Fanpage Viral Metrics Analysis "Study on Frequently Posted Contents"

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Abstract: Social media channels admirable route for promotion close relationships with customers. One specific way to do this is to create brand fanpage on social networking sites. Companies can publish brand posts (containing images, texts, videos, information and other contents) on their brand fanpage. Consumers can become fans of these brand fanpages and consequently signpost that they like the brand post or share the brand information or comment on it. Such commenting, liking or sharing on brand posts enhances fanpage PTA (People Talking About) metrics, in support of increasing user's viral actions. And these viral activities of users foster the fanpage popularity. In this study, we determine possible drivers for PTA metrics and user's viral actions. We analyse 1834 brand posts from 13 international electronics brands and data was collected from December, 2014 to August, 2015. The findings indicate that different drivers influence the number of comments, likes and the number of shares in different way. Our research shows 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. In the study we collected information on all types of brand posts and picked the most frequently posted items (Contents) to determine their impact on generating user engagement. Managers of brands that operate brand fanpages can be guided by our study result with regards to determining which content to publish at brand posts according to their requirements.

INTRODUCTION

Despite these promising opportunities to market brands and products and to get in touch with (potential) customers, the success of fanpages varies and is by far not guaranteed (Chui, 2009). Even though a few studies take a look at fanpages and companies within SNS (Yu and Kwok, 2011) the driving factors behind the number of active users on fanpages are still unexplored. Thus, the rarcher empirically investigate from companie's fanpage perspective-the posts influencing the number of active users on fanpages taking into account the different contents features that companies are using to stimulate user's activity and engagement on their fanpages in SNS.

Different posts on brand fanpages do not exhibit same level of responsiveness. Users engage differently according to different types of posts. It is now vital for the managers to know the contribution of different types of contents from the practical perspective. In the study, we investigated the contribution of mostly posted content in generating fans engagement. In past, several studies have been conducted on fanpages content analysis but most of them were conducted regardless considering company types or product category. Definitely, users react differently towards the contents according to product category. In our study, we analysed the contents of electronics companies which will guide the electronics companie's managers to take the proper decision regarding social media content management strategy. The study revealed the types of contents that are posted in the electronics fanpages and made a comparative analysis, finally picked the most frequently posted contents to make analysis to show their original effectiveness in increasing user engagement rate.

We gathered data from different brand fanpages on a social networking site to test our hypotheses. The rarchers investigated nine month's data of fanpages of 13 global electronics companies. Data was collected according to date and panel data was analysed by taking 118 observations. Total 1834 posts were taken into account to make analysis. The sequence of this study is

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as follows; first, we described brand fanpages user engagement activities in fanpages and descriptive statistics of fanpage posts and then develop the conceptual framework and hypotheses. The initial division is followed by an explanation of the study design. The empirical results is then defined and discussed. We summarize, the result with implications for managers and propose some limitations that offer openings for further research.

Fanpage: A Facebook page is a public profile specifically created for businesses brands, celebrities, causes and other organizations. Even though Twitter and YouTube are large social media networks, Facebook provides a marketing ecosystem that is multi-media rich and broad. Information posted on this pages appears on the page itself as well as in its fan's personal news feeds. By creating a fanpage within Facebook, companies can generate revenue from a variety of technical features (Ellison, 2007). Prior research emphasized that these technical features allow for a viral spreading and an interactive exchange of information (Gallaugher and Ransbotham, 2010). First, a company can generate the interaction with users by publishing a company wallpost. Thereby, companies can choose a range of media types (e.g., video, photo, text, app wallpost) in order to blow-out information the most suitable way (Yu and Kwok, 2011). Second, also the users of Facebook can relate to a company for example by commenting, liking or sharing on a company wallpost. The comments generated by the users are listed directly below the corresponding company wallpost in consecutive order. Moreover, users can ratify company wallposts by liking them (Joinson, 2008) and thereby allowing the posts to publish in real time into the news feeds of their friends (Debatin *et al.*, 2009). Also users can dynamically and virally spread company wallposts among their friends via Facebook's implemented "share" button. Thus, the majority of user's responses on company wallposts and company comments can be expected to happen within one day. Third, users can "like" a whole fanpage (instead of liking a single company wallpost) and convert overtly a fan of this company. This "opt-in mechanism" for continuous communication creates a close contact to the company's fans (Harris and Dennus, 2011). Since, every wallpost is routinely pushed into the news feed of all fans, they can be simply kept up-to-date and a huge audience can be grasped (Debatin *et al.*, 2009). Finally, the defined technical features of fanpages within Facebook permit companies to dispense and exchange information virally and vastly efficient within the social networks.

