Social Media Metrics Analytics: Study on B2C (Business to Consumer) Brand's Page

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Abstract

One of the most prominent way of connecting with customers via Social Networking Sites (SNS) is to generate a brand page in Facebook (called fan page) containing products contents and publish regularly postings on these pages. Customers will respond differently to these postings. In determining the efficiency of social networking sites, marketers are analyzing metrics to calculate the engagement rate (e.g. number of comments, share and likings in fan pages). The study applied Pseudo-theories and analyzed a total 3543 brand posts from 19 of the most popular B2C (Business to Consumer) fan pages of Malaysia. Data from September 2016 - August 2017 were collected for analyses, which were available online from the Brand's fan pages. The Fan-page content was analyzed using Netnography and Cross Section Regression of the EVIEWS 9 software for its impact on multiple contents upon user's engagement actions. The study explored the descriptive statistics of online user's engagement actions, or PTA (People Talking About) metrics, and the findings specify that the diversity of different posts influences the number of comments, likes, and the number of shares differently. Our research explored the fact that not all contents are suitable for

enhancing the number of likes, they increase the number of shares and comments, and vice versa. The findings of the study will allow e-marketers to update informational analyses upon the effectiveness of the posted contents and descriptive idea on users' preferred actions.

Key Words: Social media metrics analysis, Fan pages, PTA (People Talking about) metrics, Social Media Marketing, Social Media Content Analysis, and Social Media Engagement.

Introduction

Facebook Fan pages is a present marketing tool and currently it is being combined as one of the chief components in the brand's marketing campaign to reach out to customers and fans. It is now very imperative for the companies to analyze the updated data to know the effectiveness of different posts of fan pages in order to increase the fan responsiveness and engagement rate in the fan pages. While previous research has been conducted on the realization of marketing activities on social media, little is identified about factors that impact brand post or contents popularity (Lisette, 2012). Moreover, the previous management-oriented studies on brand post popularity are mainly descriptive and do not formally test which contents actually improve user's actions (Lisette, 2012). De Vries, Gensler, and Leeflang (2012) analyzed contents to show the impact of different characteristics of contents on the number of likes and comments. Reijmersdal (2012) also highlight the importance of interactive content on diverse cognitive, affective, and behavioral outcomes (Ransbotham, 2012) . Berger and Milkman (2012) investigate which characteristics make online content go viral (Berger, 2010). Kozinets et al. (2010) categorize content in the context of online word-of-mouth in case of Blog contents (Kozinets, 2010). Another studies investigated the impact of Image and video post on user's action (Zoha, 2016), Impact of interactive contents on uer's online actions (Zoha R. K., 2016) But none of the previous study investigate the impact of all types of fan-page contents on the user's engagement actions (like, comments and shares). Thus the current study aims to

fulfill this gap by identifying 19 popular fan-pages' 12 months contents or posts and analyzed the impact of all types of contents on user's online actions.

To apply a successful content development strategy in SNS (social Networking sites), it is vital to identify and recognize the user's behaviour towards different contents on social media pages (Zoha R. S., 2016). It is imperative for the companies to comprehend the types of posts that encourage users to be engaged in a particular brand page. It is evident now that the users of the fan pages like to show different brand related engagement activities (Zoha R. S., 2016) and also contribute significantly in various brand promoting activities. To retain the fan pages lively and dynamic, it is essential to understand the activities of the consumers online in SNS and marketers should also identify the types of posts that encourage users to be engaged in fan pages. In order to have a successful social media marketing campaign, it is important to understand the behaviour of customers on the brand pages and what motivates them to engage on a Facebook Brand Page which eventually should lead to purchase of the brand's products or services (BEJTAGIÆ-MAKIÆ, 2013). The purpose of this research is to analyse and determine the influence of different posts on customer engagement on a Facebook brand page. An active fan page can generate new fans promptly and with each new fan, the marketer not only advances to get a new possible active user but can also grasp the fan's private link due to Facebook's technical topographies.

