

ANALYSIS ON E-COMMERCE PROMOTION CHANNEL BASED ON AGE SEGMENTATION: A CASE STUDY OF FABELIO

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Abstract.

Background: E-commerce is business transactions process through the network, including online advertising, ordering, payment and the corresponding goods distribution and customer service. As one of the core e-commerce business activities, internet marketing strategy should be formulated carefully since it contributes to the firm's performance as well. By analyzing the current performance of their promotion channels, the researcher aims to point out which channel suits best to certain age segment.

Methods: Previous literature has concluded that demographic do play significant role in internet browsing behavior. However, the influence only occurred through age segment, while gender segment does not play an important role. Using Google Analytics, the researcher would like to find the preferable promotion channel based on the age segmentation.

Results: It is showed that for age segment 18 to 44 years old, they prefer to reach the website through search query which result includes the ads of Fabelio website. Meanwhile, for 45 years old and above, they were attracted to visit Fabelio through ads which are place in a popular social network, Facebook.

Conclusion: Different age segments visit Fabelio site through different channel, depending on their internet-browsing behavior. Therefore, marketing strategy has to suit the target market from certain age segments.

Keywords: Age Segmentation, E-commerce, Promotion Channel, Web Analytics, Web Metrics.

Introduction

E-commerce and Internet Marketing

The rise of internet and technology development has improved the activities in many sectors, including the business sector. The transaction with old method takes a long time to get the order processed. The flow starts by placing the order, make a payment, and claim the product, has to be done manually by the customer in a shop. The market, which companies could reach, was limited to a certain region nearest to their physical store. Hence, companies massively shifting from offline retailer to online retailer since the presence of internet has been proven helped corporates reducing the operating cost and time. Zhu (2014) defined e-commerce as business transactions through the network, including online advertising, ordering, payment and the corresponding goods distribution and customer service. As one of the core e-commerce business activities, internet marketing strategy should be formulated carefully since it contributes to the firm's performance as well.

Previous literature on internet marketing tried to explore internet marketing in various ways. It indicated that internet marketing is a topic where there are so many aspects to be explored. However, a proper strategy for online marketing is important to be formulated carefully; otherwise, our advertisement could not reach the right market. As the result, many companies spent excessive marketing budget with no optimal result in return. In early 2016, Stríteský *et al* discussed the importance and practice of targeting for internet advertisement by analyzing market segmentation of Czech internet user, based on the demographic and their browsing behavior. Many researchers

have tried to investigate the relation between internet marketing and age differences, for there are several speculations on how age would affect someone's ability in accepting and using technology. Most of the results show no relationship between age and intention of using internet marketing which means, irrespective of age and gender, people surf the internet (Hooda *et al.*, 2012). However, there is a significant difference between the age and attributes of online trading, yet it does not have any relation with genders. In this research, the researcher aims to analyze current marketing performance of an e-commerce startup company refer to their targeting and retargeting channel.

About Fabelio

Established in June 2015, Fabelio is a furniture e-tailer operating in Indonesia. Partner up with local designers and artisan, Fabelio tried to disrupt Indonesian market by providing design-centric products with good quality and affordable price. For their Business-to-Customer (B2C) sales activity, all of the transaction is centralized on the website of Fabelio (Fabelio.com). Thereafter, orders will be recorded in the system and then forwarded to related departments; Finance, Production, Delivery, and Customer Service. This integrated system helps the company to keep a purchase on track, from the time it is ordered until the time it is delivered or even the complaint afterward.

Online Advertising in Fabelio

Being a web portal for online sales, they focus on the online marketing strategy and utilize the various type of advertising channel which results are accumulated in Google analytics. Through Google analytics, Fabelio marketers could analyze the performance of each channel; i.e. bounce rate, conversion rate, or session duration, in the form of web metrics. (Mokaya, 2010). As summed up in the Google Analytics, Fabelio has 12 advertising group channels in total as the medium for visitors to visit their website; Paid search-non-brand, Paid search-brand, Facebook ads, Instagram ads, Display ads, Retargeting, Direct search, Organic search, Social free, Email, Referral, and Other. They could be considered as available portals for the internet user to visit Fabelio website.

