

# Data Analytics in Business

## Marketing & Advertising

**Frederic Bien**

*Lecturer, Data Analytics*  
Scheller College of Business

Marketing Module

L 2.1: Five Methods of Digital Advertising



# Marketing and Advertising

Modules on data analysis in marketing and advertising business:

- Traditional Advertising & Marketing
- Evolution of Ad Companies and Systems of Digital Advertising
- Overview of Digital Advertising Market
- **Five Methods of Digital Marketing**



## U.S. Total Media Ad Spending Share

Media	2016	2021
Digital	36.7%	49.9%
TV	36.6%	30.8%
Print	13.4%	6.9%
Radio	7.3%	5.5%
Out-of-Home	3.9%	3.1%
Directories	2.2%	1.4%

\* Numbers for TV, print, radio, and directories exclude digital.

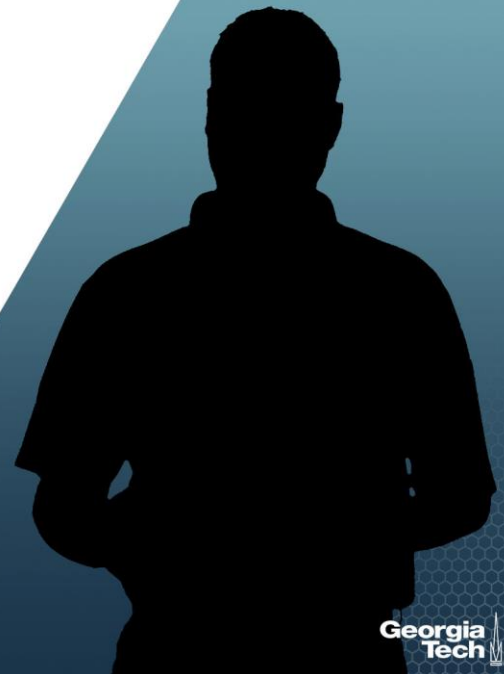
US Ad Spending: The eMarketer Forecast for 2017. (2017, March 15). Retrieved April 30, 2018, from <https://www.emarketer.com/Report/US-Ad-Spending-eMarketer-Forecast-2017/2001998>



## Learning Objectives

**At the end of this lesson, you should be able to:**

- Explain the 5 basic Methods of Digital Marketing:
  1. **Display Advertising**
  2. Search Engine Marketing (SEM)
  3. Social Media Marketing
  4. Mobile Advertising
  5. Direct Messaging & Email Marketing



# 1. Display Advertising

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## Summary of Content from MGT 6311 – Digital Marketing

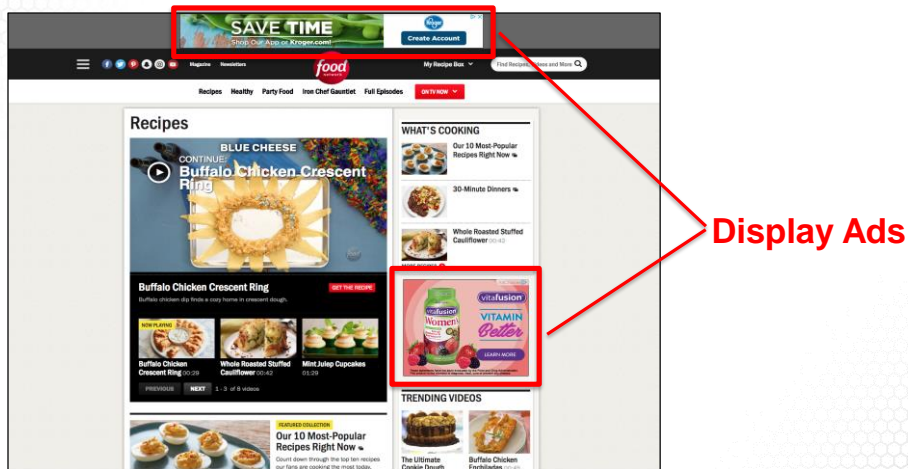
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Slides by **Michael Buchanan**

Lecturer, Scheller College of Business, GeorgiaTech



# Display Ads



Home. (n.d.). Retrieved April 24, 2018, from <https://www.foodnetwork.com/>

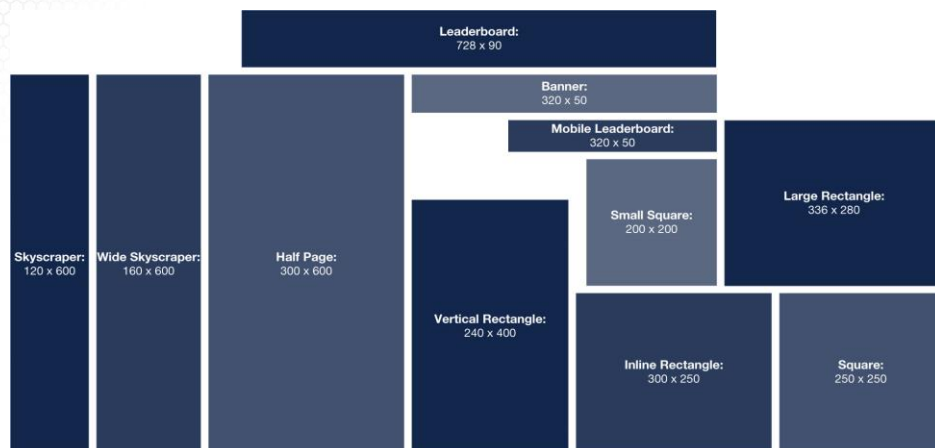
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## 1. Display Advertising