Fanpage engagement and viral reach: Fanpage engagement is the sum of post clicks, likes, comments, shares, post hides, hides of all posts, reports of spam and page unlikes from a post. According to simply measured (Link of information source) engagement is likes, comments and shares; however, according to Facebook, it's likes, comments and shares, as well as clicks on the post (e.g., opening a picture, clicking on "play" on a video, clicking through a link). So, number of Likes, comments and shares contribute to increase total engagement. Another important metrics is PTA (People Talking About). This metric is part of the engagement metric. What makes "people talking about this" different from the engagement metrics that it summarizes the number of fans who did something to show engagement to their friends.

The PTA "people talking about this" metric only measures three types of actions; likes, comments or shares and this PTA is called the "viral" metric (Link of information source). 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). But If someone is tagged in a post that is also included in PTA. PTA (T) doesn't count people who engage with your content but their interactions. (Link of information source) 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 fanpages, 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. So, managers should know which posts are encouraging users to do actions on likings, commenting or sharing.

Fanpage post statistics: We categorized this type of post as the videos those are completely related to product or product updates. This content contributed about 16% of total postings. But these videos in Brand' pages can be categorised into two groups:

Feature video: In case of electronics brands there are some videos those are created to show product's using feature, details products demonstrations, technical elements, comparative version analysis, expert panel interview video or product characteristics featuring videos. Among the total 300 collected video posts, this feature video contributes about 42%.

Entertaining video: These videos also related to product, but do not show products features in details. It may take

form in commercial videos, broadcasted TV advertisement or any entertaining video in combination of music, human amusement elements. This content dominates 58% of total videos.

Vote content: In electronics fanpages, some posts ask the users to give their vote on certain product feature or updates. This content accounted <1% of total post.

Urge to act post: These are the posts that urge or ask the users to do some actions to get any benefit shortly, e.g., To participate any contest to win prize, to give suggestions to get discount to take part in survey to do any action to get bonus or discount or any promo code). This content contributes around 9% of total posts.

Question/gap filling: Electronics companies sometimes ask some questions to users regarding technical issues, updated version or satisfaction level. Of the total posts, this type hold the share of 5%.

Quiz: There also remains some post related to quiz holding around 1% of total post.

Product launch information: Electronic fanpages publish content on new product or feature launching information. This content may contain link, text, image and video. This is the most responsive post in electronics fanpages holding 2% frequency of total posts.

Text on product information: Few companie's posts just text related to product. This content contributes <1% to total post.

Apps post: This post asks the users to use some apps or to download apps or to update apps related to products. Of the total posts, Apps post is 1%.

Users review post: This post shows the user information; user activities, user's bonus point, user's winning result or any thank giving post to users. Of the total post, users review post is 1%.

News post: In the fanpages, electronics companies post news related to product. News may be on particular product, related product or related technological issue. It may contain link to any news portal, link to other social site, text. About 2% post is news post of the total post.