In this revision the authors explored the all types of posts of 19 companies according to number of user base. The study will support the companies to get a rich clue about the types of contents and their deviations in making different user actions or PTA metrics (Like, comments or shares)

2. Review of Literature

2.1 Fan page Engagement and PTA Metrics

The PTA "People Talking About" metric only measures three types of actions: likes, comments or shares and this PTA is called the

"viral" metric (Ernoult, 2013). PTA (people talking about) action creates stories and A story is an item that is displayed in News Feed or News Ticker (until the old layout completely fades out). PTA counts user's interactions in posts (Ben, 2013). One of the drives for creating a Facebook Page is to connect with the friends of existing fans automatically. The PTA metrics is a useful tool for measuring how many users are interested or engaged in spreading words about the brand to their friends. In Fan pages, when a user likes, comments on or shares a post, Facebook *may* decide to publish this to this user's friends to show that this user liked, commented on or shared a piece of content from a particular Page (Ernoult, 2013). So, managers should know which posts are encouraging users to do actions on likings, commenting or sharing.

2.2 Pseudo-theories

Carlene Li and Jeremiah Owyang from Altimeter Group argued that instead of studying the demographic, geographic, or psychographic profiles of your customers, businesses also need to develop social strategy termed socialgraphics (JOwyang, 2010). According to this concept, marketers needs to find out the following questions: which websites are my customers on? What are my customers' social behaviors online? What social information or people do my customers rely on? What is my customers' social influence? The findings from these questions could identify the customers into layers of engagements: from curating, producing, commenting, sharing, to watching. The businesses then need to separate their customers into these layers and provide tools and platforms to facilitate their social interaction (Pan, 2012).

Conceptual Frameworks and Hypothesis

The conceptual model of the study is developed according to the concept of pseudo theories (Pan, 2012). The model is designed to show the impact of all types of posted contents of fan-pages on the user's online engagement actions or PTA metrics (Like, comments, Shares).

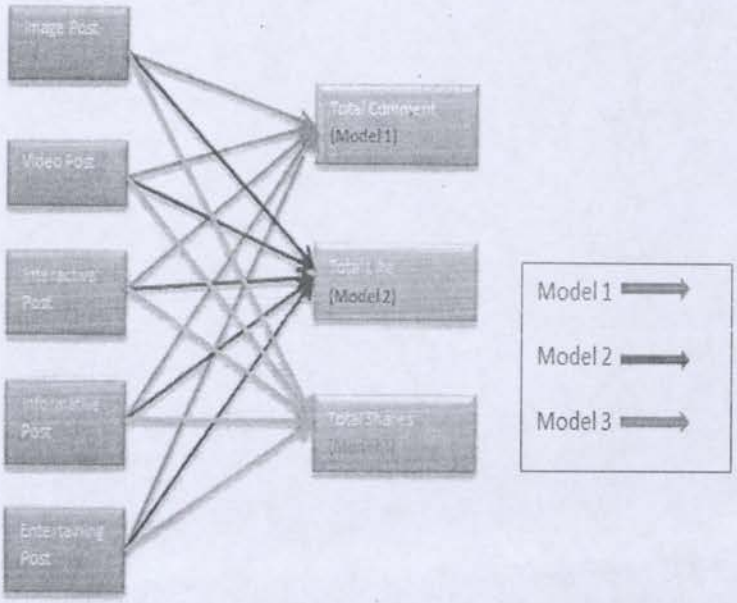


Figure 1: conceptual Model

3.1 Image post

The researcher has collected contents that are only images (Profile pictures, cover photos, catalogues, new products image) and image with some text information. These types of contents are 33% of total posts or contents. One way of improving the salience of brand posts is to include vivid brand content characteristics (Lisette, 2012). Vividness can be attained by the insertion of dynamic animations, (contrasting) colors, or pictures (Cho, 1999).One study shown that photos on fan-pages received 53% more Likes than the average post (Corliss, 2012) Engagement rate on fan-pages for photos averages 0.37 % where text only is 0.27% and articles with Images get 94% more total views (Bullas, 2015). Wishpond's data states that posts that include photos receive 120% more engagement than the average post, while posts that include photo albums received 180% more engagement (Kristin, 2013). Photos are huge on

Facebook and they get more Likes, comments and click-through than other type of content. So, we propose that more Image posts lead to a more user's engagement toward the brand post. Therefore, we formulate:

H1: Image posts have a significant positive impact on generating Comments on Fan pages.

H6: Image posts have a significant positive impact on producing Likes on Fan pages

H11: Image posts have significant positive impact on producing shares on Fan pages.