- Has been sold for a long time (25 years)
- Comes in many sizes
- Good for branding
- Can be contextual (fit with page theme)
- Low click-through rates
- Works better with retargeting

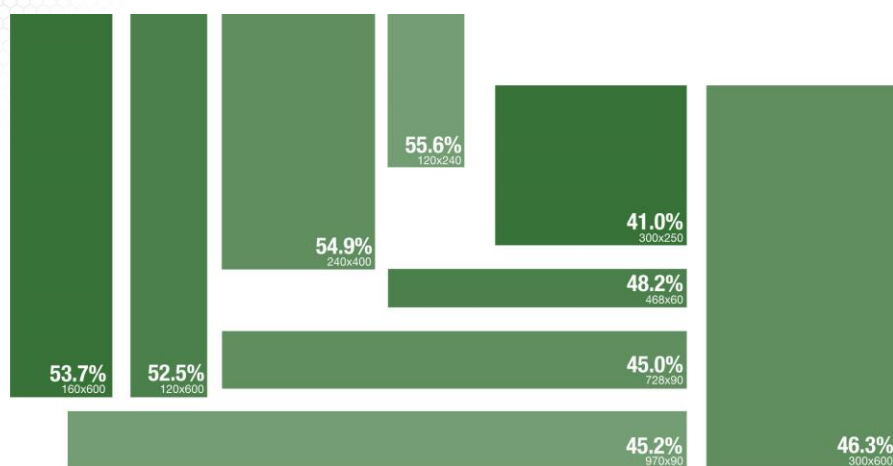
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## Common Display Ad Sizes



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## Viewability Rates by Ad Size



The Importance of Being Seen: Viewability Insights for Digital Marketers and Publishers. (2014, November). Retrieved May 1, 2018, from [https://think.storage.googleapis.com/docs/the-importance-of-being-seen\\_study.pdf](https://think.storage.googleapis.com/docs/the-importance-of-being-seen_study.pdf)

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## Ad Position



The Importance of Being Seen: Viewability Insights for Digital Marketers and Publishers. (2014, November). Retrieved May 1, 2018, from [https://think.storage.googleapis.com/docs/the-importance-of-being-seen\\_study.pdf](https://think.storage.googleapis.com/docs/the-importance-of-being-seen_study.pdf)

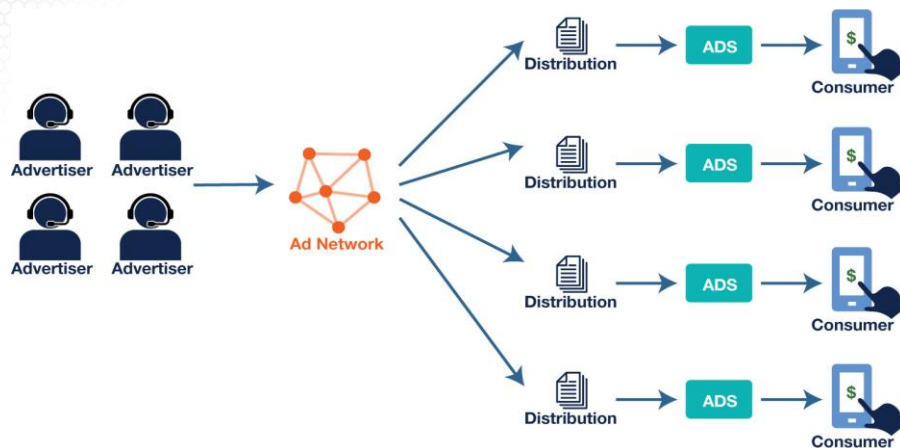


## Tracking Data

- Impressions
- Clicks
- Time of day
- Device / OS
- Region



# Ad Networks



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## US Programmatic Digital Display Ad Spending, 2017-2019

Year	US Programmatic Digital Display Ad Spending (billions)	% Change	% of Total Digital Display ad Spending
2015	\$17.50	51.0%	65.0%
2016	\$25.48	45.6%	73.0%
2017	\$32.56	27.8%	78.0%
2018	\$39.46	21.2%	81.5%
2019	\$45.94	16.4%	84.0%

EMarketer Releases New US Programmatic Ad Spending Figures. (2017, November 01). Retrieved April 30, 2018, from <https://www.emarketer.com/Article/eMarketer-Releases-New-US-Programmatic-Ad-Spending-Figures/1016698>

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# Summary

- Traditional Advertising & Marketing
- Evolution of Ad Companies and Systems of Digital Advertising
- Overview of Digital Advertising Market
- **Five Methods of Digital Marketing**

