

**The role of social Media in the agricultural activity in Algeria
Online survey**

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CHINE Lazhar
Boumerdes University.
drlchine@gmail.com

BALOULI Houssame Eddine
National School of Statistics and Applied Economics
Balouli.houssame.eddine@gmail.com

الملخص:

يهدف هذا البحث الى تحليل دور فيسبوك في النشاط الفلاحي في الجزائر. تعتبر مواقع التواصل الاجتماعي خاصة فيسبوك من أهم مصادر الحصول على البيانات في العالم نظرا لعدد المشتركين فيها من جهة والبيانات الشخصية للمشاركين من جهة أخرى. لقد وجدنا من خلال تحليل النتائج أن فيسبوك سيكون له دور مهم في النشاط الفلاحي في الجزائر وخاصة فيما يتعلق بالتواصل الاشهار وتنظيم المعارض الفلاحية

الكلمات مفتاح: فيسبوك. استبيان الكتروني. النشاط الفلاحي.

Abstract: This work aims to analyses the role of Facebook in the agricultural activity in Algeria. Social networking sites especially Facebook are considered as the most important resource of data in the world due to the number of people registered on the one hand and their Personal data on the other hand. It is an online survey. We find that Facebook will play a great role in the future of the agricultural activity in Algeria, especially in the communication, the marketing, and the organization of agricultural exhibitions.

Key words : Facebook. Online survey. Agricultural activity.

INTRODUCTION

Donald Reagan announced the start of a new era in a speech (June 1989): “Information is the oxygen of the modern era. It seeps through the walls topped by barbed wire, it wafts across the electrified borderers, and the goliath of totalitarianism will be brought down by the David of microship”¹. It is the beginning of the spread of the internet and access to personal data of citizens. The emergence of social networking sites contributes in the phenomenon: people subscribes, give their personal information freely without any force by governments, and give their locations, friends, and other important information.

1- Social Media Network Sites (SNSs)

Since their introduction, social network sites (SNSs) such as Facebook, Twitter, LinkedIn and others have attracted millions of people. SNSs vary in their ability to share files, pictures, videos, and other types of data. A Social Media Network Site is not a product, but a feature which make it power².

1-1- Definition of Social Media Network Sites

We can define (SNSs) as web-based services that allow people to construct a profile within a bounded system that contain a list of other users with whom they share a connections and views³. In addition, Social Media Network Sites refers to the means of interactions among individuals in which they create, share, consume, and exchange information and ideas in virtual communities and networks⁴. It is the idea of the Mark Zuckerberg the creator of Facebook (September 2011): “We exist at the intersection of technology and social issues”. Kaplan and Haenlein (2009) define Social Media as a group of interest-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user-generated content.

¹ Newton lee, Facebook Nation Total information Awareness, 2014, Springer.

² Chui M. Manyika J. Bughin J. Dobbs R. Roxburg C. Sarrazin H. Sands G, The social economy: unlocking value and productivity through social technologies, 2012.

³ Denah M. Boyd & Nicole B. Ellison, Social Network Sites: Definition, History, and scholarship, 2008, Journal of Computer Mediated Communication.

⁴ Sophie Stanley, Harnessing Social Media in Agriculture, 2013, report for the New Zealand Nuffield Farming Scholarship Trust, Nuffield.

Profiles are unique pages where one can “type on self into being”⁵. After joining a Social Media Site, an individual is asked to fill out forms containing a series of questions about personal and professional information in order to construct his profile. The visibility of a profile varies by site and according to user desire. Using Social Media Sites allows an individual to find other users according to their profiles information, friends, contacts, and followers.

1-2- Types of Social Media Network Sites

1-2-1- Twitter

Twitter is an online social media site, which limits the messages you send to only 140 characters long. These messages or tweets give users the power to share and create ideas quickly and efficiently across the world.

1-2-2- YouTube

YouTube is a video streaming service, which allows users to create and upload videos to the website, which then can be shared videos to other users.

There are other Social Media platforms such as LinkedIn, which is a professional social networking, Instagram, which is a photo-sharing platform, and many other social media sites.

1-2-3- Facebook

Facebook is social networking website that was designed the first time for college students, but is now open to individuals 13 years of age or older. It founded in February 2004 by Mark Zuckerberg and others⁶. Cambridge dictionary define Facebook as a website where you can show information about yourself, and communicate with groups of friends⁷.