Article post: Electronics companies frequently post studys on technical issues, product features, product's
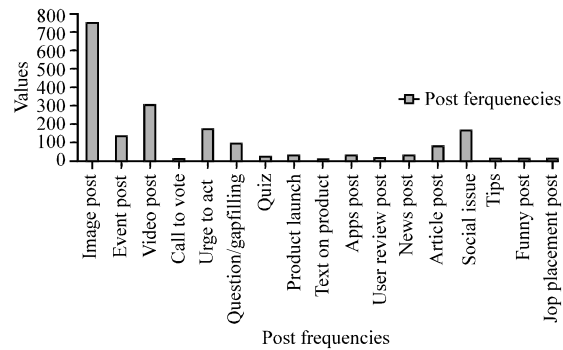

Fig. 1: Post frequency (%)

variations, product's comparisons and expert review. This post may contain text with images, link to other sites. The 4% of total posts are article post.

Social issue: There are some posts that are not exactly related to product rather related to social issues. It may be post on CSR (Corporate Social Responsibilities) social problems, social awareness, technological deficiencies or other social related topics. May contains text, video, link to other websites. This post generates high engagement and of the total posts, about 9% posts are social posts.

Tips: Some limited companies post contents on Tips on technical issues. The <1% posts are tips post.

Funny post: There are some posts, not related to product containing funny or hilarious post. May contains test, video, images. Exactly 1% posts are funny post.

Job placement post: Some companies post contents on job information in their companies or job placement facilities, recruitment advertisements. The <1% post is job related post in Fig.1.

Conceptual frameworks and hypothesis: In the previous study, we identified the types of contents those are posted in the fanpages by the electronics companies. In our final analysis, we picked or selected the most frequently posted contents to determine their impact on PTA metrics (viral impact) or overall comments, likes and shares. In our study, the most frequently posted items are; image (related to product), video (related to product) and urge to act posts. Hypotheses are developed according to previously conducted study and practically founded data (Fig. 2).

Image post: One way of enhancing the salience of brand posts is to include vivid brand post characteristics.
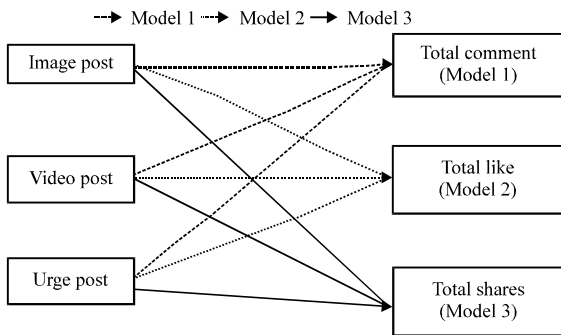
Fig. 2: Conceptual model

Vries *et al.* (2012) vividness can be achieved by the inclusion of dynamic animations, (contrasting) colours or pictures (Cho, 1999) one study revealed that photos on Facebook pages received 53% more likes than the average post (link of information source) engagement rate on facebook for photos averages 0.37% where text only is 0.27% and articles with images get 94% more total views (Bullas, 2015). This percentage difference is substantial and it emphasizes a huge opportunity for businesses to use photos and images as a means to increase likes and comments and thus edgerank (Bullas, 2015). Edge rank is Facebook's visibility algorithm based on user's interaction with Facebook page content. Boosts in likes helps increase Edge rank which can then cause a page's content to appear in news feeds more often, increasing visibility (Corliss, 2015). Wishpond's data (link of information source) says that posts that include photos receive 120% more engagement than the average post, while posts that include photo albums received 180% more engagement. Photos are huge on Facebook. 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. This engagement leads fans to like or comment or share on a brand post. Therefore, we formulate:

- H_1: image posts have a significant impact on generating comments on fanpages
- H_4: image posts have a significant impact on producing likes on fanpages
- H_7: image posts have significant impact on producing shares on fanpages

Video post: A video is more vivid than a picture because the former stimulates not only sight but also hearing (Vries *et al.*, 2012). When managers aim to enhance the number of likes they can place a highly vivid or a medium interactive brand post characteristics such as a video. By 2017, video will account for 69% of all consumer internet traffic, according to Cisco (link of information source). For any social media campaign, any SEO exercise, video is without doubt one of the best tools in the kit (Trimble, 2014). According to a new Ascend 2 survey conducted in September, 2015; titled (link of information source), "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 we upload video directly into Facebook, we can see 40% higher engagement rates because it has a longer shelf-life and we can also have the ability to tag people in the video.

