Influence of different types of advertising on the advertising conversion rate in college students

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Abstract. The conversion rate is important measurable data as a metric of the effectiveness of advertising. The higher the conversion rate is, the more people who saw the advertising would take action. Many factors could affect the advertising conversion rate. In this paper, we aimed to find whether the format (video and poster) of advertising presentations impacts the advertising conversion rates among college students. The researcher designed an online survey that was distributed to college students, and respondents were asked to evaluate eight products’ ads with both video and poster types. In addition we investigated five potential factors, including the level of impact social media has on advertising, gender, preferences of activities, time spent on different advertising channels, and time from viewing the ads before buying products, that would influence people’s conversion rates. The results suggested that the conversion rates between video and poster are different (p<0.05). However, all five elements had no correlations with the conversion rate.

1 Introduction

Due to the widespread use of electronic products nowadays, online shopping plays a significant role in purchasing goods for customers. Mover Shakers (2021) conducted a survey which found that the ease of making purchases online motivates about 47% of respondents, while 42% appreciate the variety of goods available. Customers tend to learn information about the products from online advertising [1].

Online advertising is becoming one of the most important methods to attract potential customers. According to Maiya (2020), online advertising significantly impacts how customers perceive products and is regarded as the most important factor in predicting consumer purchasing behavior [2]. Liu et al. (2012) also claimed the rapid growth of online advertising that with an anticipated $80 billion in spending in 2011 and an expected 17% annual growth rate, online advertising is quickly emerging as one of the primary advertising channels [3]. To estimate the success of advertising, people use it to help businesses evaluate the effectiveness of their advertising campaigns. A lot of previous research discussed how to increase the conversion rate. Yan et al. (2009) suggested the behavioral targeting tactic could make the campaigns more effective. They discovered that by correctly segmenting consumers for behaviorally targeted advertising, ads CTR (Click-Through rate) could be boosted on average by as much as 670% [4]. On top of this, Beales (2010) also indicated that behaviorally targeted advertising is more effective than traditional run-of-network advertising since it provides consumers with more useful adverts [5]. Pandey et al.’s (2011) research showed that behavioral targeting can be significantly enhanced by focusing on hand-tuned segments [6]. Other studies have focused on improving click-through rates at the big data level in the personalization text. Researchers are focused on how the general market management strategy has affected advertising conversion rate and how behavior targeting is a significant determinant.

The click-through rate will considerably rise in the big data era if advertising is positioned with purpose and tailored to the user’s preference settings. According to the research of Schwartz, Bradlow, & Fader (2017), focusing on click-through rates in the marketing funnel instead of direct conversion would result in a 10% loss in client acquisition, suggesting that personalizing ads could drive higher actual conversions [7].

However, these methodologies focus more on a macro marketing angle, which require a substantial investment of data, time, as well as financial resources in order to obtain reliable evidence to suggest the effective strategies. As (Lu et al., 2017) suggested that due to a number of issues, such as extremely scarce conversions, delayed feedback, communication gaps between the platform and the third party, etc., CVR prediction is quite difficult [8]. Alternatively, we could approach the same goal of improving the conversion rate from a narrow perspective by examining which advertising features and design characteristics can boost click-through rates. Examining how various campaign creatives could significantly influence consumer behavior, Braun & Moe (2013) found the targeted person’s history of ad impressions is the most effective way, with the date of an increase of 13.8% in expected conversions and a 12.7% rise in expected visitors [9]. Some other studies have researched how appealing advertisements are to users regarding whether they utilize direct or metaphorical expressions. According to Ding et

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al. (2022), metaphorical advertisements stimulated higher tourism intention by the theoretical framework of ELM. For high-popularity posts, metaphorical advertisements draw more visual attention than straightforward advertisements [10].

Research focusing on analyzing what types of formats work well to increase click-through rates offers a direct way to assess how they affect conversion rates, and the results are more explainable. However, there is little research investigating the impact of ad presentation formats (video, poster, text, etc.) on conversion rates. Therefore, this study’s main goal is to identify the type of advertising presentation that will increase conversion rates.