Demographic Segmentation and Internet Usage

In their research, Hooda *et al.* (2012) did an investigation on consumer behavior towards e-marketing with the population of Jaipur, India. The study proved that there is a strong relation between age and internet surfing activity. Meanwhile, gender doesn't play any role in internet surfing activity. In 2016, there is also a research by Strítešký *et al.* specifically on the demographic variable for internet advertisement targeting in Czech Republic case. In the earlier section, Strítešký *et al.* also stated same conclusion that in general, there are no great differences internet visits made by men and women. Variation was slightly seen in the preferable categories of websites from men visitors and women visitors.

Demographic Segmentation and Online Shopping

E-shopping is preferable due to its attributes such as time-saving, easy accessibility, and the convenient provides through availability & alternatives to choose. It is also mentioned by Gao *et al.* (2014) that perceived usefulness, which is similar to performance expectancy in Unified Theory of Acceptance and Usage of Technology (UTAUT), affect willingness to use the internet of things technology. However, in the practice of e-commerce sites usage, familiarity and acceptance of the latest technology, as well as digital financial technology, is compulsory. Elderly tends to be less tech savvy than people in younger age (Hooda, 2012).

Online Advertising

In 1994, a web magazine name HotWired sold a banner ads slot to AT&T and displayed it on their website. It is considered as the beginning of online advertising, which cost was counted based on the number of "impressions"; individuals who saw the ad. The pricing method continued until 1996 when P&G made a deal with Yahoo! to count the compensation per click on the ad by the users, now known as "CPC"; cost-per-click (Evans, 2009).

In his research, Evans (2009) clearly stated a certain characteristic of online advertising ecosystems. There is a gap between advertisers who want to reach customers, and on the other side, there is a possibility that customers may or may not be responsive to receiving the advertising message. Increasing the range of an advertisement has been popular among the advertisers at that time. It

encouraged them to put ads in every possible channel to increase the possibility it is viewed and clicked by internet users. However, not every ad is appropriate to be published in all webpage (Hsieh *et al.*, 2016) or other promotion channels.

Types of Online Promotion channel

Advertising opportunity is now be given by lots of well-known websites, such as Google, Facebook, Instagram, and much more. In Google, advertising formats are available in several types: Search Ads, Display Ads, Video Ads, AdWords Express, Shopping Ads, and App Campaigns. Behind all the effort we put in formulating the best advertising strategy, the main goal of online advertising for e-commerce is to attract potential customer to visit the web store. As marketers successfully attract more visitors, we assume that the number of potential customers will increase correspondingly. This term is known as web traffic; the total number of visitors and visits on a website. In this research, web traffic is classified into paid traffic and organic traffic, based on the source of the traffic.

Web Analytics

Web analytics is derived from business website design, where tracking clients' practices and activities straightforwardly relate with customers' purchasing behavior (Marek, 2011). Basic web measurements are acknowledged as the start of the web analytics concept. After some time, firms have started to discover the use of basic measurements, for example, hits and pages views, to be deficient for assessing the performance of sites. For this research, metrics used in data collection are Revenue, Sessions, and Transaction, while internet user is classified into New Visitor and Returning Visitors.

Methods

Data Collection

Type of data used in the research is secondary data, which is collected by Google Analytics Platform. Data collection process began in early January, and collected data range from May 1st 2016 to Dec 31st 2016. The time period for collected data was chosen due to incomplete marketing expense report per February 2016. View access to Google Analytics was granted by the marketing team and used under the permission of Fabelio managing team, as well as the permission to publish the analysis of their data.

About Data Collection

The set of data collected consist of web metrics, such as:

1. Number of Sessions occurred in Fabelio.com
2. Number of Transaction occurred in Fabelio.com
3. Number of Total Revenue generated in Fabelio.com

These sets of data were taken from Google Analytics, which recorded the web metrics results from 12 channel managed by Fabelio, which are **Facebook ads, Instagram ads, Paid Search Non Brand, Paid Search Branded, Display ads, Retargeting, Organic search, Direct search, Referral, Social Free, Email, and Other**. Data mining through Google Analytics are taken under several circumstances:

1. Data was taken regardless the content and forms of the advertisement made by Fabelio.
2. Data was taken regardless any marketing campaign and promotion held by Fabelio.