We propose that more video posts lead to a more user's engagement toward the brand post. This engagement leads fans to like or comment or share on a brand post. Therefore, we formulate:

- H_2: video posts have a significant impact on generating comments on fanpages
- H_5: video posts have a significant impact on producing likes on fanpages
- H_8: video posts have significant impact on producing shares on fanpages

Urge to act post: In electronic fanpages 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 and Shrum, 2002). We expect that higher degrees of interactivity will generate more likes, comments and shares:

- H_3: urge to act posts has a significant impact on generating comments on fanpages
- H_6: urge to act posts has a significant impact on producing likes on fanpages
- H_9: urge to act posts has significant impact on producing shares on fanpages

Study design: Table 1 is showing the operationalization of variables.

Sample selection and data: For sampling, we followed non-probability sampling technique. We filtered out the fanpages according to two requirements 1, contents regularity of the fanpages (on daily basis) 2, contents

Table 1: Operationalization of variables

Explanatory variable	Variable clarifications (types of contents) (normalized data of frequency number)
Image post	Profile/cover pictures post
	Product's image post
	Image with details text about product
	Image with a link of product's details
	Image with a link to other social site
	Image with a link to the company websites
Video post	Video demonstrating all parts of a product
	Video about tips and user manual
	Video describing product's technical issues
	Video related to product upgrading issues
	Videos that do not show product features exactly but related to company
	Video demonstrating company image
	Other entertaining videos related to products
	Video post also may contain videos poste from youtube
Urge to act post	Posts that urge users to share a particular post to get Promo offer
	Posts that urge users to participate in any contest toget special prizes
	Posts that urge user to buy product to get discount
	Posts that urge users to put suggestions on particular model or feature to get promo offer
	Post the urge users to refer an offer to their online friends to get promo offer
	Posts that urge users to like a particular post or page to get promo code
	May contains text, image or videos

Fig. 3: User statistics

variations of the fanpages (not only limited to specific types of contents). We collected data according to date and rechecked that frequency after completion of one month. In the case of Facebook, it has been summarized that 70% of all user actions on wallposts happen within 4 h and about 95% are received within 22 h (Ruiz *et al.*, 2014).

Finally we selected 13 global electronics brand' fanpages and empirically investigated data of 13 international brands that were actively posting content at their brand fanpages from December 2014 to August 2015. We gathered the number of likes, comments, shares on a brand post, through a total of 1834 brand posts.

The average number (M) of brand fans was 11,579,881 per brand; the number of posts taken into account in this research was, on average, 141.07 (SD = 182.66) per fanpage; the average number of likes per brand post was 179147.9915 (SD = 488648.8949), the average number of comments per brand post was 2968.222222 (SD = 6954.363817) the average number of shares per post was 9402.495726 (SD = 31724.05468). The data shows quite a degree of variation across and within categories of PTA metrics (comments, likes, shares).

MATERIALS AND METHODS

In the study, we collected data from each fanpages according to date and clustered them into 9 months (December 2014 to August 2015). And finally, we selected
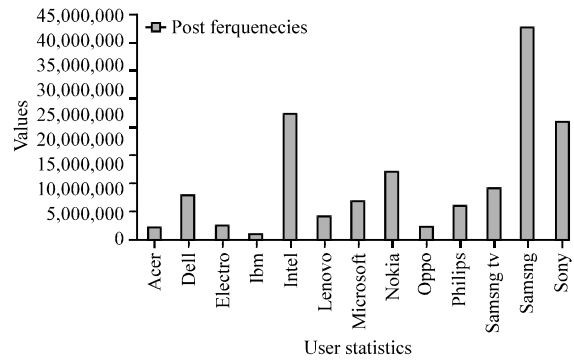
panel data multidimensional analysis to develop our regression model. We use panel data analysis here because the multiple observations on each unit can provide us superior estimates as compared to cross sectional models of association (Greene, 2003). For panel data multidimensional analysis we checked following three models.

