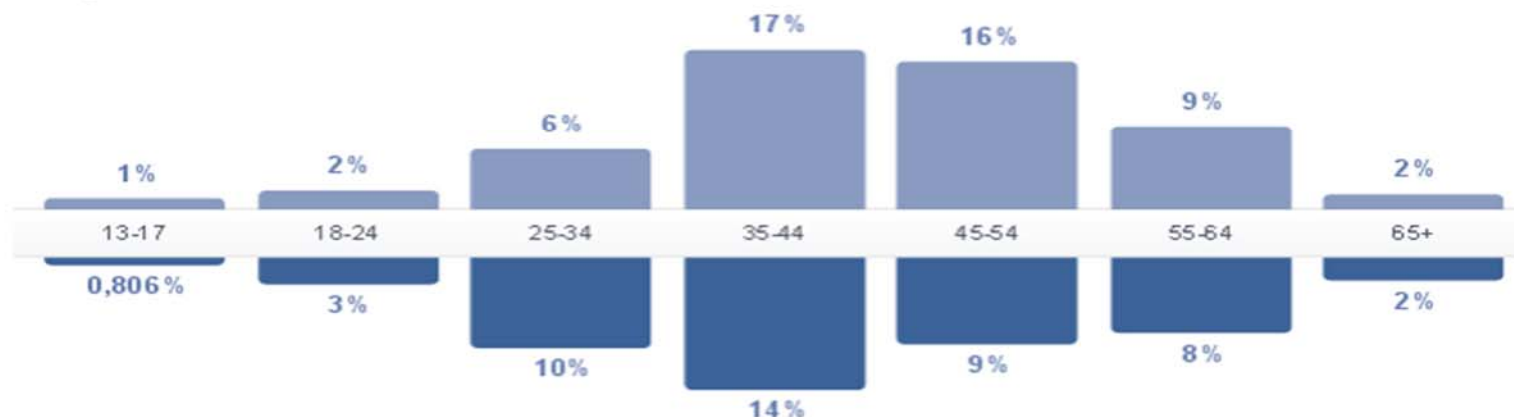
Il numero di persone a cui è stato mostrato il tuo post negli ultimi 28 giorni.

Donne
37% Persone raggiunte | 53% I tuoi fan

	13-17	18-24	25-34	35-44	45-54	55-64	65+
Donne	0,0513%	1%	5%	10%	12%	9%	0,231%

Uomini
62% Persone raggiunte | 47% I tuoi fan

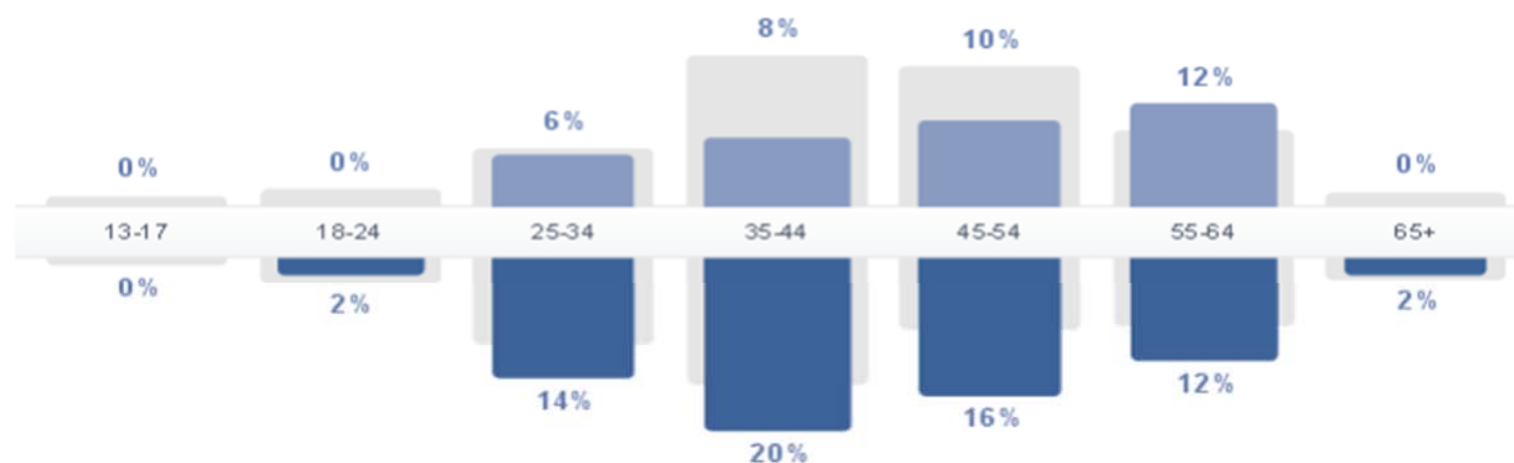|	13-17	18-24	25-34	35-44	45-54	55-64	65+
Uomini	0,0513%	1%	8%	19%	21%	12%	0,923%