Today: 1. Display Advertising

**Next: 2. Search Engine Marketing**



# Data Analytics in Business

## Marketing & Advertising

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Marketing Module

L 2.2: Search Engine Marketing





# Marketing and Advertising

Modules on data analysis in marketing and advertising business:

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  5. Direct Messaging & Email Marketing



# **1. Display Advertising**

## **2. Search Engine Marketing**

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# **Summary of Content from**

## **MGT 6311 – Digital Marketing**

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# Key Terms

- **Pay Per Click (PPC)** – Pay per click is advertising for which the advertiser pays only for each click on their advert.
- **Search Engine Results Page (SERP)** – The page that shows the results for a search on a search engine.
- **Keyword** – A word found in a search query; for example, a search for “blue widgets” includes the keywords *blue* and *widgets*.
- **Click Through Rate** – The total clicks on a link divided by the number of times that an ad link has been shown; expressed as a percentage.
- **Landing Page** – The first page a user reaches when clicking on a link in an online marketing campaign. The pages that have the most success are those that match up as closely as possible with the user’s expectations.

Stokes, R. (2013). *EMarketing: The essential guide to marketing in a digital world*. Retrieved May 24, 2018, from <https://www.redandyellow.co.za/content/uploads/2017/11/Quirk-eMarketing-Textbook-5th-Edition.pdf>



## Paid Search Ads vs. Organic Results

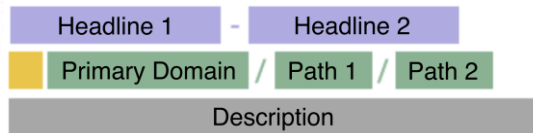
The screenshot shows a Google search for "atlanta real estate for sale". The results are divided into two sections:

- Paid (Top):** Four search engine results are shown, each with a small 'Ad' icon. These are:
  - Atlanta Real Estate | Listings Updated Every 15 Min | redfin.com
  - Atlanta real estate for sale | Browse Atlanta Real Estate | timothycox.com
  - Atlanta Real Estate For Sale | Heidi Reis | abodeagency.net
  - Luxury Homes in Metro Atlanta | Luxury Atlanta Homes For Sale | jessica.com
- Organic (Bottom):** Two search engine results are shown below a dashed line. These are:
  - Atlanta Real Estate - Atlanta GA Homes For Sale | Zillow
  - Atlanta, GA Real Estate - Atlanta Homes for Sale - realtor.com®



# Anatomy of a Paid Search Ad

## Length limits



Field	Max length
Headline 1	30 characters
Headline 2	30 characters
Description	80 characters
Path (2)	15 characters each

**Comprehensive Insurance - Protect Yourself on a Budget**

**Ad** [www.example.com/insurance](http://www.example.com/insurance)

Get affordable & trustworthy insurance. 10% discount on all online quotes.

Headline

Display URL

Description

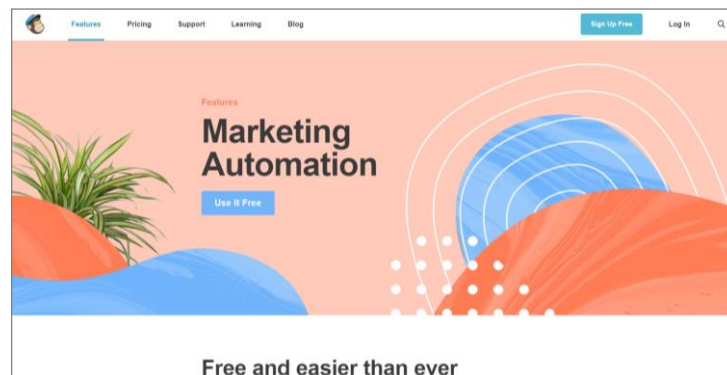
About text ads - AdWords Help. (n.d.). Retrieved May 15, 2018, from <https://support.google.com/adwords/answer/1704389?hl=en>



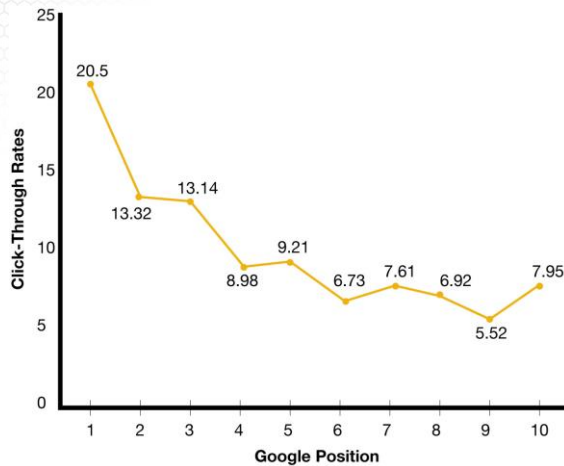
# Landing Pages

## MailChimp Marketing Platform – Free Marketing Automation

**Ad** [www.mailchimp.com/Automation](http://www.mailchimp.com/Automation)  
 Create An Account and Manage All Your Marketing Through The MailChimp Platform!  
 E-Commerce Integrations · Free Marketing Automation · Audience Segmentation