As one of the objectives is to provide information about current actual market based on the age segment analysis, data of the visitors will be focused on the age segmentation. Demographic data on the age section is limited to such range start from 18 years old and above. Visitors who are under 18 years old will be automatically omitted by Google Analytics and will not be taken into account nor recorded in the system.

This section consists of approaches taken by the author, whether qualitative or quantitative approach. This section also includes a sample description (respondent/case profile), sampling

method, sampling size, error level, data collection method, variable operationalization, and analysis method.

Data Analysis

In the analysis, researcher focus was emphasizing around the age segmentation, which was automatically specified by Google Analytics. This age classification has been used by other platforms such as Statista.com and Alexa.com. In the mid-2015, site of Hoelzel wrote an article about demographic of social network on Business Insider Indonesia website. He cited the same age segmentation that was made by comscore, an American company of global media measurements and analytics that provide marketing data and analytics to world' class enterprises.

The segmentation was as follows:

1. Age 18 to 24
2. Age 25 to 34
3. Age 35 to 44
4. Age 45 to 54
5. Age 55-64
6. Above the age 65

A further discussion with marketers of Fabelio was done and we decided to distinguish the performance of each channel into two groups, **outperformed** and **underperformed**. The classification referred to the average number of each metrics; group which outperformed the average number and group which underperformed the average number.

Thereafter, researcher did a deeper analysis and calculation from the available metrics, such as:

1. Ratio sessions to transaction—average number of session occurred per one transaction for new users and returning users, per age segmentation on every promotion channel.

Formula for Average sessions per transaction:

$$\frac{\text{Number of Sessions}}{\text{Number of Transactions}}$$

2. Average value of transaction—value per transaction from total revenue generated by new users and returning users, per age segmentation on every promotion channel.

Formula for Average value of transaction:

$$\frac{\text{Total Revenue Generated}}{\text{Number of Transactions}}$$

Results and Discussion

Refer to the average number of each channel, we found out that several channels outperformed in some age segments, while the other channels underperform in some segments. In table 4.1., we can see channels which performed well, indicated by their outperformance. While numbers of sessions generated by the rest of the channel are underperform, for they are below the average number. Preferable channel for new and returning visitors are different due to the different behavior of new and returning visitor in browsing the internet. Preferable channels of returning visitors are shown in table 4.2.

Paid Search Non Brand requires internet users to make search query of their interest or demand, in this case furniture products. It shows that their first visit occurred because they showed their interest or demand through search engine, and attracted by link ad of Fabelio. While for age segment 45-54, 55-64, and above 65, their highest first sessions were acquired through **Facebook ads**. It indicated Facebook as their preferable social networking site, where they usually spend some time browsing the FB site and attracted by Fabelio ads. The percentage of Paid Search Non Brand is not as much as the Facebook ads, showing that number of people from this age segment who have interest and demand in furniture is not as much as those who browse the Facebook site.

Second highest numbers of sessions were acquired through **Organic search** and **Display ads**. For the age segment 18-24 and 25-34, Organic search made more sessions than Display ads, while the

rest of age segment, Display ads attracted more new visitors. Organic search indicated that the visitors have already heard Fabelio brand before, and look for the brand in the search engine without make a click on the ads link. Meanwhile, Display ads usually publish in the forms of banner ads and are posted in sites cooperated with Google. Display ads indicated that these first visitors made their first visit due to attracted by the ads, despite the fact that they already know or they do not know about Fabelio. **Direct search**'s proportions are slightly fewer than Organic search, due to it is easier to insert Fabelio in the search bar, than typing the whole site address (Fabelio.com). However, both channels indicated visitors who already heard about Fabelio before.