3.2 Video Post

In this study, the number of videos collected that are related to products of particular fan-pages. The videos may include feature videos or entertaining videos of product. This type of contents accounts about 18 % of total collected posts. A video is more vivid than a picture because this feature stimulates not only sight, but also hearing (Lisette, 2012). When marketers target to enhance the number of likes, they can post a highly vivid contents characteristics such as a video. In 2017, video will account for 69% of all consumer internet traffic, according to Cisco (Cisco, 2016). For any social media campaign, video is one of the best tools in the social media marketing tool-kit (Trimble, 2014). According to a new Ascend survey conducted in September 2015, titled "Video Marketing Strategy," the vast majority of marketers are seeing positive results from their use of videos. In fact, about 87 % said that their video marketing effectiveness is increasing, and half of these marketers claimed that the increase is "significant." When marketers upload video directly into Facebook, they can see 40% higher engagement rates because it has a longer shelf-life (Frasco, 2013).Thus, we propose that more video posts lead to a more user's engagement toward the brand post. Therefore, we formulate:

H2: Video posts have a significant positive impact on generating Comments on Fan pages.

H7: Video posts have a significant positive impact on producing Likes on Fan pages

H12: Video posts have significant positive impact on producing shares on Fan pages.

3.3 Interactive Post

Items collected were posts related to Quiz, questions/gap filling, survey, vote contents, urgent call to get promo offers and clustered them as interactive posts (Zoha R. K., 2016). Among the all posts this types of posts accounted total 17%.Asking question for opinions on something is vital in fan pages because people love to answer questions, and this will definitely drum up interactivity between page and brand fans (Hines, 2011). For brands that want fan pages to have added value (a reason for users to join the page, aside from brand loyalty), but do not want to become a resource portal; offering contests and coupons specifically to Facebook users can entice consumers to join (Balwanee, 2009). In Fan pages there are some popular posts that ask the users to do any action or to participate in any action to get some benefit. This types of posts are called interactive post that try to keep interact with the users regularly. Interactivity is defined as "the degree to which two or more communication parties can act on each other, on the communication medium, and on the messages and the degree (Liu, 2002). Managers who specifically want to enhance the number of comments should post a highly interactive brand post characteristic at the brand post (Lisette, 2012). Another result interpreted that the Interactive post has strong impact in creating Comments and Shares (Zoha R. K., 2016).

Expected that higher degrees of interactivity will generate more likes, comments and shares.

H3: Interactive posts have significant positive impact on generating Comments on Fan pages.

H8: Interactive posts have significant positive impact on producing Likes on Fan pages

H13: Interactive posts have significant positive impact on producing shares on Fan pages.

3.4. Informative posts

In the informative contents analysis we collected contents on product news, related product news, related articles posts, product tips, apps information posts, job placement posts, new product launching information pasts, event updates. About 20% of posts are information posts in total. For many organizations, the first step in the use of social media platforms is to use them for information announcements (Hallikainen, 2015). From the perspective of an individual the social media platforms can be utilized for searching information, maintaining contact networks, locating job opportunities etc. (Hallikainen, 2015). Companies use the information as added value to have consumers create a connection with the brand (Balwanee, 2009). Information-seeking is significant reason for people to use social networking sites (Lin, 2011), participate in a virtual community (Dholakia, 2004). Followers of brand are eager to hear about the latest news and information is the flowing economy of the 21st century, this is true especially for networks like Facebook, users are hungry for more information (Rocheleau, 2015). Besides, the search of information clarifies why people prefer brand-related posts in Facebook (Muntinga, 2011).Furthermore, previous investigation explored that people have a tendency to show positive attitudes toward informative advertisements on social media (Taylor, 2011). Therefore, fan page users might have more affirmative intention to engage more toward informative brand contents.

From the above study can be formulated the following Hypothesis.

H4: Informative post is significantly positive in generating Comments

H9: Informative post is significantly positive in generating Likes

H14: Informative post is significantly positive in generating Shares

3.5 Entertaining posts:

In this research, entertaining posts categorized as contents that are not exactly related to products particular fan-pages. These are those types of posts that may include some contents unrelated to product features (Social issues, funny images or videos, user review posts or user gifts announcements). In the fan pages, about 12% contents are entertaining posts entertainment encourage people to consume, create or contribute to brand-related content online (Muntinga, Introducing COBRA's: Exploring Motivations for brand related social media use., 2011). The entertainment value of a social networking site is an important factor for using it (Dholakia, 2004). Hence, if the contents are entertaining, users' or followers' motivations to engage or contribute to the content are met.

