

An Empirical Study of Banner Advertisement and Effectiveness in Business on Mobile Application

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Abstract— Currently, the standard commercials on portable applications become the noteworthy promoting channel. It is flawed which places of standard promoting will not hinder and pester versatile clients, just as which positions can improve the active visitor clicking percentage. This paper thusly will assess the compelling situation of active visitor clicking percentage for standard publicizing, and furthermore investigate the clients' encounters when they see the standard on the real use. The results proposed that the most clicked position which didn't intrude on the clients was the top position flag promoting. This exploration is appropriate for promoting experts on the off chance that that they can plan the best possible and viable promoting positions identified with their crusades through Mobile Advertising System getting to target.

Keywords— Customer Relation Management, Smart Phone, Mobile Advertising Network, Web Services, Online Advertising.

I. INTRODUCTION

The network service sells advertising on mobile phones as a new service. That is popular today. According to the growth trend of Sales of mobile phone accessories Or smart phones and trends Internet usage by connecting to higher applications Especially the dungeon area The capital city of the average usage of up to 6.6 Hours per day [1]. Network advertising services on mobile phones. The main function is to determine the hole. Type in the display of An application-based advertisement to appear in a group of users by Based on location, time period, search statistics Type of content In application Or promotional messages supporting Sales that meet user expectations Resulting in a good performance In the analysis And measure marketing results In which the current form of Show the result and position of The advertisement appears on the screen. The application through the network can sell mobile ads. Of the media format is an international standard Regulations for registration the advertisement is clear from the mobile advertising sales network. The major Google Admob tires have memorized the form of the media. 2 Categories are media, graphic types, images and letters. Dunk was forced until Accepted by other nearby services Before iad or Millennium Media to determine the format The specified display is International, including [2] as the beginning Even if the label is advertised from a network selling ads on mobile phones Will be a popular service that increases the way to generate income for the frog Application developers and

public relations support business or service providing applications or products that Interested in wanting to do marketing on mobile phones on of the display directly in the group Targeted according to the needs of The consumer through the display report (View, Impression) and Report the rate of the average advertising clicks Visibility or CTR (Click through Rate) in the aspect of Evaluation of advertising effectiveness But for the group of Application users Or a large number of consumers, some groups back Looking at the position of Advertising displayed on the application in Some locations are disturbing. Experience Use and sometimes Things that are not needed because of the label location Any position can be placed on the front. App as appropriate And beautiful but the position Application developers who want to make money or marketer who want to publicize, popularly choose to place, there are 3 positions which are Keep top and bottom and center of the screen. (Popup) For the reason that does not obstruct the display of content and Interfere with the usage which contradicts the reason for the consumer above For improvement and measure the effectiveness of the display of signs Mobile ads for better performance And not creating interfere with the users of the application and are supportive information. For the application developers who want to make money through Mobile advertising machine. This research has a purpose to Conducting a study of the position the right of protection the advertisement appears on Mobile phones in actual use conditions in Bangkok using the standard ad position is the top (alignment) position. Bottom position Full screen position while Processing (Popup) and the center position between the content. (Contextual, Middle) to analyze the results obtained as Reference data to prove that the results are high performance and conform to the established international standards or not and use The result is Support marketing karma and Generate revenue through the application of developers and marketers. For choosing the position advertising on the application.

II. ARCHITECTURE OF MOBILE ADVERTISING NETWORKS

The overall architecture of the machine Sell mobile ads (Mobile Advertising Network) has a conceptual structure. Comprised of many garden elements that are close to the sales network The internet through the structure diagram is easy to see in Picture 1.



Figure 1: The network architecture diagram of mobile advertising sales

The operation of the machine Selling ads on mobile phones that will The advertiser has set a budget for the frequency of Show results or clicks that need to be paid to Cost Per Click Developers, owners of applications that are advertised. Check the sales app in the app. Or not when clicking on it Or vision There will be a report To the advertiser's system, click statistics to service providers Sales network to improve advertising to target groups To improve the architecture of the advertising system on Mobile phone.

2.1 Advertisers

Is an important part of the display of Advertising displayed On the application screen Advertisers can design styles Of advertisement labels by specifying the media to be graphic or letters And has the duty to control the budget for advertising. Displayed on the screen of applications that are affiliated with the budget sales. Set to pay according to the click frequency (Cost Per Click).

2.2 Network Operator

Is responsible for providing the basic structure for distribution Advertising is collecting or managing reports. And specify the location of Users and also manage revenue sharing that occurs from the amount of clicks Advertising each time.

2.3 Content providers

Here means Content in major applications is often where the interests of users according to the objectives of each The content service provider is responsible for displaying the advertising signs after Apply for service via mobile advertising sales network and receive income from The amount of clicks on Pay Per Click advertisements.

