

Effective Facebook population: the Italian case

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Abstract According to data provided by Facebook Administration (Facebook Statistics), the social network has now more than 845 million users, of whom 483 million are active. But are these data real? It's very difficult to find information about this issue, because of the lack of Facebook metadata and official statistics about social networks diffusion. In this work, we will try to answer these big questions, comparing Facebook statistics with ISTAT Multipurpose Survey Data. In this paper we will list some problems related to Facebook statistics, trying lastly to estimate the minimum amount of "fake" or inactive profiles on Facebook in Italy.

1 Effective Facebook population: some questions

Facebook (hereinafter FB) was born in 2004 and, on March 2011, crossed a symbolic line: the overtaking of Google as more visited web site in USA (according to HitWise statistics [2]). FB provides some demographics data about his population: 845 million users, of whom 483 million are active [an active user is a person who logs on to platform at least once a day]. But are these data real? Just kidding, we can say that FB population exceeds USA population (around 308 million). How many "real people" are behind these profiles? It's very difficult to answer to this question because of the lack of metadata provided by FB.

In this work we will try to answer some interrogatives, comparing FB Administrative Data with ISTAT Multipurpose Survey Data: we will compare these two sources both by age and by gender, with reference to Italy. We will try to give a look to the number of "fake" or inactive profiles on FB, introducing a debate about the effective use of FB in Italy and promoting some remarks about the differences in FB utilization over gender and age. Finally, we want to underline the importance of questions concerning the use of social networks in Official Statistics.

2 The ISTAT Multipurpose Survey

ISTAT Multipurpose Survey Data is a system of social surveys concerning a wide range of topics. Starting from 1993, it is articulated on seven different surveys: aspects of everyday life, health conditions and use of sanitary services, citizens and free time, citizen's safety, families and social subjects, use of time, trips and holidays. Multipurpose Survey provides two different data collection techniques, a telephonic survey and a face to face survey. It also provides different sampling schemes. Those data collections are based on local administrative offices spread on Italian territory at two different levels: regional and municipal. In this procedure, regional ISTAT offices (about one per region) are instructed about the structure of the survey, like questionnaires, instructions and time schedule. After this step, every regional office contacts selected municipalities. Every municipality has to co-ordinate the second stage of sampling selection, concerning families sampling, interviewers' recruiting and data collection on the field. The population of interest of the survey is composed by families resident in Italy and by their members. The aim of Multipurpose Survey is to collect data about different subpopulations and to fulfil estimates about these ones.

3 A comparison between ISTAT Multipurpose Survey and Facebook demographics

In 2010 Multipurpose Survey questionnaire, about aspects of everyday life, ISTAT inserted a very interesting question concerning social networks. The question was not specifically related to FB, but to the use of Social Networks in general. Respondents was asked to indicate if they are or they used or not a Social Network (FB, Twitter, MySpace and so on) in the last three months. According to FB Data [4] at February 2010, in Italy there were 14.640.420 FB profiles, but Italians that declared to use Social Networks once every 3 months was only 11.903.796 [5]. Comparing these data can lead to some remarks about the unreliability of FB statistics about their users. We will try to explain the causes of that in the next paragraph.

3.1 *“Fake” or inactive profiles: a methodological definition*

What “fake” or inactive FB profiles are? First of all, FB rules [3] states that “you will not provide any false personal information on FB, or create an account for anyone other than yourself without permission (rule 4.1); you will not create more than one personal profile (rule 4.2). Sometimes these rules are violated; we can identify some different situations: (i) Double Profiles: a profile created by a real person that doesn't use it because he/she has got another effective profile, daily or frequently using. The other profile is neglected or can also be inaccessible (e.g. password forgotten). (ii) Fake Profiles: a profile created for fun with a false name and false pictures. It can be used to kid or “spy” someone with a friendship request. (iii) Irregular Profiles: a profile that does not represent a person but an association, a company, a shop, a restaurant, and so on, notwithstanding the fact that this is forbidden by FB rules,