The precise goals are to: (1) assess the difference between different advertising formats (video and poster) in their impact on conversion rates and (2) investigate possible variables as confounders that might affect conversion rates. Researching the impact of different types of advertising on conversion rates provides insights for advertisers to attract more customers by creating proper formats of advertising products. And if they can deliver the predicted more effective ad formats with the same cost investment to get more conversions and thus increase the business’s profit.

Factors that influence conversion rates
A. Factor 1: [the impact level of social media on purchasing decisions]
B. Factor 2: [gender disparity]
C. Factor 3: [the usual channels people have access to advertising]
D. Factor 4: [different preference of activities]
E. Factor 5: [how long of making a choice of purchasing the products after seeing the advertising]

2 Method
The research aimed to compare whether different advertising presentation formats will have different impacts on conversion rates and investigate possible impact factors on advertising conversion rates among college students. Participants included 36 individuals (35 students, one other) aged 18-34 years (21 males, 15 females) in different educational occupations ranging from undergraduate students (80.6%), graduate students (11.1%), Ph.D. students (5.6%), and other (2.8%). The participants were given the link to a Google form to complete viewing the video/photo?“ to ensure our participants finished watching the video and poster. In section two, participants must answer four multiple-choice questions about potentially related variables that may influence the advertising conversion rate. The four variable questions were:
1. How much do you think social media has an impact on your purchases?
2. Which of the following advertising channels did you usually see or hear the advertisement?
3. Which one do you prefer to engage in?
4. If you purchased as a result of the advertisement, how soon after seeing/hearing the advertisement did you make the purchase?

3 Results
A two-sample t-test was used to test whether the conversion rates between video and poster are different. Conversion rates between video and poster are different (paired t test showed a significant difference, p<0.05). The conversion rate for video is 47.14%, and the conversion rate for poster is 35.97%. The conversion rate for video is significantly higher than the conversion rate for poster, demonstrating the audience in the sample is more attractive under the form of video advertising presentation.

Spearman correlation test and chi-squared test were used to find what other factors would influence the conversion rate. In the spearman correlation test, the extent to how much social media influences consumers (p = 0.05 for both poster and video) and gender (p = 0.05 for both poster and video) disparity demonstrated there were no significant evidence to suggest that there is association with two types of conversion rates with large p-value. In the chi-square test, we found factors of variety preferences of activities (p = 0.73 >0.05), the frequently using advertising channels(p>0.05), and how long from viewing the ads before buying products (p>0.05) indicate that there is also no enough evidence to show the association relationship with conversion rates. (See Table 1)

| Table 1. Results Of P-value From Both Spearman Test And Chi-square Test. |
|---------------------------------|------------------|------------------|
| **Spearman test**               | **p-value result** |
| Conversion Rate of Video        | Conversion Rate of Poster |
| the extent to how much social media influences consumers | p-value = 0.2171 | p-value = 0.3095 |
| Gender                          | p-value = 0.9874 | p-value = 0.5706 |
| **Chi-square test**             | **p-value result** |
| Conversion Rate of Video        | Conversion Rate of Poster |
| variety preferences of activities | p-value = 0.2171 | p-value = 0.3095 |
the frequently using advertising channels
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<thead>
<tr>
<th>p-value</th>
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how long from viewing the ads before buying products
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<td>0.6893</td>
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4 Discussion

From the results, we could know that different presenting forms between video and poster have different impacts on the conversion rate, and the video format of advertising is more attractive for the audience compared to picture dynamic form.

The difference between the impact of video and poster may stem from several factors. Firstly, video content may attract more attention due to motion and constant novel stimulation. More attention to the content of the ad is likely to boost the liking of the content, thus increasing the conversion rate.

Secondly, the video content in this study took longer time to view than the poster, since we did not limit the view time of the poster. Thus the difference between the mere exposure time between the two could introduce the difference in conversion rate. It would be interesting to test a condition where the participants were forced to view the poster for the full duration of the video, and compare the conversion rate. However, this might be challenging since it would be an unnatural task for the participants to do. Future researchers might come up with smart ways to test this hypothesis.

