

Introduction to Web Science

Assignment 11

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Tutorial on: February 10, 2017, 12:00 p.m.

This assignment focuses on **Online Advertisement**. As discussed in the class, teams with exact similar answers that give an indication of copying will receive null points for those questions. If you are taking answers from some source, please cite your sources.

Team Name: papa

Members:

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1 Online advertisement (10 points)

In the videos about online advertisement, you learned about the three different payment methods for online advertisement.

1. Name all three methods.
2. Mention the advantages and disadvantages, for publisher and advertiser, of all the payment methods and explain them in your own words.
3. Provide real world examples for the three payment methods.

Answers:

1.
 - CPC - Cost Per Click
 - CPM - Cost Per Mile
 - CPA - Cost Per Acquisition
2.
 - Advantages
 - CPC for the publisher, they get pre-paid for a specific amount of clicks, meaning that if the quota is achieved fast, he can then quickly resell the space to another Advertiser and make more profit.
 - CPC for the Advertiser, The potential customers go into their websites, so they have a higher chance to 'catch' them.
 - CPM for the Publisher, relatively easy to achieve because it requires not much user interaction, just visit the publisher's site
 - CPM for the Advertiser, follows the traditional model of advertisement, the ad will be showed to the users.
 - CPA for the Advertiser, the ad will remain online as long as the specified amount of customers do a specific action in the Advertisers site, so this guarantees actions on his side.
 - CPA for the publisher, they can receive a percentage of the customers action on the Advertisers site.
 - Disadvantages
 - CPM for the Advertiser, It doesn't guarantee traffic to his site.
 - CPC for the Publisher, If the ad does not generate much traffic (doesn't reach the quota) the publisher loses the opportunity to sell this space to someone else
 - CPA for the Publisher, High risk because is not guaranteed that a customer will perform the specified action in the Advertiser's site.

3.
 - CPA - Clicking an Ikea banner in some website, and completing a purchase.
 - CPM - Having an Ad displayed X times in Spotify.
 - CPC - Clicking this same Ikea banner, without any particular later action.

2 Payments in Online Advertisement(15 points)

Provide the complete calculation with your solutions for the following questions.

1. An online advertisement company offers you to advertise your website on a cost-per-click base (CPC) with a cost of 0.70€ per click. Assuming that in average three out of ten visitors of your website are buying a product from which you are earning 20€, would you accept this offer? What is your average profit/loss per visitor?
2. What would be the minimal conversion rate (CR) to guarantee your profit?
3. Two online advertisement companies A and B are making you offers to advertise your website. Company A follows a cost-per-mille (CPM) model with a cost of 2,40€ for displaying your banner advertisement thousand times. Company B follows a cost-per-action (CPA) model charging a commission of 6% from every profit generated on your website through clicks on the banner ad. Assuming a click-through-rate (CTR) of 0.5%, a conversion rate (CR) of 20% and an average profit of 40€ for every transaction on your website, which offer is the best?
4. Assuming an online advertisement campaign for a website has obviously a high click-through-rate (CTR), but the earnings from the website are still very poor. What do you think could be the problem (please provide your answer in one or two paragraphs)?

Answers:

1. per 10 clicks cost of campaign = 7€
3 out of 10 visitors make earning of 20€ $3 \cdot 20€ = 60€$
in average per visitor the profit is of $60€/10 = 6€$. So in average per visitor, the cost of the campaign is almost covered and leaves earnings for $60€ - 7€ = 53€$.
This is a very good offer, we would take it.
2. Since every time 1 customer buys something gives us a profit of 20€ and the campaign (for 10 clicks) costs 7€, already 1 goal achieved is enough so. $1/10 = 0.1$ minimum Conversion rate.
3. CPM -2.40×1000 views
CPA 6% from every profit generated, CTR = 0.5%, CR= 20%

$$\frac{Clicks}{Visits} = 0.05 \times 1000 = 50$$

$$\frac{Sales}{Clicks} = 0.2 \times 50 = 10$$

Finally we multiply this by 40€ which is the avg profit and we have
 $40€ \times 10 = 400€$

For Company A there is only 2.40€ investment, So the overall cost will be $400€ - 2.40€ = 397.6€$

For Company B $400€ \times 0.06 = 24€$ Campaign, So overall the cost will be $400€ - 24€ = 376€$

Making Company's A offer far better.

4. In this case we would assume that the Bounce Rate is pretty high, this could be due to many reasons.
 - a) The website is not friendly enough
 - b) The customer could not find the desired item
 - c) Prices are too high
 - d) Maybe bad reviews on the item
 - e) obvious security issues like not having https

3 Online vs. TV Advertisement (10 points)

1. Which of the three payment models is most similar to advertisement on TV (*explain your choice and also why you think other models are not similar*)?
2. What do you think are the most important advantages of online advertisement compared to advertisement on TV (*highlight 5 advantages and explain each of them*)?

Answers:

1. The most similar is CPM, because when an ad campaign is advertised on TV it is programmed to show X times in X hours, that's what the Advertiser pays for. Unlike CPA or CPC it doesn't guarantee any action from the customer, it only guarantees that they will see it.
2.
 - a) Ads on the internet can be better targeted: With Cookies and other tracking mechanisms, the Internet can assure that specific target of people receives the ad.
 - b) Also with tracking technologies it is easier to know if the ad campaign is working and from which publisher.
 - c) Prices for online advertisement are lower than for TV, TV time is really expensive
 - d) Can be more personalized because with the use of cookies certain words/products can appear or not.
 - e) Ad campaign cycles are not long, so if they didn't work it can be easily recovered from.

Important Notes

Submission

- Solutions have to be checked into the github repository. Use the directory name `groupname/assignment11/` in your group's repository.
- The name of the group and the names of all participating students must be listed on each submission.
- Solution format: all solutions as *one* PDF document. Programming code has to be submitted as Python code to the github repository. Upload *all* `.py` files of your program! Use **UTF-8** as the file encoding. *Other encodings will not be taken into account!*
- Check that your code compiles without errors.
- Make sure your code is formatted to be easy to read.
 - Make sure you code has consistent **indentation**.
 - Make sure you comment and document your code adequately in English.
 - Choose consistent and intuitive names for your identifiers.
- Do *not* use any accents, spaces or special characters in your filenames.

Acknowledgment

This latex template was created by Lukas Schmelzeisen for the tutorials of "Web Information Retrieval".

LA_TE_X

Currently the code can only be build using **LuaLaTeX**, so make sure you have that installed. If on Overleaf, there's an error, go to settings and change the **L**A_TE_Xengine to **LuaLaTeX**.