

Social Networks: The reliability of facebook pages towards an increase of fans' feedback

¹Mohcine Kodad*

²El Miloud Jaara

³Mohammed Erramdani

^{1,2}LARI - Faculty of Science, University Mohammed First, Oujda, 60000, Morocco.

³ESTO Team, University Mohammed First, Oujda, 60000, Morocco

Abstract—This article tackles the social networks. It actually gives an analysis about the reliability of facebook pages according to fans' feedback, based on an online survey in order to figure out Facebook users' needs and recognize their satisfactions according to their posts. This paper also presents an experimentation that we have achieved, so as to know the most attractive types of posts by which we set a strategy to increase the feedback rate.

Keywords— Social Networks, Facebook pages, post, fans, Feedback, Reach rate

I. INTRODUCTION

The Social networks are used almost everywhere, at home, at school, at work, with cell phones, etc. They play an important role in the social relations of individuals. According to major web references such as "Alexa Internet" which is the most famous web site to provide statistics on the global web traffic [1], Facebook is the leader of social networks, and it is the second most visited website in the world after "Google". Indeed, facebook offers three types of services, as "personal profiles", "facebook pages" and "groups". However what interests us in this paper is the facebook pages that are not the same as the personal profiles, the last one (according to the facebook definition) are reserved for non-commercial use and represent individuals, while facebook pages are dedicate to offer an unique tools for companies, brands and organizations and help them to share their stories and connect with people [2].

And as for the profiles, you can customize the pages by publishing news, organizing events, adding applications, etc. People who like your page and their friends can receive updates in the News Feed [2]. Which is a bit contradictory to statements Facebook recently released, especially the one with the title "Generating Business Results on Facebook", we can read as follows: « But content that is eligible to be shown in News Feed is increasing at a faster rate than people's ability to consume it... People are connecting to more Pages and individuals every day... But to maximize delivery of your message in News Feed, your brand should consider using paid distribution, as it enables you to reach people beyond your fan base and move beyond the organic competition. » [3]. So we can conclude from this statement that if we want our posts on facebook page are seen in the news feed of users, we have to pay.

In this document we will analyze some questions trying to find out answers for some frequently problems that encounter the facebook users. Many question can be formulated in this fact, some users are asking: Why facebook does not declare the exact number of views to the sharing posts? Some others say: If we invest in increasing the number of fans, will this help or assure to keep the number of views higher? Is it the rate of views still or variable accordingly to the number of fans? There is even this question: Does having many fans mean having a high number of views? Or less fans fewer views?

Previous studies have embarked upon the theory of planned behavior from multi-disciplined points of view to predict various behaviors; ranging from psychology (see [4]), sociology (see [5]), management (see[6]), marketing(see[8]),computer science(see[9]), to information systems (see [10]) disciplines. Moreover, several studies also found that the TPB would better help to predict health-related behavioral intention [11] given that TPB has improved the predictability of intention in various health-related fields such as leisure (e.g.,[12]), and exercise(e.g.,[13]). The online survey is an important tool that many organizations use it, to write data and statistics to determine the views and preferences of individuals who compose it, from the study of a sample of participants in the online survey [7]. To help us in analyzing some questions, we felt the need to create an online survey, which was conducted from November 17th, 2014 to November 21st, 2014 by Computer Science Research Laboratory (LARI) at the Mohammed first University - Oujda, with a sample of 1000 students from different universities of the world, and as a condition essential that these students must have a Facebook account and must also be fans of some Facebook pages. We will display all results of this study in the following sections, and this survey is named "SryFB2014" in all of this paper.

We will also present an experiment that can explain the big difference between the views rates of the different types of posts ("link", "photo", "status") and also the basis of this experiment we were be able to determine the type of post most effective in facebook pages, and we also proposed a strategy that allows to increase more feedback to posts with an effective way.

The rest of this paper is structured as follows. In section 2 the paper discusses the social-networking sites, its advantages and the famous facebook, the section 3 presents the problems and methods, the section 4 talks about data analysis, results & discussions; we end with a conclusion in the section5.