## CTR in 2017 by Google Position



Lincoln, J. E., P., Koutaniemi, E., & M. (2017, September 26). Google Click-Through Rates in 2017 by Ranking Position. Retrieved May 24, 2018, from <https://ignitevisibility.com/ctr-google-2017/>



## Bidding: Vickrey Auction Model

Advertiser	A2	A1	A3
Bid Price	\$3.00	\$2.50	\$2.35
Cost Per Click	\$2.51	\$2.36	\$2.06

Stokes, R. (2013). *EMarketing: The essential guide to marketing in a digital world*. Retrieved May 24, 2018, from <https://www.redandyellow.co.za/content/uploads/2017/11/Quirk-eMarketing-Textbook-5th-Edition.pdf>



# Relevancy is Key

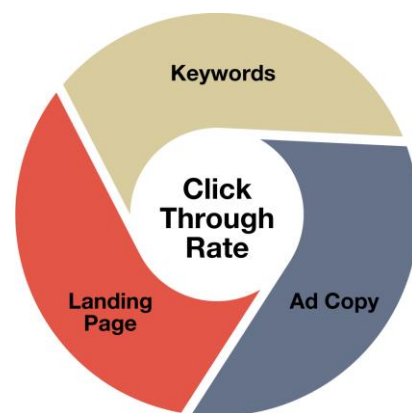
**Google**



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## Quality Score Factors

1. **Keywords** – relevance of the keyword/phrase to the search term
2. **Ad Copy** – relevance of the ad copy to the search term
3. **Landing Page** – relevance of the landing page to the search term
4. **CTR of the Ad** – based on history

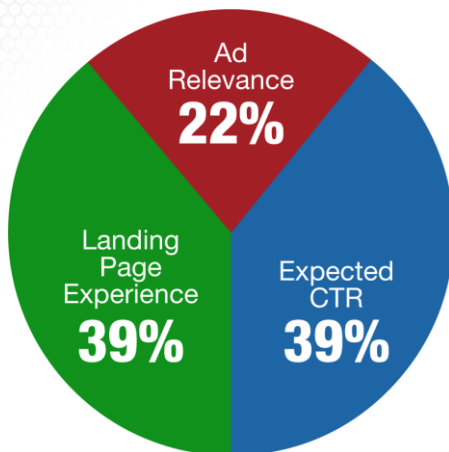


Stokes, R. (2013). *EMarketing: The essential guide to marketing in a digital world*. Retrieved May 24, 2018, from <https://www.redandyellow.co.za/content/uploads/2017/11/Quirk-eMarketing-Textbook-5th-Edition.pdf>

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## Quality Score % by Factor

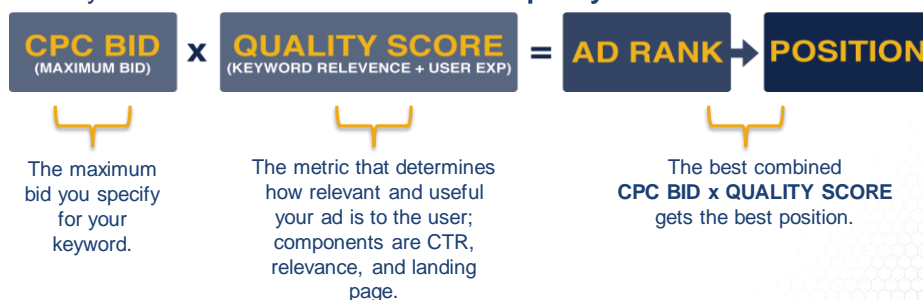


Reverse-engineering AdWords Quality Score factors. (2016, March 10). Retrieved May 17, 2018, from <http://searchengineland.com/reverse-engineering-adwords-quality-score-factors-244192>



## How Google Determines Which Ad is Shown Where

Once you are entered into the auction, Google looks at two key factors to determine where your ad ranks: **maximum bid** and **quality score**

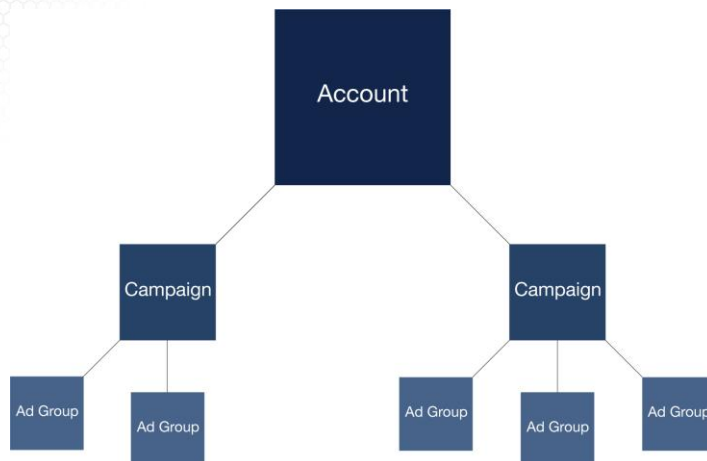


PPC (Pay Per Click) | Addword with google • World Web Mind. (2017). Retrieved May 17, 2018, from <http://worldwebmind.com/digital-marketing/ppc/>





## Google AdWords Account Structure



Stokes, R. (2013). *EMarketing: The essential guide to marketing in a digital world*. Retrieved May 24, 2018, from <https://www.redandyellow.co.za/content/uploads/2017/11/Quirk-eMarketing-Textbook-5th-Edition.pdf>



## Planning and Setting Up a Paid Search Campaign

1. Define business goals and conduct market research
2. Define business objectives / metrics for success
3. Establish a budget
4. Conduct keyword research
5. Create ads (heading, description, path, extensions) and ensure tracking is in place



# Determining the Profitability of an Ad Campaign

- To determine profitability for ad campaign
- What metrics do we need know?