2.4 Ad Provider

Is responsible for linking the advertisement information that developers need Publicize to appear accordingly Content providers that will have The consolidation of all policies in the system will result in The type of content Consistent advertising planer The user expectation period from search traffic Up to the form of behavior from the report that Gabe has collected [3,4] Is it close to before? Therefore sent Advertise to show page The other main part is the collection

of click statistics. Summary of garden management expenses Share network service providers.

2.5 Standard Type of Advertisement Billboard

It is a standard type and size image specified by the operator. To provide an Ad Provider and position at the group Developers and marketers favorably place Consists of the form and the following positions.

Table 1: Standard size table and the popular position is placed on the signs Ads on mobile phones

Media Type	Text messages, graphics A picture, animation (.JPG, .PNG, .GIF)
File Size	Large size 150 KB
Size, width and Height in pixels (pixel) of media	320 x 50 px Leaderboard Summoner
	480 x 32 px Landscape summoner
	320 x 480 px Interstitial (portrait) summoner
Popular positions to put on The screen	And Popups Advertising
	The top of the screen (Top)
	Bottom of the screen (Bottom)
	Full screen or center of the screen (Popup)

From Table 1 is a standard requirement that advertisers must comply with the conditions if the format is different from those specified. advertising services will not be allowed to show on the sales network. The advertisement label is usually able to be positioned which can be on the screen but the garden of application developers and marketers prefer to position 3 advertising banners According to the table above, because there is no space for display and understanding Is the position that leads to a high click on the advertisement Does not interfere with the display of content that appears on the application and user operations on developed applications.

III. METHODOLOGY

This research is the experimental research was conducted by testing. And recorded results of self-developed applications 2 Applications that have a display format Different advertising formats, 4 formats, press mobile phone with application installed Introduce Completed

3.1 Population and Sample Groups

To collect experimental data, sample groups are divided into 3 examples are group 1, a group of people aged between 15 - 24 years old. The number 57 persons. Group 3 is a group of people aged between 25-40 years. The amount of 24 persons and group 3 is for groups of 55 years and older. Which are of 6 people who used Internet 3G services with the time loop divided into 3 time periods along with phase 1 for collecting all 15 days of data in the test using the application to collect statistics for the 2nd period is a switch. The advertisement position after 7 days and the 3rd period is collected.

3.2 Tools

The research instruments were cell phones, smart phones. That supports the top 3G/4G network sales in the android operating system version 4.3 devices are Samsung Galaxy S3 and iPhone. 7 Plus, the iOS operating system, version 13.5.1,

the application used to the first test is applications in the use of the business developed was named Alibaba.com, in order to provide the sample groups that can use this application to test both operating systems.

From the picture 2, there are 2 advertisement image positioning in applications for sample groups consisting of advertising signs size 320x50 px, placed in the bottom position near plan the button position bar (Tab Bar) and

position contextual, middle application. The second is an entertainment or game type application called Drink 'n Drunk is an application that uses quantity equation to calculate. Alcohol in the blood vessels from the number of glasses of the drink using positioning advertising the same size as before in an aligned position top or bottom of the toolbar position (Top) and full position screen while processing (Popup) which is shown in picture 3 below.

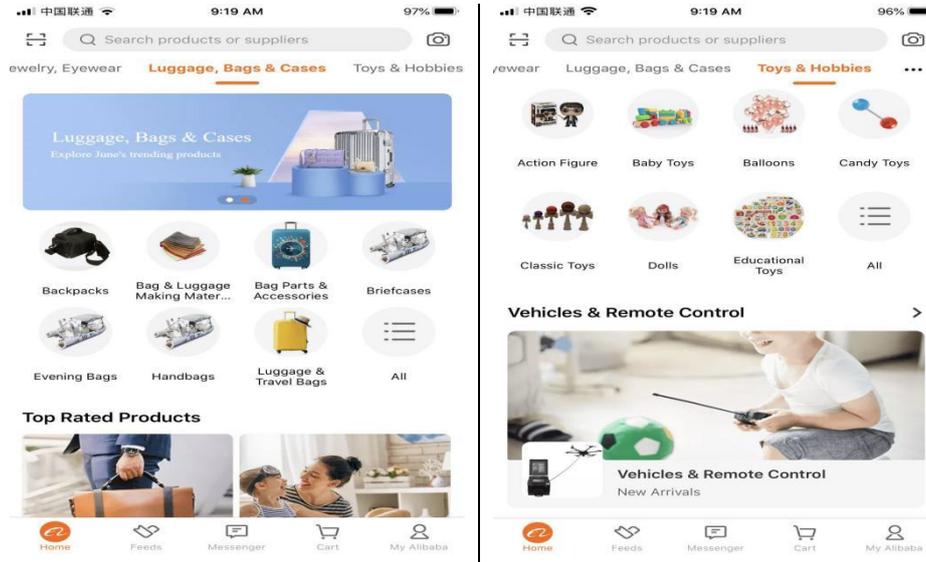


Figure 2: The location of the advertisement that appears differently than the midpoint (Bottom) and the position of the middle of the content (Contextual, Middle)



Figure 3: The position of the ad that appears differently than the top-right position Or under the toolbar (Top) and full screen position (Popup) The other tool is Google analytic for mobile service. For use in collecting data, analyzing user behavior by using the command named Event Tracking is attached to the image of the button. All garden tools and every page of the application to be compiled the number of times the application uses the chain. Press to proceed or tipping errors in the app from the beginning to be a report for confirmation the applications that we developed are really in use.