Pooled ols regression model: Here, we pooled 118 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 fanpages that we have. In other words by combining 13 fanpages by pooling we denied the heterogeneity or individuality that may exist among the fanpages. Finally, we 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 fanpages were not same as the variation of the users in fanpages were high. The fanpages average user rate was 11, 579, 881 with a high SD (Standard Deviation) value 12046736.14 (Min.: 11, 579, 881 and Max.: 42, 248, 945). The user statistics is shown on Fig. 3.

Fixed effect or LSDV Model: The fixed effect model or LSDV model allows for heterogeneity or individuality among 13 fanpages by allowing to have its own intercept value (Cameron and Trivedi, 2005). The term fixed effect is due to the fact that although the intercept may differ across the fanpages but intercept does not vary over time, that is it is time invariant.

Random effect model: This model indicated that for the 13 fanpages we have common mean value for the intercept as the REM allows for having a common mean value for the intercept (Cameron and Trivedi, 2005).

RESULTS AND DISCUSSION

Data analysis: For data screening, model testing, model estimation and analysis we used EViews 9. In our study, there are three models:

- Model 1: total comment
- Model 2: total likes
- Model 3: total share

Data testing

Normality test: The data collected from the fanpages was not normally distributed as the Jarque-Berra statistics for all variables were <5%. So, we converted data into log and turned into normally distributed data.

Multicollinearity test: We checked the multicollinearity of the variables. No variable is overlapping and there is no problem of multicollinearity.

Model testing

Total comment (Model 1)

Fixed and random effect testing: We estimated the fixed effect model and random effect model for the analysis of this model. After estimation we tested the model through Hausman testing (Correlated random Effect-Hausman test). In this test, the Chi-sqr probability value was <5%. So, we select fixed effect model. We tested the fixed effect model through wald test. For the testing of fixed effect model, we have taken 12 dummy variables as we have 13 fanpages. Fixed effect model can be estimated in many ways. One of the ways is using dummy variables (Greene, 2003) and that is why we have taken dummy variables here. In the wald test the probability value (P) of F-statistics is very tow (close to 1%) that is <5%. So, finally the decision to select the fixed effect model is appropriate.

Total like (Model 2)

Fixed and random effect testing: We tested fixed and random effect through hausman test and as the p-value of Hausman test is <5%. We select fixed effect model and tested the fixed effect model through Wald test which was significant to accept fixed effect model.

Total share (Model 3):

Total share (Model 3): We tested fixed and random effect through hausman test and the p-value of hausman test is >5% (p = 0.21 so, we were unable to reject null hypothesis and accept the random effect model.

Residual testing

Total comment (Model 1): We selected fixed effect model for the analysis of Model 1 and analysed the actual/fitted

residual graph and table. We tested residual diagnostics. In this case, residual was not auto-correlated as the Durbin-Watson value for the residual was 1.3 that is near to 2. Besides, we checked residual normality and the Jarque-Bera p statistics was above 79% which indicated the normality of data.

Total like (Model 2): We selected fixed effect model for the analysis of Model 1 and analysed the actual/fitted residual graph and table. The residual for this model was not auto-correlated as the durbin watson value was 2.5 % indicating no serial correlation problem. For the normality testing Jarque-Bera p-value was 41%, confirming the normality of data.

Total share (Model 3): We selected random effect model to analyse this model and diagnosed the residual as well. The Durbin-Watson value is 1.7, confirming having no autocorrelation problem. The Jaque-Bera probability for normality was 20% indicating normality of residual.