because for this kind of subjects it is necessary to open a FB page. (iv) Dead person Profiles: FB gives people the possibility to "memorialize" the profiles of friends and relatives who have died. The platform invites family members to report when one of its users had died, in order to remove information such as updates and contacts. FB requires a proof of death, as an obituary or newspaper cutting. Unfortunately, only few people use this option, so we can find several profiles of persons who have died. Lastly, there could be inactive profiles: these are licit profiles but the user, after the creation or a few uses, never connects with the social network, never updates, never checks messages or wall: the profile is abandoned, but it is counted in FB statistics.

3.2 ISTAT data and Facebook statistics by gender and age

Table 1 shows the differences between ISTAT Multipurpose Survey and FB statistics (on February 2010).

Table 1: Comparison between ISTAT data and Facebook demographics (February 2010)

Age class	Facebook		Istat		Facebook-Istat		Diff. % M+W
	Men	Women	Men	Women	Men	Women	
0-18	1.436.340	1.422.020	1.343.401	1.321.761	92.939	100.259	+7,2
19-24	1.625.420	1.571.240	1.105.467	1.053.383	519.953	517.857	+48,1
25-29	1.172.880	1.042.800	811.584	791.437	361.296	251.363	+38,2
30-35	1.223.860	996.820	966.463	765.703	257.397	231.117	+28,2
36-45	1.473.040	1.057.920	1.269.584	957.652	203.456	100.268	+13,6
46-55	667.400	436.400	615.347	410.141	52.053	26.259	+7,6
56+	349.460	164.820	313.431	178.441	36.029	-13.621	+4,6
Total	7.948.400	6.692.020	6.425.277	5.478.518	1.523.123	1.213.502	+23,0

FB statistics offer information about registered profiles, ISTAT counts people active in social networks in least 3 months: notwithstanding, we can do some remarks from the comparison. First of all, the proportion between men and women is respected, as it is respected the proportion among different age classes too. Nevertheless we can find a huge divergence between the two different kinds of data, as shown in column [FB-Istat] of table 1. To better explain, we can follow an example: if the number of registered Italian profiles in FB is 100 and the Social Network users in Italy are 80, 20 could be considered as the minimum amount of "fake" or inactive profiles. Looking at table 1, in Italy this number was 2.736.625 (February 2010): therefore the 23% of profiles were "fake" or inactive.

Most "fake" or inactive FB profiles in Italy can be found in the class age 19-24 (32%). They may be teenagers that want to appear older than their effective age, in order to make new friendship through FB. The less attractive classes of age are over 56 (only 4% "fake" or non active profiles), 46-55 (only 7%) and 0-18 (7% too). It's very interesting to observe that 178.441 women in the age class "over 56" declare in ISTAT Multipurpose to use a Social Network, but, according to FB Data, there are only 164.820 profiles of women in this class of age (13.621 are "missing").

We can explain this result in two different ways: first of all, the women in the class of age over 56 might use a different Social Network (Twitter, or other) and not use FB at

all. Another hypothesis is that women over 56 don't declare their real age in their FB profile. It should be very interesting to deepen this result with a specific survey.

4 Some conclusions

This simple analysis offers some interesting point by comparing ISTAT Multipurpose data with FB Statistics. We can list some remarks:

- internet population is growing day by day. Official Statistic might deepen investigate this new population by using new survey methods too (e.g. web survey);
- it might be important to collect European official data about Social Network and the overall use of Internet (ISTAT offers these data for Italy) in order to perform the elaboration for other countries;
- FB statistics seems to overestimate profiles (at least 23% of them are “fake” or inactive). This highlights the need for FB metadata to better analyze their statistics;
- it can be interesting to delve into the use of Social Network (in particular FB) by classes “19-24” and “over 56” (especially for women of this class of age). It might also be very interesting to deepen the comparison between the results of this first evaluation with a specific Survey on these topics.

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