Le persone a cui piacciono i tuoi post, che li hanno commentati o condivisi o che hanno interagito con la tua Pagina negli ultimi 28 giorni.
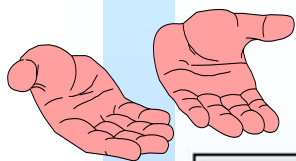
Donne
35% Persone coinvolte | 53% I tuoi fan

	13-17	18-24	25-34	35-44	45-54	55-64	65+
Donne	0%	0%	6%	8%	10%	12%	0%

Uomini
65% Persone coinvolte | 47% I tuoi fan

|	13-17	18-24	25-34	35-44	45-54	55-64	65+
Uomini	0%	2%	14%	20%	16%	12%	2%

54

# Copertura e riferimenti

Copertura totale

Il numero di persone a cui sono state mostrate attività relative alla tua Pagina, compresi post, post sulla Pagina di altre persone, inserzioni con funzionalità "Mi piace" per la Pagina, menzioni e registrazioni.

Referenti esterni

Il numero di volte che le persone hanno effettuato l'accesso alla tua Pagina da un sito Web esterno a Facebook.
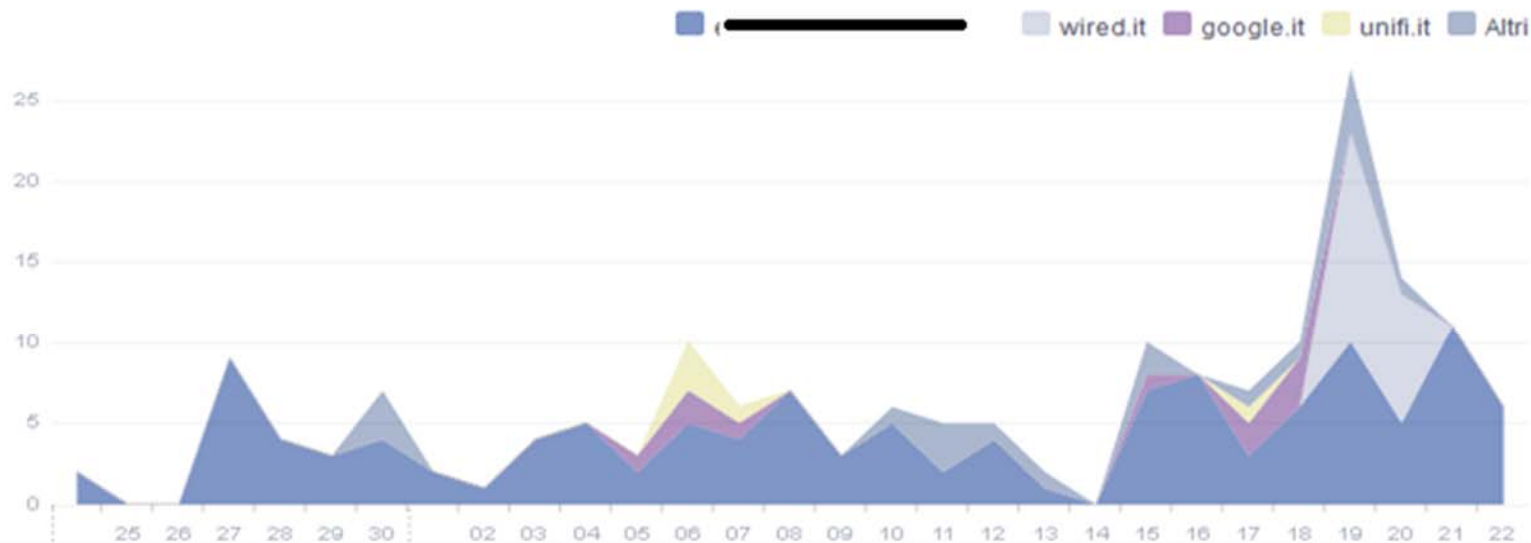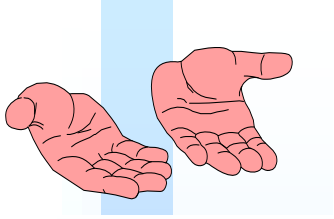
Quando i fan sono online

Quando i tuoi fan sono online | Tipi di post | Post popolari delle Pagine che tieni sotto controllo

Dati relativi a un intervallo recente di 1 settimana. Gli orari sono mostrati nel fuso orario impostato sul tuo computer.

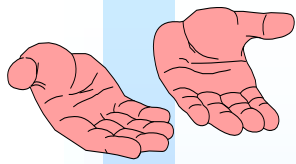**GIORNI**

224	224	230	228	232	224	226
Lun	Mar	Mer	Gio	Ven	Sab	Dom

ORARI

Twitter Analytics

28 day summary with change over previous period

Tweets	**Tweet impressions**	**Profile visits**	**Mentions**	**Followers**
33 ↑65.0%	4,147 ↑117.1%	227 ↓9.9%	39 ↑200.0%	335 ↑23

Paolo Nesi @paolonesi
13 Novembre 2015 http://www.disit.org
/smartcitybigdata2015 ... #SmartCity e
#BigData #km4city #LAMMA
@UNI_FIRENZE @gvannuccini
pic.twitter.com/4H1DdDlnzC

Reach a bigger audience
Get more engagements by promoting this Tweet!