The following hypothesis can be formulated.

H5: Entertaining post is significantly positive in generating Comments

H10: Entertaining post is significantly positive in generating Likes

H15: Entertaining post is significantly positive in generating Shares

4. Sample selection and data

For sampling, non- probability sampling technique was followed. In the study the researcher has investigated types of contents or posts of the Malaysian B2C (Business to Consumer) companies according to the number of user base. Fan-pages were filtered according to their variation in contents. Fan pages those are active in posting regularly selected and samples of Fan pages according to three criteria also selected: 1) variation of contents 2) post regularity 3) number of users. Frequency data of posts and fans actions was recorded daywise. For data collection was followed Netnography technique, that

is we started collecting data from 1st September 2016 until 30th August 2017 from 19 Malaysian brands' Fan pages. Total of 3543 posts throughout the time duration were explored as data in 12 months. Besides posts' data, also collected number of likes, comments and shares given for each post. After collecting the data, data of users' actions were rechecked (Comment, like and Shares). After completion of each month to ensure the actual number of users' action. Post contents information manually and explored different variations in posts in the sector of fan pages were collected.

The average number (M) of brand fans was 14,310,798 per brand; the number of posts taken into account in this research was, on average, 129.09(SD=123.06) per Fan page; the average number of likes per brand post was 298123.7(SD=387343.7), the average number of comments per brand post was 3876.1 (SD=6954.363817), the average number of shares per post was 8202.5 (SD= 21734.4). The data shows quite a degree of variation across and within categories of PTA metrics (comments, likes, shares)

5. Methodology

In the study, the collected data from each Fan pages according to date, were clustered into 12 months. And finally Panel Data Multidimensional Analysis to develop the regression model were selected. The researcher used panel data analysis because the multiple observations on each unit can provide superior estimates as compared to cross-sectional models of association (Greene, 2003). For Panel Data Multidimensional Analysis, following three models were checked.

5.1 Pooled OLS Regression Model

Here pooled 223 observations together and run the OLS regression model, neglecting the cross section and the time series nature of data. The major problem with this model is that it does not distinguish between the various Fan pages that we have. In other words, by combining 19 Fan pages by pooling, the heterogeneity or

individuality that may exist among the Fan pages were denied. Finally, rejected pooled OLS model, because independently pooled panel assumes that there are no unique attributes of individuals within the measurement set. But in our study, all Fan pages were not same as the variation of the users in Fan pages were high. The Fan pages average user rate was 12,489,782 with a high SD (Standard Deviation) value 13036.17.

5.2 Fixed Effect or LSDV Model

The fixed effect model or LSDV model allows for heterogeneity or individuality among 19 Fan pages by allowing to have its own intercept value (Cameron, 2005). The term fixed effect is due to the fact that although the intercept may differ across the Fan pages, but intercept does not vary over time, that is it is time invariant

5.3 Random Effect Model (REM)

This model indicated that for the 19 Fan pages we have common mean value for the intercept as the REM allows for having a common mean value for the intercept.

6. Result Interpretation

The effects of the potential explanatory variable on the Fan pages PTA metrics (Like, Comment, Shares) are evidently different.

6.1 Total Comments

The model for the Total comments is significant as a whole (F-value=9.877, p-value 0.000038) and clarifies the variance of the dependent variable soundly well (R2 =87.80%, adj. R2 =79%). Therefore it can interpret that the overall 88% comments in a Fan page is because of the studied contents. And remaining 12 % comments come from other posts not found in the study.

The image post is significant and positively related to the number of Comments (Beta= 0.37, p-value 0.03) in support of Hypothesis 1 (H1). The Video post is not significantly related to the number of comments, so we cannot accept Hypothesis 2 (H2). The interac-

tive is also positively related to the number of comments significantl (Beta=0.59, p-value=.002) supporting the Hypothesis 3 (H3). Ir formative post is significantly related to the number of comment (Beta= 0.47, p-value= .003) supporting Hypothesis 4 (H4). Enter taining post is not significantly related to number of comments re jecting Hypothesis 5 (H5).