Result interpretation: The effects of the potential explanatory variable on the fanpages viral metrics (Like, comment, shares) are evidently different.

Total comments: The model for the total comments is significant as a whole (F-value = 9.955, p-value = 0.000059) and clarifies the variance of the dependent variable soundly well ($R^2 = 86.90\%$, adj. $R^2 = 78\%$). So, we can interpret that the overall 87% comments in a fanpage is because of images, videos and urge posts. And remaining 13% comments come from other posts.

The image post is significant and positively related to the number of comments ($\beta = 0.44$, p = 0.02) 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 urge post is also positively related to the number of comments significantly ($\beta = 0.57$, p = 0.002) supporting the Hypothesis 3 (H3).

Total likes: The model for the number of Likes is significant as a whole (F = 23.28, p = 0.00) and explains the change of the dependent variable strongly well ($R^2 = 93\%$, adj. $R^2 = 89.0\%$). So, we can interpret that in the electronics brand pages 93% likes are because of images, videos and urge posts. And remaining 7% likes derives from other posts.

The image post characteristics are not significantly related to the number of likes, contrary to Hypothesis 4 (H4). The Video post characteristic is significantly and positively related to the number of likes ($\beta = 0.67$, p = 0.015) in support of Hypothesis 5 (H5). Similarly, urge

to act posts is significantly related to the number of like with a positive effect (β = 0.902, p = 0.0003) confirming Hypothesis 6 (H6).

Total shares: The model for the number of shares is significant as a whole (F = 4.311, p = 0.015) and describes the adjustment of the dependent variable reasonably well (R^2 = 37.0%, adj. R^2 = 28.0%). Form this analysis, we can interpret that 37% of total shares of a fanpage is because of image, videos and urge post. And 63% shares occur because of the other posts not included in the model.

Image posting is not significantly related to the number of shares and we cannot confirm Hypothesis 7 (H7). Besides, video posts is significantly related to the number of shares having a positive impact (β = 0.61, p = 0.02) confirming to accept the Hypothesis 8 (H8). Urge to Act posts characteristics also positively and significantly related to the number of shares (B = 0.59, p = 0.008) supporting to Hypothesis 9 (H9).

Managerial implication: Social networking managers can be guided by our research with regards to deciding which content to publish at brand posts. Our research shows 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. Also a new social networker can get an idea about the all types of posts in electronics fanpages and the frequency rate of those posts.

The study showed clearly overall how much percentage of total viral actions is created because of which posts. If a manager want to increase the comments in a fanpage he need to post Urge to Act posts as one post of this content, comments is expected to be increased by a significant amount. Also the urge to Act posts in electronics brand pages increases the number of likes most significantly. On the other hand, video posts play the most important role in increasing number of shares in case of electronic fanpages.

Study limitation and scope for future research: This study is subject to some limitations which may offer prolific possibilities for future research. The study is conducted by counting the frequency of the comments, likes and shares to determine the user's viral actions. In this frequency counting a very small portion of frequency may have the actions of the companies as they also comments, likes or shares. In the research, we identified all types of posts those are published in fanpages. But, we picked the most frequently posted item to make analysis and to show their impact. In future, we can have a research on showing the impact of all posts particularly.

In the study, we conducted panel data analysis but did not show any time impact or post timing variation. We did not embrace dynamic aspects in this study. The timing of the comments, likes and shares to the brand post might be explored. For example when do people react; mostly in the few hours after the brand post is created or also after a few days? This sort of evidence can be used to figure out how many days between two brand posts successfully increases user's viral actions. Besides, the 'adoption' curve of comments, likes and shares can be modelled if we know how long it takes before a certain number of people comment, like or shares on a brand post. In near future, we can have a research showing the response variation according to date. We have collected data from the brand fanpages of one social networking site (Facebook fanpages). It would be fascinating to reproduce this research for other social networking sites, to see whether the results still hold or not. We have investigated the data to show their impact on the users viral activities (like, comments, shares). In future, it will be possible to show the impact of the viral metrics with the overall user's engagement.