Get started

Impressions	344
Total engagements	15
Retweets	7
Media engagements	2
Favorites	2
Follows	1
Link clicks	1
Detail expands	1
Profile clicks	1

Your Tweets earned **8.6K impressions** over this **91 day** period
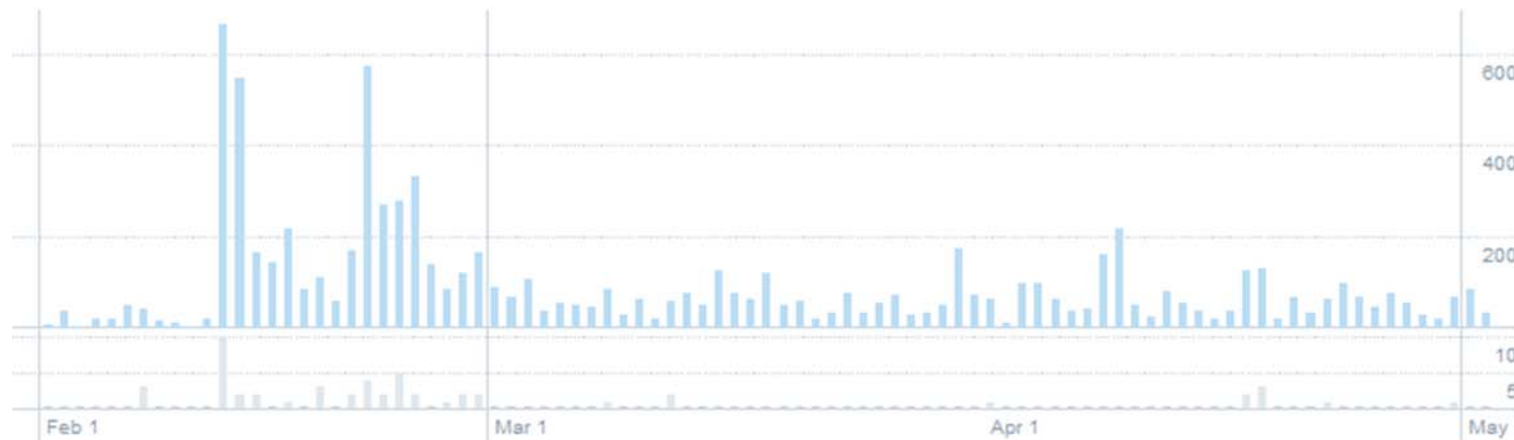
YOUR TWEETS
During this 91 day period, you earned **95 impressions** per day.

	Impressions	Engagements	Engagement rate
Paolo Nesi @paolonesi · Feb 12 FODD2015 - Firenze Open Data Day disit.org/fodd @CGiachi @PoloNavacchio @sclopit View Tweet activity	1,068	17	1.6%
Paolo Nesi @paolonesi · Feb 22 #fodd slide e video disit.org/6593 #Firenze #OpenData #oddit15 @vbugli @opentoscana @gvannuccini @comunefi @anteos @paolonesi View Tweet activity	757	23	3.0%
Paolo Nesi @paolonesi · Feb 21 #fodd firenze open data day 2015 pic.twitter.com/QuwB3kpwrj View Tweet activity	663	13	2.0%

Tweets | Top Tweets | Tweets and replies | Promoted

Engagements
Showing 91 days with daily frequency

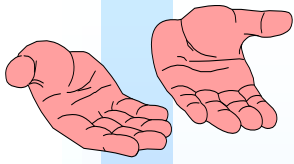ENGAGEMENT RATE
1.4%
May 2
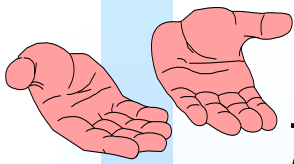2.9% engagement rate

LINK CLICKS
57
May 2
0 link clicks

On average, you earned **1 link clicks** per day

References

- ¿ B.C. Brown, The complete guide to Google Advertising, Atlantic Publishing
- ¿ Google AdWords
  - ♣ http://www.google.it/intl/it/adwords/jumpstart/phone.html
- ¿ Google Trends
  - ♣ http://www.google.com/trends
- ¿ Nielsen Media Research (NMR) is an American firm that measures media audiences
  - ♣ http://www.nielsen.com/

Knowledge Management and Protection Systems (KMaPS) Corso di Laurea in Ingegneria

Part 7b (2015) – Internet Advertising e Social Networks

Prof. Paolo Nesi

DISIT Lab http://www.disit.dinfo.unifi.it/

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University of Florence
Via S. Marta 3, 50139, Firenze, Italy
tel: +39-055-2758515,   fax: +39-055-2758570

paolo.nesi@unifi.it, http://www.disit.dinfo.unifi.it/nesi