II. SOCIAL-NETWORKING SITES AND FACEBOOK

A. Social-networking: Advantages?

Nowadays, we can realize that social networks such as Facebook, Twitter and others are totally ubiquitous. It is in the beginning of 2000s that the communication will be transformed with the coming of the first social networks like Facebook and Myspace. For this main reason, at this moment, the real giant of social network is definitely facebook

The spectacular growth of subscribers in social networks is alarming. Take for example the Facebook site, which in just five years has increased from 14,083 to more than 800 million users. So we can say that these statistics show how social networks are located in our lifestyle. Therefore, we must be able to assess the impact. Let's start with the positive impact of these technologies. Obviously, the use of social networks includes several benefits that are widely known. Indeed, it is easy to use, inexpensive, and usually free, it allows rapid exchange, but especially with these technologies, it is now possible to reach thousands of people almost instantly. Furthermore, social networks engendered several advantages over the emotional health of people:

- Making new friends and finding old friends:

Recent studies in psychology have found that the fact of having instant discussions with people to whom we feel connected to, lead to a happy life. Since people feel less isolated and supported by their virtual friends. In fact, since the majority of individuals have a facebook account; it is easy for them to find old friends by simply typing their name. This connection with the past has an emotional positive effect.

- Sharing opinions, knowledge and assistance:

The social network websites help the internet users to share their thoughts, opinions, and feelings with the others. Therefore, sharing private experience is healthy on the emotional level. Facebook facilitates sharing resources, knowledge, and confidential information. You can, therefore, influence others and make a difference on their lives by simply sending them supportive messages.

B. Facebook

Facebook is an online social networking site that allows its users to interact by sharing information via personnel profiles. Facebook was launched in 2004 at Harvard university, it was initially limited to this university, but was then expanded to other American universities and by September 2006, began to spread worldwide. Since this year, Facebook has become widely endorsed by students and young generations. Facebook offers its members the ability to use optional features named "applications", represented by small boxes in the user's profile. These applications modify the user's page and enable him to put or exchange information with its visitors. What's more, Facebook permits its user to post messages on its members' walls. It is generally considered continuously as a good medium to interact with people from all over the world, from different ages, and different backgrounds.

Facebook has also offered the notion of "Groups" in September 2004, as one of its major characteristics. Besides, it allows its users to create interest groups aiming at voicing common concerns. It seems that this practice could be to a great extent expanded beyond the interpersonal relationships. It is also recorded that many of the students create Facebook groups interns of their curriculum, thing that incredibly contributes in the fast and the massive spread of knowledge. It is consequently salient to use Facebook in an effective and professional way. Pages creation extremely serves in capitalizing business knowledge concerning various scientific topics, as for closed groups or semi publics gather members having the same project. Thanks to interests centers compilation posted by users, Facebook selects the appropriate groups and pages in the aim of enriching one's knowledge.

III. PROBLEMS & METHODS

A. Satisfaction of feedbacks to facebook posts

According to the survey **SryFB2014** about pages owners and to find out how much they are satisfied about their fans feedbacks to their posts, we collected the following results (see Fig1).

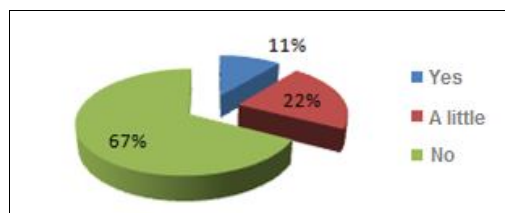


Fig. 1 satisfaction of fans feedbacks

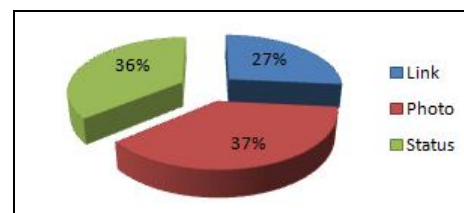


Fig. 2 different types of facebook post

To understand the reasons behind the dissatisfaction that they respond we also asked people who chose "no" and "A little" to give more explanation, and that what we found out :

- A lack of interactions, I hoped for much more.
- There are some people who like the page but rarely the content and they almost never participate to comment or even sharing posts.
- Not enough feedbacks on News page.
- The numbers of post viewers is not normal.

Depending on these remarks above we raise two problems, feedbacks and post view problem (reach).

B. Types of facebook posts

Facebook classifies posts into three types or categories namely "Link", "Photo" and "Status". To find the type of the most shared posts on Facebook, a question was asked on SryFB2014 which was mentioned in the Introduction, and we find out that (see Fig2).

According to Fig2, that represents some results in SryFB2014, 27% of people prefer to share "links", 36% of people share "Status" and 37% shares "Photo".

PS: the number of participants as mentioned before is 1000 students. However, the question is that each one of them has the right to choose one or several types of posts they share on facebook as an answer.

- Link:

The link is a type of facebook posts that is rated third in the classification of the most used patterns of posts by facebook users with 27% according to our survey (see Fig2). This pattern of posting on facebook collects the URL addresses internal or external that are shared or sent via private messages. Facebook considers the videos as external links as well.