## Profitability of an Ad Campaign

- Metrics to know to determine the profitability of an ad campaign:
  - CPC
  - Conversion Rate
  - Sale Value
  - Profit Margin
  - Repeat behavior/loyalty/lifetime value of a customer



## Relevant Financial Questions

- How do we determine CPC and Conversion Rate?
  - CPC (from search engine ad system)
  - Conversion Rates:
    - Search Engine Analytics
    - Or Internal Analytics
  - Use 3<sup>rd</sup> party data tools to verify conversion rates
  - Conversion to a page goal (in client site) or to a sale

## Relevant Financial Questions

- What about short-term versus long-term analysis?
  - Brand building
  - Awareness -> Interest -> Desire -> Research/Comparison ->
  - -> Purchase Decision -> Payment -> Thank You -> Repeat Buy
  - Lifetime Value of a customer (LTV)
  - A repeat sale is cheaper to produce than a new sale
  - Loyalty programs (Email marketing, promotions...)

## Relevant Financial Questions

- What keywords should we target when confronted with a very low CPC BEP?
  - Long tail keywords
  - Combination of high CTR and high conversion rate



## Break-Even Point Analysis

Metric	Value
Avg. CPC (cost per click)*	\$1.00
Conversion Rate	5.00%
Avg. Sale Value	\$60
Profit Margin	15%
Life Time Value (LTV)	\$180

PPC Conversion Cost = **\$1.00** / .05 = \$20

Profit Margin per Sale = \$60 x .15 = \$9

BEP CPC per Avg. Sale = \$9 \* .05 = **\$0.45**  
(what we should be spending per click for one sale)

BEP CPC for LTV = \$27 \* .05 = **\$1.35**

\*Based on an average of 3 sales per customer over lifetime



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1. Display Advertising

Today: 2. Search Engine Marketing

**Next: 3. Social Media Marketing**

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L 2.3: Social Media Marketing

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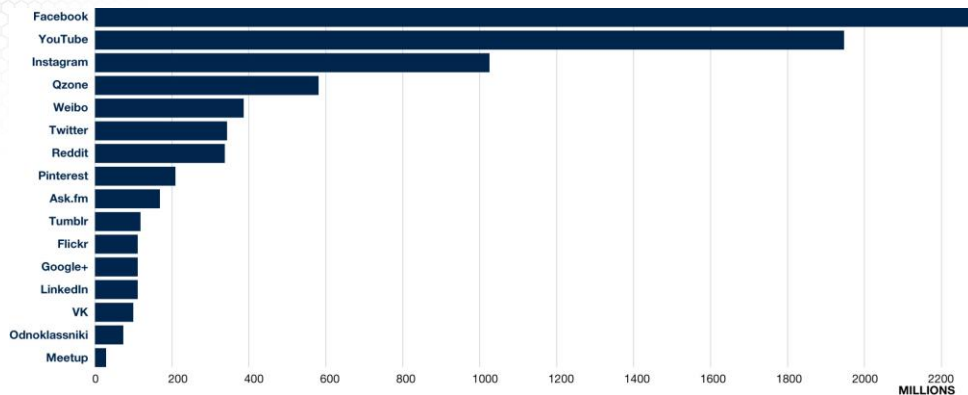
1. Display Advertising
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3. Social Media Marketing

# Social Media Functionality





## Most Popular Social Sites Globally



Kallas, P. (2018, August 02). Top 15 Most Popular Social Networking Sites and Apps [August 2018] @DreamGrow. Retrieved September 10, 2018, from <https://www.dreamgrow.com/top-15-most-popular-social-networking-sites/>



## Average Daily Time Spent on Social



Asano, E. (2017, January 04). How Much Time Do People Spend on Social Media? [Infographic]. Retrieved September 10, 2018, from <https://www.socialmediatoday.com/marketing/how-much-time-do-people-spend-social-media-infographic>



# Demographic Composition of Leading Social Sites

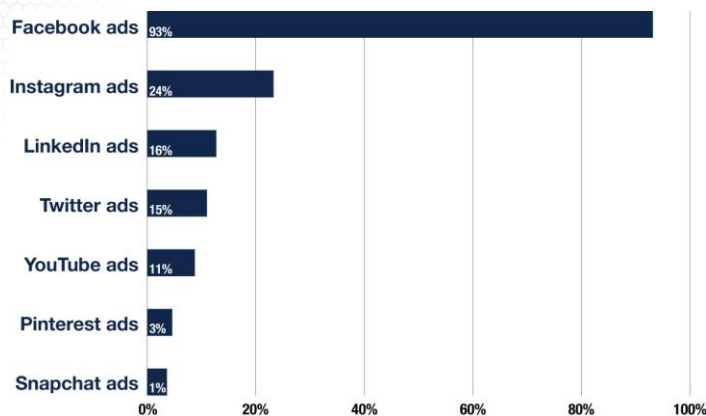
US Adults' Social Platform Use, by Demographic Group