In decision, this research urges to the call for research into social media and more precisely to determine, how social media can be used to manage PTA metrics, online communications and branding. Future research may enhance our initial findings about the factors that determine the users viral and engagement action as discussed in this study.

CONCLUSION

The study reveals the types of contents posted by global electronics companies and the impact of three important contents (image, video, urge to act) on users PTA (People Talking About) metrics of fanpages. Overall the three indicated contents are significant to produce PTA engagement. Urge to Act post is considered to be the interactive post and most prominent in enhancing user comments. Also video posting contributes greatly in generating likes/shares. Image postings are important to produce only comments in case of fanpages. Since the result is based on actual user action on fanpages, it will contribute largely for the practitioners as well academician in SNA (Social Networking Analysis) to take decision strategically.

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REFERENCES

Bullas, J., 2015. Win at business and life in a digital world. Forbes, New York, USA. jeffbullas. com //6-powerful-reasons-why-you-should-include-ima ges-in-your-marketing-infographic/.

Cameron, A.C. and P.K. Trivedi, 2005. Microeconometrics: Methods and Applications. 1st Edn. Cambridge University Press, New York, ISBN: 9780521848053, Pages: 1056.

Cho, C.H., 1999. How advertising works on the WWW: Modified elaboration likelihood model. J. Current Res. Advertising, 21: 34-50.

Chui, M.M., 2009. Six ways to make web 2.0 work. McKinsey & Company, New York, USA. https://profesores.ing.unab.cl/~gbadillo/archivos/c ursos/management-information-systems/Papers%2 0and%20Readings/Six%20ways%20to%20make%2 0Web%2020%20work.pdf

Corliss, R., 2015. Photos on Facebook Generate 53% More Likes than the Average Post. HubSpot, Inc., Cambridge, Massachusetts,.

Debatin, B., J.P. Lovejoy, A.K Horn and B.N. Hughes, 2009. Facebook and online privacy: Attitudes, behaviors and unintended consequences. J. Comput. Mediated Commun., 15: 83-108.

Ellison, N.B., 2007. Social network sites: Definition, history and scholarship. J. Comput. Mediated Commun., 13: 210-230.

Gallaugher, J. and S. Ransbotham, 2010. Social media and customer dialog management at Starbucks. MIS. Q. Executive, 9: 197-212.

Greene, W.H., 2003. Econometric Analysis. 5th Edn., Pearson Education Co., New Jersey, ISBN: 9788177586848, Pages: 1026.

Harris, L. and C. Dennis, 2011. Engaging customers on Facebook: Challenges for E-retailers. J. Consum. Behav., 10: 338-346.

Joinson, A.N., 2008. Looking at, looking up or keeping up with people: Motives and use of facebook. Proceedings of the SIG-CHI Conference on Human Factors in Computing Systems, April 5-10- 2008, Florence, Italy, pp: 1027-1036.

Liu, Y. and L.J. Shrum, 2002. What is interactivity and is it always such a good thing? Implications of definition, person and situation for the influence of interactivity on advertising effectiveness. J. Advertis., 31: 53-64.

Ruiz, M.C., M.J. Parreno and B.S. Sanz, 2014. Key drivers of consumer loyalty to Facebook fan pages. Online Inf. Rev., 38: 362-380.

Trimble, C., 2014. The guardian: Small business network. The Guardian, UK. http://www. theguardian. com/small-business-network/.

Vries, D.L., S. Gensler and P.S. Leeflang, 2012. Popularity of brand posts on brand fan pages: An investigation of the effects of social media marketing. J. Interact. Marketing, 26: 83-91.

Yu, B. and L. Kwok, 2011. Classifying business marketing messages on facebook. Association for Computing Machinery Special Interest Group on Information Retrieval, Bejing, China.