- Photo:

The photo is a sharing pattern the most used on facebook. It is rated in the first position with 37% according to our survey (see Fig2) this type of posts collects images and videos shared on facebook.

- Statuts:

It is a type of post facebook, ranked in 2nd position after the type "photo" with 36% , but not a lot of differences with the category "Photo" as the rate of sharing implies (see Fig2), this type of post brings everything that sharing or exchange on facebook but with only text, this type is often used to express.

C. Different sharing options on facebook

Facebook offers three options involved in a direct way the interactions of facebook's "fans" and "friends", So it is "Share", "Like" and "Comment", It's true that each option has a special mechanism and a specific role but the three options intersect in one mechanism: that is sharing. We will address it in the following paragraphs.

Returning to our survey, we put a question to find the most desirable option by Facebook users and here are the results (see Fig 3).

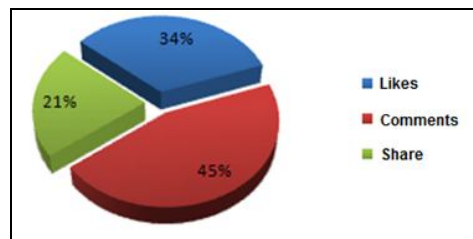


Fig. 3 The most desirable option by Facebook users

PS: the number of participants as mentioned before is 1000 students .however, the question is that each one of them has the right to choose one or several options as an answer.

- Sharing:

Sharing is a mechanism that allows sharing the post and making it visible to all our friends and fans as well, taking into consideration the post confidentiality. This latter appears automatically in fans' or friends' news feed. According to a survey we have done, only 21% of facebook members' feel like sharing their posts (see Fig3).

- Like:

Like is a Facebook mechanism by which one expresses his admiration toward a post. However, it has the same role as sharing. To explain, once click on "Like", it will automatically be launched in friends' news feed that their friend X clicked on "Like" on a post Y. According to Fig3, 34% of Facebook users' wish having "Likes" on their posts.

- Comment:

Comment is a mechanism that enables Facebook users' to express their minds, whether by posting a text, an image or even a link. It will automatically be launched in friends' news feed that their friend X has commented a post Y and this surely depends on the post's confidentiality. According to Fig3, the "Comment" is the most desired mechanism: 45% of Facebook users' feel like having comments on their posts.

IV. DATA ANALYSIS, RESULTS AND DISCUSSIONS

A. The reliability of facebook pages

Several definitions exist for the "reliability" word, but in general we say a system is reliable when it is likely fulfill its mission in a given period corresponds to that what it was specified before[14]. for a facebook page manager, the reliability is to have a minimum of "reach" according to his posts, so having a number of people who saw his post is acceptable, especially now with the new facebook strategy that allows administrators facebook pages to check the detailed statistics of each post including the exact number of "reach" (see Fig 4 and Fig5).



Fig. 4 Statistics and the number of "reach" for some post



Fig. 5 The number of "people reached" in a post

However the number of "reach" required us, to put some questions and remarks. For example: How can we have the value of reach? It is proportional to the type of post like (photo, link, status), or it is to feedbacks like (share, like, comment)? Or it is depending to the number of fans?

B. Experience

To answer to these questions, we have established a test, by publishing a single post in six existing facebook pages that we manage (see Fig6), using different types of facebook posts.

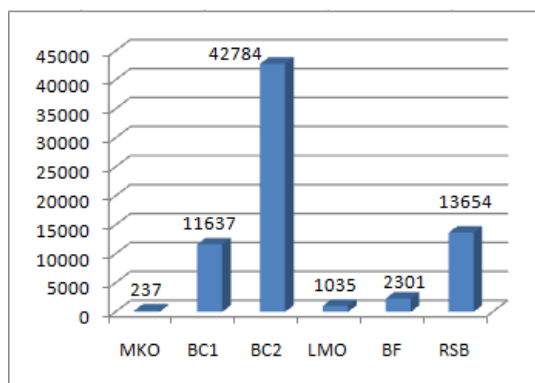


Fig. 6 Fans number for each facebook page used in this experience

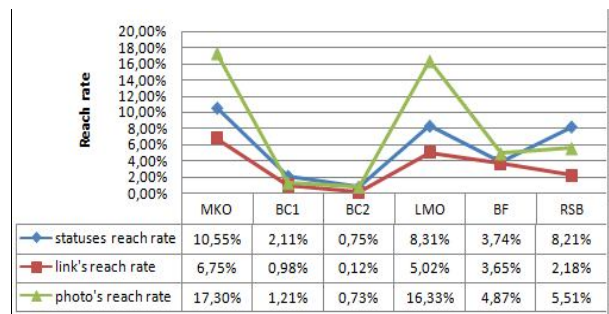


Fig. 7 The reach rate for each post types

PS: MKO, BC1, BC2, LMO, BF and RSB are the abbreviations of the pages name that we manage.