% of US adults who use:	YouTube	Facebook	Instagram	Pinterest	Snapchat	LinkedIn	Twitter	Whatsapp
<b>Total</b>	73%	68%	35%	29%	27%	25%	24%	22%
<b>Men</b>	75%	62%	30%	16%	23%	25%	23%	20%
<b>Women</b>	72%	74%	39%	41%	31%	25%	24%	24%
<b>White</b>	71%	67%	32%	32%	24%	26%	24%	14%
<b>Black</b>	76%	70%	43%	23%	36%	28%	26%	21%
<b>Hispanic</b>	78%	73%	38%	23%	31%	13%	20%	49%
<b>Ages 18-24</b>	94%	80%	71%	31%	78%	25%	45%	25%
<b>Ages 25-29</b>	88%	82%	54%	39%	54%	34%	33%	31%
<b>Ages 30-49</b>	85%	78%	40%	34%	26%	33%	27%	32%
<b>Ages 50-64</b>	68%	65%	21%	26%	10%	24%	19%	17%
<b>Ages 65+</b>	40%	41%	10%	15%	3%	9%	8%	6%
<b>HHI: &lt;\$30k</b>	68%	66%	30%	20%	23%	13%	20%	20%
<b>HHI: \$30k-50k</b>	78%	74%	42%	32%	33%	20%	21%	19%
<b>HHI: \$50-75k</b>	77%	70%	32%	34%	26%	24%	26%	21%
<b>HHI: \$75k+</b>	84%	75%	42%	39%	30%	45%	32%	25%
<b>High school or less</b>	65%	60%	29%	18%	24%	9%	18%	20%
<b>Some college</b>	74%	71%	36%	32%	31%	22%	25%	18%
<b>College+</b>	85%	77%	42%	40%	26%	50%	32%	29%
<b>Urban</b>	80%	75%	42%	29%	32%	30%	29%	28%
<b>Suburban</b>	74%	67%	34%	31%	26%	27%	23%	19%
<b>Rural</b>	59%	58%	25%	28%	18%	13%	17%	9%

Social Networking Platforms' User Demographics Update 2018. (2018, March 12). Retrieved September 10, 2018, from <https://www.marketingcharts.com/digital/social-media-82642>



## Paid Social Media Regularly Used

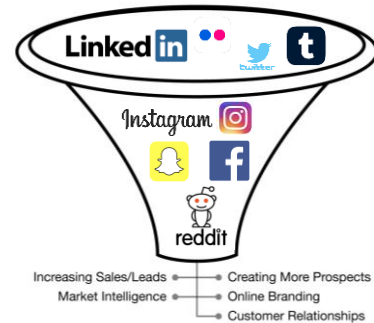


Osman, M. (2018, June 07). 28 Powerful Facebook Stats Your Brand Can't Ignore in 2018. Retrieved September 10, 2018, from <https://sproutsocial.com/insights/facebook-stats-for-marketers/>



# Establish Social Media Goals

- What are you attempting to accomplish?
  - Gain more customers
  - Increase revenue
  - Generate awareness
  - Enhance customer service
  - Reduce operating expenses
  - Develop new products
- **Create one or more specific, measureable, attainable, relevant, time-bound (SMART) objectives**
- Tie social media objectives to organizational objectives



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# Establish a Strategic Presence

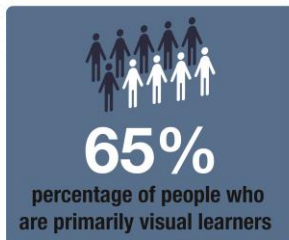
- Identify content that will appeal to and engage your audience segments
- Identify key participants and influencers to showcase your products/services to
- Identify ways to participate and engage in **dialogue**



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## Consider Content Size & Type

Consumer demand for on-the-go information has made catchy, bite-size pieces of content more popular than ever.



Snackable content is made for the on-the-go consumer who needs answers to their questions at a moment's notice. When done right, snackable content leaves the consumer hungry and eager for more.

Travaline, P. (2016, May 27). Insight from the Content Marketing Summit: The Three S Model for Content Success. Retrieved September 10, 2018, from <http://www.smartbrief.com/original/2013/03/insight-content-marketing-summit-three-s-model-content-success>



## Invest Your Time and Credibility

- You get out of it what you put into it
- Consider resource allocation for various tasks and establish a structured approach for consistency
- Experiment to determine what investments provide the greatest returns

### Social Media Ecosystem

Monitor 15 min/day	Target 20 min/day	Engage 30 min/day	Publish 3-5 hrs/wk	Build Community 5-10 hrs/wk
Google	digg	facebook	Blogger	facebook
socialmention	twitter	LinkedIn	WordPress	LinkedIn
ATTEN/ITY	hellotxt	Twitter	WordPress	Twitter
scout24	Ping	Hootsuite	everystoredeci	everystoredeci
radian6	sharethis	Seismic	flickr	NING
	Add This	TweetDeck	YouTube	MerchantStories
	divr.it			