On the other hand, **Retargeting** has acquired most of the returning sessions. This indicating that the strategy works to attract visitors to re-visit the website, and re-engagement with the product they are previously looked at is important to remind them. It is important to note that new visitors of Retargeting are referred to returning visitors who made their first returning session through Retargeting. By looking at the proportions, most people did not choose Retargeting ads to return to the site after their first visit.

Table 4.1.
Preferred Promotion Channel for the Acquired New Session

Sessions from New Visitors	
Age Segment	Preferred Promotion Channel
18-24	Paid Search Non Brand, Facebook Ads, Display, Direct Search, Organic Search
25-34	Paid Search Non Brand, Facebook Ads, Display, Direct Search, Organic Search
35-44	Paid Search Non Brand, Facebook Ads, Display, Organic Search
45-54	Paid Search Non Brand, Facebook Ads, Display
55-64	Paid Search Non Brand, Facebook Ads, Display
>65	Paid Search Non Brand, Facebook Ads, Display, Direct Search

Table 4.2.
Preferred Promotion Channel for the Acquired Returning Session

Sessions from Returning Visitors	
Age Segment	Preferred Promotion Channel
18-24	Facebook Ads, Paid Search Non Brand, Retargeting and Organic Search
25-34	Facebook Ads, Paid Search Non Brand, and Retargeting
35-44	Facebook Ads, Paid Search Non Brand, and Retargeting
45-54	Facebook Ads, Paid Search Non Brand, and Retargeting
55-64	Facebook Ads, Paid Search Non Brand, Display, and Retargeting
>65	Facebook Ads, Paid Search Non Brand, Display, and Retargeting

While for the transaction metrics, the same pattern is shown where several channels generate more transactions than the other. The results of preferable channels for transaction are shown in table 4.3 and 4.4 of new and returning visitors. Regarding the channel used by visitors to reach Fabelio and make a purchase, three channels have results which stand out among the other channels; Paid Search Non Brand, Retargeting, and Referral. Paid Search Non Brand indicating visitors' behavior of looking for the products they interested in. High number of transactions aligned with high number of sessions

made from this channel shows us that search quest for furniture is in a high rate. Retargeting ads “follows” visitors who have visited the site before and make a search quest(s) for a particular product. the banner ads shows the last product seen by the visitors. This strategy reminds the visitors about products they were interested in, and attract them to revisit and retake a look at the products, which is expected to drive them to make a purchase. The results show that this strategy indeed works in making a transaction. Referral is a strategy incorporated with merchants or sites which Fabelio worked with, including Bank email, LINE Shopping, and many more.

Table 4.3.
Preferred Promotion Channel for the Acquired Transaction in New Sessions

Transaction from New Visitors	
Age Segment	Preferred Promotion Channel
18-24	Paid Search Non Brand, Retargeting, Direct Search, Referral
25-34	Paid Search Non Brand, Retargeting, Direct Search, Organic Search
35-44	-
45-54	Facebook Ads, Direct Search
55-64	-
>65	-

Table 4.4.
Preferred Promotion Channel for the Acquired Transaction in Returning Sessions

Transaction from Returning Visitors	
Age Segment	Preferred Promotion Channel
18-24	Paid Search Non Brand, Retargeting, Organic Search, Email, Referral
25-34	Paid Search Non Brand, Retargeting, Email, Social Free, Referral
35-44	Retargeting, Organic Search, Email, Referral
45-54	Paid Search Non Brand, Retargeting, Organic Search
55-64	Facebook Ads, Paid Search Non Brand, Retargeting
>65	Paid Search Non Brand, Direct Search, Referral

Table 4.5. showed us the average value per transaction made by each age segment. Note the highest average value per transaction of new visitors happened to be in the age segment 25-34 years old. The number was derived from Retargeting and Direct channel. New visitors in Retargeting channel indicating that they used Retargeting channel for the first time. Meanwhile, Direct indicated their intention to visit Fabelio.com and then make a purchase. Highest average value per transaction of returning visitors acquired by age segment 18-24 years old, indicating average spending per transaction is the highest among other age segments. This calculation will be useful to increase the margin, higher than just increasing the number of customers.