Going back to our experience, first we started by the case (1) with "Status" type, the case (2) with "link" type, and we ended with the cases (3) a "Photo" type. After 24 hours we found the following results:

Case (1): Sharing Status

TABLE I
RESULTS ANALYSIS OF « REACH » IN FACEBOOK PAGES SHARING A STATUS

Page Name	MKO	BC1	BC2	LMO	BF	RSB
Fan Number	237	11637	42784	1035	2301	13654
Likes	0	1	5	0	2	45
Comments	0	0	3	2	1	20
Shares	0	0	0	0	0	1
Reach	25	246	323	86	86	1121
Reach Rate	10.55%	2.11%	0.75%	8.31%	3.74%	8.21%

Case (2): Sharing Link

TABLE II
RESULTS ANALYSIS OF « REACH » IN FACEBOOK PAGES SHARING A LINK

Page Name	MKO	BC1	BC2	LMO	BF	RSB
Fan Number	237	11637	42784	1035	2301	13654
Likes	0	1	0	1	0	10
Comments	0	0	0	1	2	2
Shares	0	0	0	0	0	1
Reach	16	114	53	52	84	298
Reach Rate	6.75%	0.98%	0.12%	5.02%	3.65%	2.18%

Case (3): Sharing Photo

TABLE III
RESULTS ANALYSIS OF « REACH » IN FACEBOOK PAGES SHARING A PHOTO

Page Name	MKO	BC1	BC2	LMO	BF	RSB
Fan Number	237	11637	42784	1035	2301	13654
Likes	5	7	22	18	5	102
Comments	1	1	6	1	1	13
Shares	0	0	0	0	0	1
Reach	41	141	311	169	112	752
Reach Rate	17.30%	1.21%	0.73%	16.33%	4.87%	5.51%

After gathering these results (see Table I, Table II and Table III), we tried to compare the values of reach rate for each facebook pages (see Fig7).

The reach rate is calculated according to this formula:

$$\text{Reach Rate} = \text{Reach Number} / \text{Fan Number}$$

From the results above (see Table I, Table II, Table III and Fig7), we can now answer some of the questions asked before and we can also extract some unknown information, such as:

- More the facebook pages get fans fewer reach rates gets.
- The "Photo" type is the best post in term of reach rate.
- The "Link" type is the lowest post in term of reach rate.
- More the number of feedback increases more the reach rate increases (eg. RSB page).

C. Increase feedback strategy

According to the results described previously, we have seen that the "link" post type is the weakest in term of feedback or relatively to the reach rate. While several facebook pages especially those belonging to websites, webmasters just create them to share links of the content in their website, which is a problem because the reach rate of "link" posts type which is the lowest in the results before (see Fig7). To solve this problem we started a test on a post with our own methods, so we were able to identify some manual methods that can help us to increase the feedback rate and then increase the number the views.

But firstly it is necessary that the page posts are correct and real, so the facebook page can be reliable source of information and have the confidence of fans. However, the "picture" and "title" are two important elements that can bring a lot of users if they appear attractive. But also the post must be transmitted to a "photo" post type, to benefit from the "identify" mechanism, which is necessary to target more people who's interested by the topic, so have more feedback. Last but not least the interesting element that gives more reputation to the facebook page is the "fans motivation".

- Picture:

The picture has a very important role for a post to be attractive and to be able to bring a maximum of feedback, for example: if you publish a link, there is a picture associated with it. So it is very important that the picture appears with attractive manner. We have seen some posts without any picture and their chance to be clicked and shared is almost null.

- Title:

It is necessary that the facebook post is intriguing and the title gives everybody desire to "click", "like" or "share" the post. So always write an attractive title to the publisher himself.

- Identify:

Identifying a person in posts, including status, links and photos is extremely important. The identification permits to share this post with a great number of people. As a result, it facilitates Facebook users' feedback. Furthermore, making identification creates a link allowing people to know more. Besides, the identified people receive a notification that enables them to see the content. The post appears in their profiles and in their friends' news feed as well.

- Fans motivation:

Motivating fans is all about answering the questions that they asked in the comments, it proves that you are listening to them and are receptive to their comments or feedback. We must also suggest topics to discuss; try to solve their problems and their interests, and organizing events or competitions, for example: the top comment, the best photo, etc.