Social Media Takes Time. (2012, July 30). Retrieved September 10, 2018, from <https://sectorlearning.wordpress.com/2012/07/30/social-media-takes-time/>



- 1. Display Advertising**
  - 2. Search Engine Marketing**
  - 3. Social Media Marketing**
  - 4. Mobile Advertising**
- 



## **See Details in MGT 6311 – Digital Marketing**

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Course by **Michael Buchanan**  
Lecturer, Scheller College of Business, GeorgiaTech



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**Next: Types of Advertising Deals**





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L 2.4: Advertising Deals & Tools



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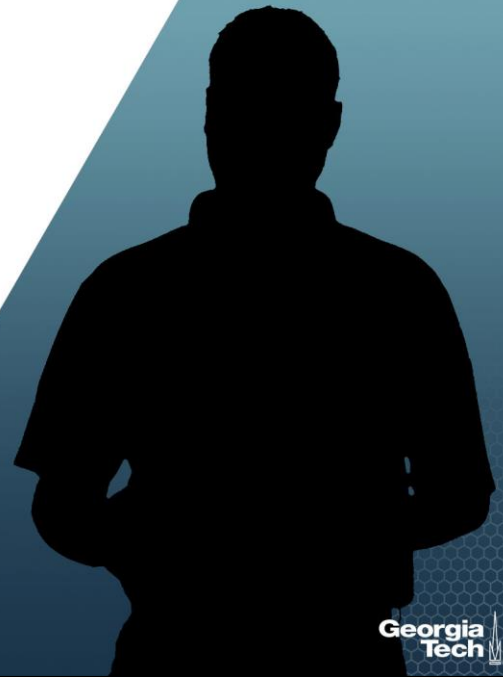




# Learning Objectives

**At the end of this lesson, you should be able to:**

- Think like a media buyer
- Negotiate Ad Buys or (media buys)
- Use the tools of a media buyer and ad targeter
- Plan, Execute, Review ad campaigns



## Other Types of Digital Marketing

### 4. Mobile Advertising

### 5. Direct Messaging & Email

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**See: Course MGT 6311 – Digital Marketing**

# Types of Advertising Sales

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## Payment Models

- Fixed cost / flat rate (per time interval)
- CPM – Cost per mille (1,000 impressions)
- CPV – Cost per view (actual view of an ad)
- CPC – Cost per click
- CPA/CPL – Cost per acquisition or per lead
- CPS – Cost per sale (“commission”)



# Types of PPC Advertising

	 Search	 Display	 Social Network	 Mobile Network
Where adverts are Displayed	Search engine results pages	Content Sites, e.g. news sites or blogs	Social Networks e.g. Facebook or YouTube	Search engine Display Sites
Types of Adverts	Text adverts, ad extensions, some images	Text adverts, banner adverts including rich media, video adverts	Text adverts w/ standard image, some banner adverts, video adverts	Text and banners
Example Networks	Google AdWords, Microsoft AdCenter	Google AdWords, AdDynamo	Facebook, YouTube, LinkedIn	Adwords
Targeting	Keywords	Keywords and content, behavioural topics, categories, demographic	Behavioural demographic, keywords	Keywords and content, behavioural, topics, categories, demographic

Stokes, R. (2013). *EMarketing: The essential guide to marketing in a digital world*. Retrieved May 24, 2018, from <https://www.redandyellow.co.za/content/uploads/2017/11/Quirk-eMarketing-Textbook-5th-Edition.pdf>



## CPV + CPC Model

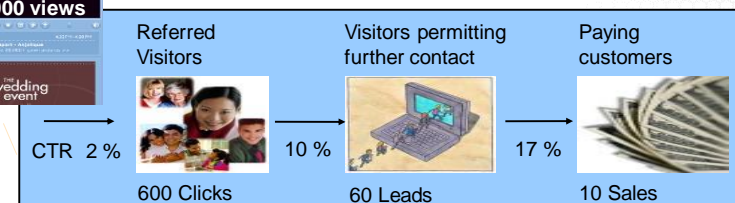
TV ads sold on CPM basis. Search ads on CPC basis. Hybrid ads on CPV+CPC basis