6.2 Total Likes

The model for the number of Likes is significant as a whole (F value=33.28, p-value=0.02) and explains the change of the deper dent variable strongly well (R2 =98%,adj. R2 =93.0%). Therefor it can interpret that in the Brand pages 98% Likes are because of th studies variables. And remaining 2% likes derives from other post

The Image post characteristics are not significantly related t the number of Likes, contrary to hypothesis 6 (H6).The Video po characteristic is significantly and positively related to the number c likes (beta= 0.77, p-value=0.012), in support of hypothesis 7 (H7 Similarly, Interactive Posts is significantly related to the number c like with a positive impact (beta= .832, p-value=0.0012) confirmin Hypothesis 8 (H8). Informative post is strongly supportive to accep Hypothesis 9 (H9) and positively correlated. Entertaining post is als evidently significant to support Hypothesis 10(H10) with a positiv beta value (P= .0024).

6.3 Total Shares

The model for the number of Shares is significant as a whol (F-value=5.231, p-value=0.036) and describes the adjustment c the dependent variable reasonably well (R2 =78.0%, adj. R =59.0%). Form this analysis it can interpret that 78% of total share of a Fan page is because of indicated contents.

Image posting is not significantly related to the number of Share and we cannot confirm hypothesis 11 (H11). Besides, Video pos is significantly related to the number of shares having a positive in

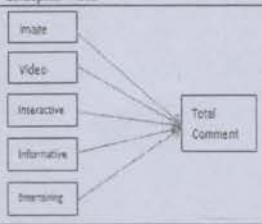
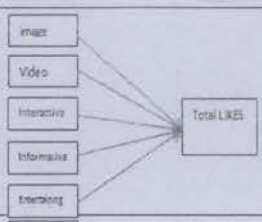
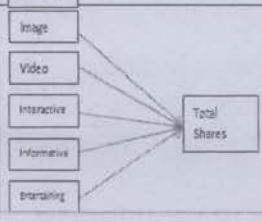
pact (beta= 0.53, p-value=0.04) confirming to accept the Hypothesis 12 (H12).Interactive posts characteristics also positively and significantly related to the number of shares (B= 0.63, P-value=0.017) supporting to Hypothesis 13(H13). Informative posts are not significantly influential (P-value= .12) in generating shares leading to reject Hypothesis 14 (H14). Entertaining posts are also not significantly (P-value=.23) related to generate share, resulting to reject Hypothesis 15(H15)

6. Conclusion

The study explored the all types of content from the 19 global brand pages and showed the impact of all contents on generating PTA actions. Social networking Managers can be channelled by our findings in deciding which content to post in fan pages. The study also explored that not all elements which are valuable for improving the number of likes do also have an effect on increasing the number of comments, shares and vice versa.

The study showed clearly overall how much percentage of total PTA actions is created because of which posts. If a manager want to increase the comments in a fan page , he need to publish more Interactive posts, as one post of interactive content , comments is expected to be increased by a significant amount. Also the Interactive posts in Brand pages increases the number of likes and shares most significantly. Similarly, Video posts play the most important role in increasing number of Shares in case of Fan pages. Informative post is essential to generate both likes and comments. Image postings are not valuable in producing likes or shares. Entertaining contents are not influential in generating comments and shares. This may be because of consumers are more interested towards the product related information rather than unrelated funny post. So in case of entertaining posts, users just consume the post by putting likes, but not contribute by putting comments or shares.

Table 1 - Summary table

Model	Conceptual Model	Model Acceptability	Hypothesis	Acceptability
Model-1		Accepted	H1: Image to Comment is significant	Accepted
			H2: Video to Comment is significant	Rejected
			H3: Interactive post to Comment is significant	Accepted
			H4: Informative post to Comments is Significant	Accepted
			H5: Entertaining post to Comments is significant	Rejected
Model-2		Accepted	H6: Image to Like is significant	Rejected
			H7: Video to Like is significant	Accepted
			H8: Interactive post to Like is significant	Accepted
			H9: Informative post to Like is significant	Accepted
			H10: Entertaining post to Likes is significant	Accepted
Model-3		Accepted	H11: Image to Shares is significant	Rejected
			H12: Video to Shares is significant	Accepted
			H13: Interactive post to Shares is significant	Accepted
			H14: Informative post to Shares is significant	Rejected
			H15: Entertaining post to Shares is significant	Rejected

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