Thirdly, video involves multiple modalities of sensory inputs such as visual and auditory inputs, whereas the poster only involves visual input. Future research could focus on whether adding auditory input alone can boost the conversion rate.

Additionally, the analysis of four p-values among assumed four correlation factors which might potentially impact the conversion rate are all larger than the significance level (α=0.05), showing there is no significant evidence to say there is correlation between the factors and conversion rate. Based on the different type of data, we used two various analysis method. For example, we use the spearman test to conduct the numeric variables and use the Chi-squared test to analyze the possible correlation between the conversion rate types and categorical data among different activities preference, preference of advertising channels, and time for purchasing after watching the advertising introduction. The results, which were all against our alternative hypotheses, might be due to the following reasons: 1. The sample size (n = 36) was small to represent the population parameter cases. 2. After evaluating eight cases of different advertising products, the respondents would be too tired to carefully finish the question part in section two, increasing the response bias.

The results may be different if we change the subjects from college students to currently employed people with more purchasing power. Compared to college students, people who are employed may have better skills in managing their wealth and can have more independent selections on commodities based on their preferences. Due to fewer restrictions, they certainly can decide whether they want to buy the products or not through watching advertisements to increase or decrease higher chances of conversion rates. Our results of conversion rates between video and poster may be more apparent, and the four possible variables are likely to have an impact on the final results.

In addition, to reduce response bias and enhance the accuracy of results, we could explore more effective and survey techniques by boosting the subjects’ engagement. Though we added the video format of advertisements to bring dynamic visual experiences within our questionnaire, respondents were still needed to rate each advertisement in the traditional questionnaire format for a total eight different products. Also, we cannot strictly guarantee they have finished every video or poster. In this scenario, we are considering whether or not it would be feasible to replace the conventional online text format of the questionnaire to an interactive video form questionnaire. The final results could be more accurate by the video type of questionnaire for the following reasons: 1) The video form of the questionnaire could capture respondents’ immediate feelings and allow respondents to rate directly. In our traditional form questionnaire, respondents need to revisit the questionnaire interface after watching the video form advertisements, increasing the potential distractions of their judgments. 2) The video questionnaire could give the respondents access to the following product question only after viewing the previous video or poster entirely. In this case, we could enhance the competence of our final results and ensure the validity of each subject’s results. The video questionnaire will indeed require us more energy to create due to its complexity. Still, this new type of questionnaire could ensure a higher assurance of the final results, especially when we investigate the outcomes, including video-based questions. To minimize distractions during the response period and enhance each answer’s accuracy, it is worth it for future research to design suitable types of questionnaires.

About the final results, we are surprised by finding no correlation between the impact of social media on people’s purchasing attitudes and the conversion rate of two forms of ads and assume the formats of video conversion rate should affect their purchasing conversion rate more. Since there is more video-based content on social media, people are supposed to be exposed to more information by watching brief videos instead of pictures. Therefore, in the trend of social media, people may access more advertising via short videos by the main social media like TikTok or YouTube. However, the p-value was higher than the significance level (α=0.05), which was out of our expectations. For the improvement in the future research, the researchers could perform the research as an experiment, decreasing the distractions and have more reliable results.
5 Conclusion

Based on the analysis results from collecting data, it can be concluded that the advertising presentation formats are important to the advertising conversion rates. The results indicate that the two different types (video and poster) of advertising have influenced the conversion rate. Moreover, by comparing the conversion rate between video and poster, we found that the conversion rate of video format is higher than that of poster format, suggesting that customers may be more attracted by video-format advertisements and more likely to purchase.

This research clearly illustrates in the process of creating advertising, advertisers need to consider which forms of advertising can maximize product presentation so as to attract more potential users through this form. Furthermore, while this research designed a questionnaire combined with video and poster using Google form, future research could design a new type of video questionnaire to increase the validity and accuracy of the results. However, this research also raises the question of whether it is possible to show the product in a more three-dimensional way by combining pictures and videos to further increase the conversion rates. For future research, we can consider the effect of other forms of advertising (short videos, emojis) on conversion rate.

References