If want to spend \$1050 to air a spot for 30,000 views. If CTR = 2%, then

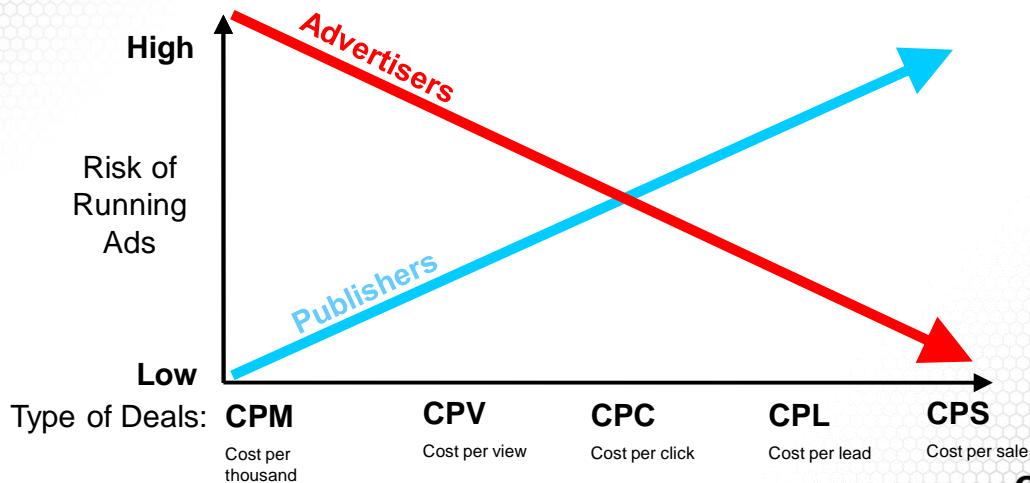
$$\$35 \text{ CPM} = \$0.035 \text{ CPV} = \$1.75 \text{ CPC} = \$0.025 \text{ CPV} + \$0.50 \text{ CPC}$$



Offer: \$750 for 30,000 actual views and \$300 for 600 responses

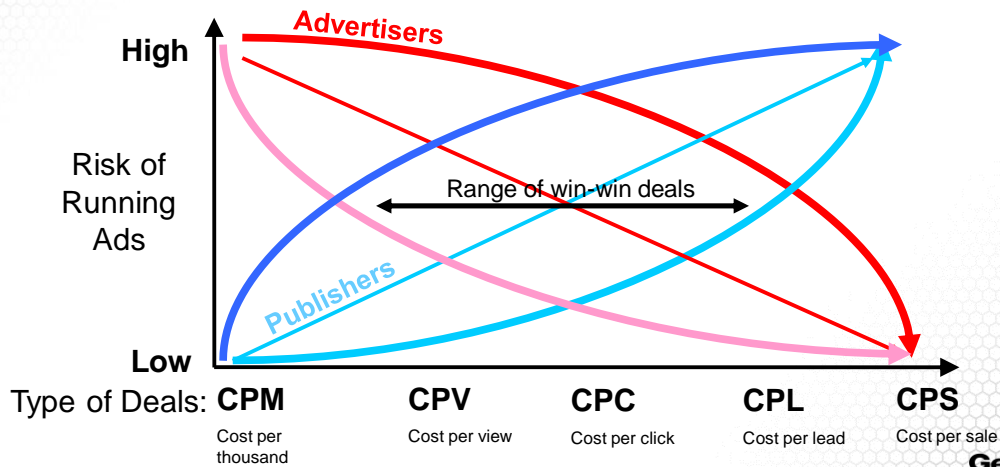


## Advertising Risk Principle



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## Advertising Risk w/ Creative: high vs. low CTR (Click-Through-Rate) ads



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## Tools of Online Media Buyers

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## Tools of Digital Marketing Analysts

- Nielsen Audience Planner
- Google Adwords
- Google Analytics
- Facebook Ads
- IBM Coremetrics
- Omniture/Adobe Analytics
- And Many More...



# Tools of Digital Marketing Analysts

Why use various Tools for Media Buying and Analyzing?

- Insight into digital marketing analytics tools
- Use these tools to interpret campaign performance
- Apply these tools with the data sets provided and generated
- Use them to analyze and measure marketing performance



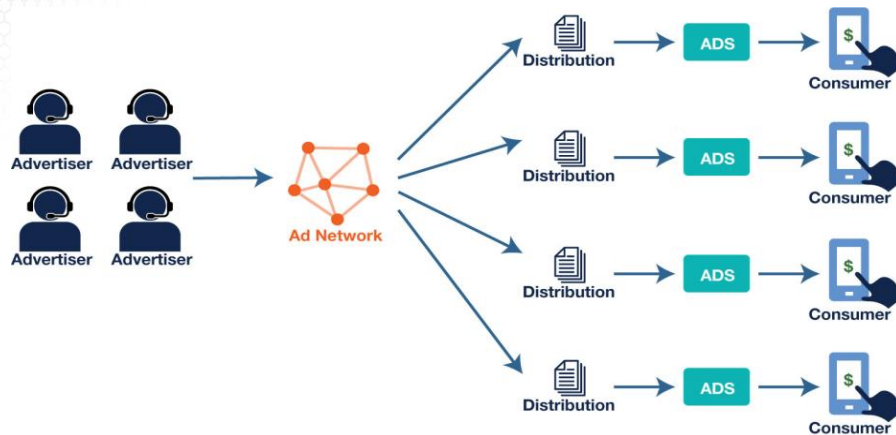
# Types of Digital Advertising

What Digital Marketers Do:

- A. Plan and Build Ad Campaigns
- B. Buy Media (or ad placements)
- C. Optimizing Media Campaigns



# Ad Networks



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## Summary

- Traditional Advertising & Marketing
- Evolution of Ad Companies and Systems of Digital Advertising
- Overview of Digital Advertising Market
- Five Methods of Digital Marketing

Today : Types of Advertising Deals  
And Tools of Online Media Buyers

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