Table 4.5.
Average Value Transaction

Age	Average value per transaction		
	New Visitors	Returning Visitors	Total
18-24	Rp 1,940,783	Rp 4,684,585	Rp 4,404,056
25-34	Rp 4,429,460	Rp 3,015,453	Rp 3,309,505
35-44	Rp -	Rp 3,517,153	Rp 3,517,153

45-54	Rp 1,570,323	Rp 3,291,711	Rp 2,915,680
55-64	Rp -	Rp 3,571,368	Rp 3,571,368
>65	Rp -	Rp 3,032,294	Rp 3,032,294
Total	Rp 3,759,191	Rp 3,528,648	Rp 3,562,278

Conclusions

This research aims to investigate preferable promotion channel of each age segment, based on actual current market and their shopping behavior. Thereafter, marketers would be able to manage the marketing cost optimally by allocate it in the right promotion channel. Based on the performance of sessions and transactions in each age segment, we can conclude that the preferable promotion channels for each age segment are shown in table 5.1., while channels with the most transactions can be seen in table 5.4.

The number of transactions made by new visitors is lower than the number of transactions by returning visitors shows that return process is an important thing and marketers need to formulate a strategy on how to attract visitor revisit the website. It is proven by the high number of transactions made through the Retargeting channel. Number of sessions made through Paid Search Non Brand indicated potential customers, since they showed the number of market who is in need of furniture. Referral as one of the e-WOM form also proven to generate many transactions indicated that the effect of Word of Mouth is important in e-commerce sector.

Table 5.1.
Preferable Promotion Channel for Each Age Segment

Age Segment	Promotion Channel *)
18-24	PSNB, RFR, RT, OS, EM, DS, SF
25-34	PSNB, RT, RFR, DS, OS, EM, SF, FBs, OT
35-44	RT, OS, EM, RFR, PSNB, SF, DS, DSP, OT
45-54	RT, DS, PSNB, FBs, OS, RFR, EM
55-64	RT, FBs, PSNB
>65	RFR, DS, PSNB

*) Abbreviation of Promotion Channel; PSNB: Paid Search Non Brand; FBs: Facebook Ads; OS: Organic Search; DS: Direct Search; DSP: Display; RFR: Referral; RT: Retargeting; SF: Social Free; EM: E-mail; PSB: Paid Search Brand; OT: Other; IGs: Instagram Ads

Table 5.2.
Promotion Channel with The Most Number of Transaction

Age Segment	Promotion Channel
18-24	Paid Search Non Brand
25-34	Paid Search Non Brand
35-44	Retargeting
45-54	Retargeting
55-64	Retargeting
>65	Referral

Recommendation

Based on the findings of the research, the recommendation for Fabelio will be:

1. Reallocate marketing expense of Paid Search Brand and Instagram Ads to Paid Search Non Brand and Retargeting.
2. Increase the number of Referral by providing sharing platform for customers.
3. Make a path analysis to have a deeper analysis on the visitors' behavior, especially the new visitors, so they can formulate strategies to increase their returning sessions.

The recommendation for party related (marketers of e-commerce) will be as follows:

1. Make a market research to understand which promotion channels suit the target market best.
2. Have a deep analysis on the target market behavior through path analysis, bounce rate, conversion rate, or other possible methods.
3. Make a regular assessment on the performance of the promotion channel to make sure the marketing expense is spent optimally.

Future Research

This research is lacking in so many aspects. Moreover, scope of internet marketing is inevitably wide so for the future research there are a lot of aspects to be explored. This research does not assess the marketing performance based on the marketing expense. It would create a very deep and precise analysis on the current performance of a promotion channel. The conversion rate used in this research is e-commerce conversion, where linked to transactions and revenue. However, there are other types of conversion rate can be analyzed based on the goal set by the marketers. This research also lacked in the analysis of content and the forms of the advertising. The metrics also linked to user interface and user experience in the website, which is not mentioned in this research. Therefore, marketing in e-commerce has various aspects to be investigated on the future research.

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