

Introduction to Web Science

Assignment 11

Prof. Dr. Steffen Staab

staab@uni-koblenz.de

René Pickhardt

rpickhardt@uni-koblenz.de

Korok Sengupta

koroksengupta@uni-koblenz.de

Olga Zagovora

zagovora@uni-koblenz.de

Institute of Web Science and Technologies

Department of Computer Science

University of Koblenz-Landau

Submission until: February 08, 2017, 10:00 a.m.

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: Echo

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.

Answer :

1. Name all three methods.

1. CRC (Cost Per Click)
2. CPM (Cost Per Mille)
3. CPA (Cost Per Acquisition)

2. Mention the advantages and disadvantages, for publisher and advertiser, of all the payment methods and explain them in your own words.

	Advantages		Disadvantages	
	Publisher	Advertiser	Publisher	Advertiser
CPM	The publisher gets the benefits of x1000 viewer of their website, and they are getting	The customers might like the ad posted on the publisher's website and therefore they	Unless the publisher had to pay a penalty on not getting the x1000 viewers,	The ads could not attract customers to the store of the advertiser, so they will be paying for
CPA	If the customers like the ads and <u>fulfill</u> the target goal, the publisher will get their	Getting more customers to the store website, therefore chances of buying something	The publisher will not get benefits if the customers don't click on the ad linked to the	The disadvantage here could be that the customers click on the ad link but never achieve the
CPM	The publisher will get paid for showing the ad even if no one clicks on it, but they will get paid more per clicks on that ad. Hence, (click fraud) is considered an advantage for publishers	Getting more customers to the store website, therefore chances of buying something is high, as well as achieving target goals.	If there were no clicks the publisher will only get the price for showing the ad on their page.	The advertiser pays for each click, therefore (click fraud) is a huge problem.

3. Provide real world examples for the three payment methods. 1. CPC (Google adWords, Pay Per Click Search Engine Advertising) Advertisers pay for having their website on top of the search results for getting the attention of clicks on their ads 2. CPM (Television advertisements) Advertisers pay for gaining a x1000 viewer for their ads 3. CPA (PeerFly affiliate ad network.) Advertisers pay to get the target goal fulfilled.

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)?

Answer :

1.

Cost per click (CPC) = 0.70 euro

3 out of 10 visitors buys product of 20 euro

Per visitor earnings $20/10 = 2$

Profit per visitor = $2 - 0.70 = 1.30$

In this case I would accept the offer.

2.

Out of 10 visitors, 3 of them buys, Earnings = 20 euro

Expense for 10 users = $0.70 * 10 = 7$ euro

If any amount more than 7 euro is sold, there will be no loss.

Per customer spends = $20/3 = 6.66$

6.66 euro from 1 customer

7 euro from $7/6.66 = 1.06$ customer

So instead of 3 customers, any number more than 1.06 customers are needed in per 10 visitors for getting minimum profit. So minimal conversion rate (CR) = $1.06/10 = 10.6\%$ (Greater than this)

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*)?

Answer :

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)?

1. The CPM is the most similar payment model to the advertisement on TV, since when advertising on the TV we can control how many viewers we are showing this ad to by advertising it many times, or on many channels or after/before a related topic.
2. Then comes the CPC model as a second choice, which can be similar if we consider the Cost Per Call method; meaning that if we show a marketing ad with a telephone number, the goal would be getting the viewers to call this telephone.
3. Then the CPA which can be similar to CPC interpretation but instead of only calling the ad telephone, the consumers have to successfully fulfill the target goal (which could be for example to buy the product and was showing in the TV ad)

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)?

1. Analytical reports: tracking the ads and the popularity of them, click rates is a major advantage of the online advertisement, since a lot of data analytics can be applied on such measurements. Which will bring more benefits to the business of the advertiser, when they are able to interpret those reports and gain more understanding on how and what they should advertise.
2. Reaching more viewers: if something is online, the chances of it reaching more viewers is very high (if it was successfully marketed) and more than TV ads, since the whole world is almost always online and not sitting behind the TV screens.
3. One click away: Online advertisements offer a one-click-away from getting to the store, hence consumers can buy the wanted products or get the service they want easily while being online. Whereas the TV ad will invite the consumers to the store or show a link to their websites which they have to copy/write down... too much effort spent to get the point.
4. Better business strategy: where consumers can not only get to the advertised item/service but can check the whole store once they click on the online ad. TV

ads can basically show one item/service and focus on it in each ad, and will require the consumer to visit the store (physical or virtual) to get to other items/services.

5. More user interactive: online advertisements are more user interactive than TV ads. In some online advertisements, the consumer can actually enter some text or move something in the ad if they're interested. Therefore, it brings better interaction with the consumers than the TV ads.

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**.