IV. DATA ANALYSIS AND RESULTS

Data analysis is divided into 2 processes. The first process is analyzed in terms of efficiency. Giving statistics, number of impressions, advertisement signs and the average number of clicks that were posted and the number of advertisements will be displayed once. (CTR) for session 1, dates 1-6, and session

2 Day 7-15 after the comparison, the next process is Period 3, which is a collection of user experience data applications that address ad banners and measure satisfaction of users of the application through the questionnaire, which is divided into 2 parts, which consists of general information of respondents and the garden of satisfaction with the position advertising displayed After collecting information. Then apply the result

analyze using the scoring criteria as follows average price 4.50 - 5.00 is very good. The average price is 3.50 - 4.49, which is good. Average price 2.50 - 3.49 is at a moderate level. The average price is between 1.50 - 2.49 within the fair level. Average price 1.00 - 1.49 is at a low level test results of Alibaba.com application in loop 1 that were assembled with the position advertisement close to the middle and in the middle of the content to compare the 2nd frog group that switched after the advertisement Period of 7 days to be positioned at the top edge and full screen gather the number of times the display of the result advertising (View) Clicks (Click) and the average CTR by using all three words calculate the average (\bar{x}) and compare the result of the two different positions of advertise.

The advertisement label is aligned to the top and full. (Popup) screen in the second cycle of testing from sample groups. It is a more powerful position than the advertise that is the bottom and middle pedals (Contextual, Middle) click and average amounts (CTR) that has changed from the original up to 36.97 percent test results of the Drink 'n Drunk application in cycle 1. ads in the top and full screen position switched to the 2nd band, switched to a labeled position advertisements that are close to the edge and middle rod between the content one word statistics from the KamNuan application to calculate average (\bar{x}) and deducted from both groups Same chain before, get the result in analysis. Clicks and CTR rates increase when measuring change position even if the display the advertisement for the second phase will show The result is less than the 1st step and A more favorable sign or the number of activation of higher applications do not affect clicks and CTR if done. The CTR classification of each advertising label is based on the number of the time it appears in the advertisement, it is found that each position has a CTR. Different, with the highest CTR being the top position and Full screen position is 3.85% and 3.41% respectively. When the results of the experiment were found about the top position effective advertising in terms of clicks and CTR that the most appropriate are the top-aligned position and full screen. The steps are in the above analysis of the position of the 2 which position is the position that will not create the most importance passing the results of experiment 3, according to the specified criteria to test.

Table 2: Table of ad formats on top (top) positions

Ad label position is at the top. (Top)	Assessment results	
	Average	Performance level
The form of the advertisement that appears		good
The character	3.73	good
image	4.20	good
Animation	4.47	good

Table 3: Table of ad formats on top-right positions (Popup)

Location of the sign in full screen (Popup)	Assessment results	
	Average	Performance level
Ad form		
The character	2.73	moderate
image	3.73	good
Animation, Video	4.40	good

From Table 2 and Table 3, found that the ad formats that appear through the network selling mobile ads In the position

at the top edge (Top) has a higher level of satisfaction than full-size billboards (Popup) screen in the word, satisfaction rating in the position. The ads that appear in both locations from the quiz get results. From the above satisfaction result from the sample group aligned position top is the position that users rated high satisfaction. The most is 44%, with the reason that it is the position that does not create importance and does not interfere with the user's activity in using the most applications and if there is a marketing activity or content with interesting advertisements appears, users are happy to click. Advertising signs with interest opposite the advertisement label full screen format (Popup), even though position with the amount of clicks high and the CTR is close to the topmost position. According to the survey results from the sample group, the results showed Popup position is incorrect due to incorrect click [5] in tempo that the application is using.

V. CONCLUSION AND DISCUSSION

From the experiment Image of the address Advertising via mobile advertising network. Found that the label location. Ads that are aligned at the top or are effective positions The most with the average clicks on advertising or CTR (Click through rate) at 3.85 percent is considered a high threshold while Assess the satisfaction of the sample group of users of the application From answering the evaluation form found that with satisfaction in the position of the advertisement shown in the above position, citing results assess the average respondents from the assessment regarding positioning The advertisement is at a good level. The test results obtained From this research, despite lacking technical data of service providers, but and other advertising networks and the application type format that a variety of basic tools developed for the sample group to use work to test but a lot of test results can be used as demonstrate the efficiency that will improve the concept of deployment in appropriate ad positioning Increase efficiency and not Create importance for consumers.

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