D. Sample Application

To share a link to a website in the most reliable manner to get an important feedback, we must apply the strategy described in (IV-C.). As we know the most seen post type on Facebook is "photo" (see Fig7), thus we will transmit this link as a type "photo" and we will respect this strategy by identifying 30 people to this post, we found the following result (see Table IV).

TABLE IV
RESULT OF FEEDBACKS SHARING A "PHOTO" IN LMO PAGE

Page Name	LMO
Fan Number	1035
Likes	36
Comments	17
Shares	2
Reach	1865
Reach Rate	180.19%

This table (see Table IV) describes the results gathered after sharing a "photo" on LMO page, and as you will see, the value rate of "reach" has increased significantly. With our new strategy, we found as reach rate 180.19% instead of 16.33% that we had before (see Fig7). In this case the number of reach exceeds the number of fans, we also found an interesting feedback (36 likes, 17 comments, 2 shares) instead of ((18 likes, 1 comment, 0 share), see (Fig7)). This result came from fans, or identified persons or theirs friends.

V. CONCLUSIONS

We have seen in this paper the different types of post and we have determined the type of post the most popular among Facebook users with the survey we developed, and also the most effective in the facebook strategy by giving experimentation with results found.

We also highlighted the dissatisfaction of the owners of Facebook pages towards the feedbacks of their fans and seen rates, proposing a strategy and say static methods that help increase feedback posts and therefore the viewers rates, but also we can find a way to study the behavior of the fans, to make an application that helps an automatic way to increase feedback posts and this will be the focus of our next work.

APPENDIX

Sample Survey Items

- 1) Which type of post do you like to share?
- 2) Why do you share these posts?
- 3) What do you expect from sharing them?
- 4) If your posts are not reliable, what do you do?
- 5) How do you fill when your posts get a lot of likes?
- 6) Do you put like on a post that you appreciate?
- 7) When you share a post, what do you prefer?
- 8) Give a mark from 1 to 5 for each facebook options.
- 9) Are you an owner of a facebook page?
- 10) Are you satisfied from fans feedback?
- 11) If you have thousand fans, how much of "reach" are satisfying for you?



REFERENCES

- [1] L. Vaughan & R. Yang (2013). Web traffic and organization performance measures: Relationships and data sources examined. *Journal of Informetrics*. 7(3): 699–711.
- [2] Facebook Help Center: <https://www.facebook.com/help>
- [3] Facebook for business: <https://www.facebook.com/business>
- [4] S. Casper (2007). How do technology clusters emerge and become sustainable? Social network formation and inter-firm mobility within the San Diego biotechnology cluster. *Research Policy*. 36: 438–455.
- [5] H. Kim, E. Karpova (2010). Consumer attitudes toward fashion counterfeits: application of the theory of planned behaviour. *Clothing and Textiles Research Journal*. 28(2): 79–94.
- [6] Sh.Ye,H.Chen,X.Jin (2006). Exploring the moderating effects of commitment and perceived value of knowledge in explaining knowledge contribution in virtual communities. *The Tenth Pacific Asia Conference on Information Systems (PACIS)*, 2006.
- [7] M. Kodad, EM. Jaara & M. Erramdani (2014). Online Surveys in Social Networks for Greater Transparency and Credibility. *American Journal of Intelligent Systems*. 4(3): 73-76.
- [8] S. Kalafatis, M. Pollard, R. East, M. Tsogas (1999). Green marketing and Ajzen's theory of planned behaviour: a cross-market examination. *Journal of Consumer Marketing*. 16(5): 441–460.
- [9] M. Siponen (2000). A conceptual foundation for organizational information security awareness. *Journal of Information Management and Computer Security*. 8(1): 31–41.
- [10] E.Huang, M. Chuang (2007). Extending the theory of planned behaviour as a model to explain post-merger employee behaviour of IS use. *Computers in Human Behavior*. 23(1): 240–257.
- [11] I. Ajzen (1988). *Attitudes, Personality, and Behaviour*. Dorsey Press, Chicago.
- [12] I. Ajzen, B. Driver (1992). Application of the theory of planned behaviour to leisure choice. *Journal of Leisure Research*. 24(3): 207–224.
- [13] M. Nguyen, L. Potvin, J. Otis (1997). Regular exercise in 30- to 60-year-old men: combining the stages-of-change model and the theory of planned behaviour to identify determinants for targeting heart health interventions. *Journal of Community Health*. 22: 233–246.
- [14] R. Mirandolac, P. Potenab, E. Riccobenea, P. Scandurrab (2014). A reliability model for Service Component Architectures. *Journal of Systems and Software*. 89: 109–127.