According to WikiLeaks founder Julian Assange⁸ “Facebook in particular is the most appalling spying machine that has ever invented. Here we have the world’s most comprehensive data bases about people: their relationships, their names, their addresses, theirs locations, and their communications with each other...”

⁵ Sundén J, Material Virtualities, 2003, Peter Lang.

⁶ Dustin Moskovitz, Eduardo Severin, Andrew McCollum, Chris Hughes.

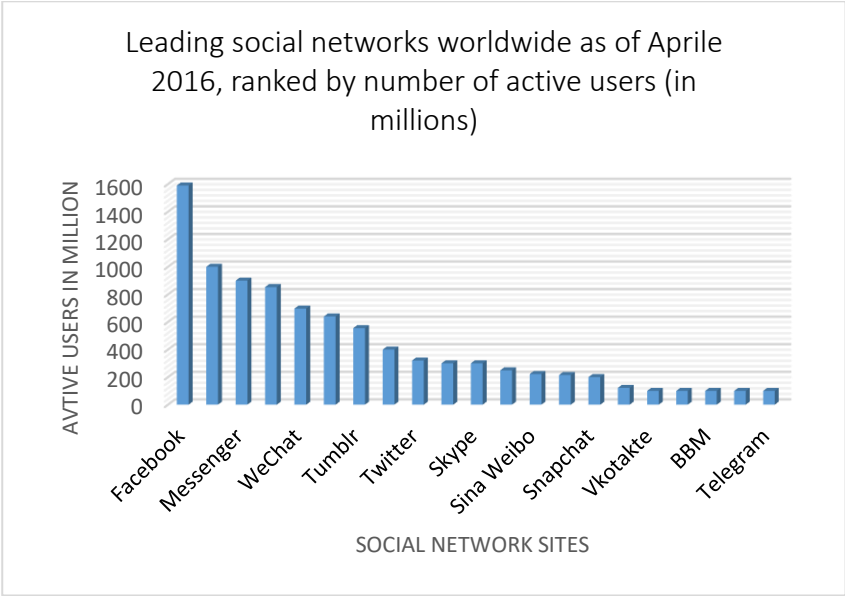
⁷ <http://dictionary.cambridge.org/dictionary/english/facebook>.

⁸ September, 2011.

Facebook is used in many ways. Many companies use Facebook as a marketing channel⁹. In addition, Facebook used to encourage people to read (library Facebook page)¹⁰.

1-3- World Statistics about Social Network Sites

1-3-1- Social Network Sites in the world



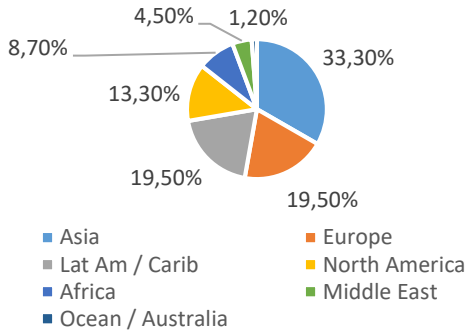
Source : <http://www.smartinsights.com/social-media-marketing/social-media-strategy/new-global-social-media-research/>

This statistics provides information on the most popular networks worldwide as of April 2016, rankly by number of active accounts. Facebook was the first social network to surpass 1 billion registered accounts and currently and currently sites at 1.6 billion monthly active users, 7% more than its competitor WhatsApp. Following from this, we find QQ with 9%, WeChat with 8% and Qzone with 7%.

⁹ Linnea Hansson. Anton Wrangmo, Optimal ways for companies to use Facebook as a marketing channel, 2013, Emerald.

¹⁰ Christopher Chan, Using online advertising to increase the impact of a library Facebook page, 2016, Emerald.

Facebook Subscribers in the World by Regions - June 2016

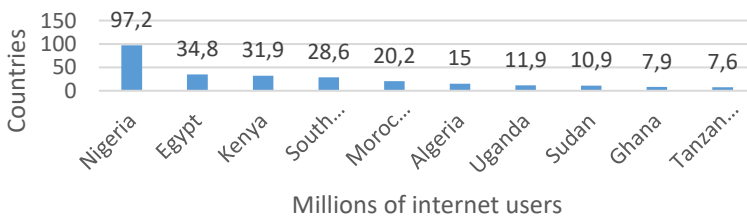


Source : <http://www.internetworldstats.com/facebook.htm>

According to these statistics, 70% of Facebook users are from Europe, Asia, Latin American and Caribbean. While, the lower percentage of Facebook users is in Australia (1 %).

1-3-2- Internet and Facebook use in Africa

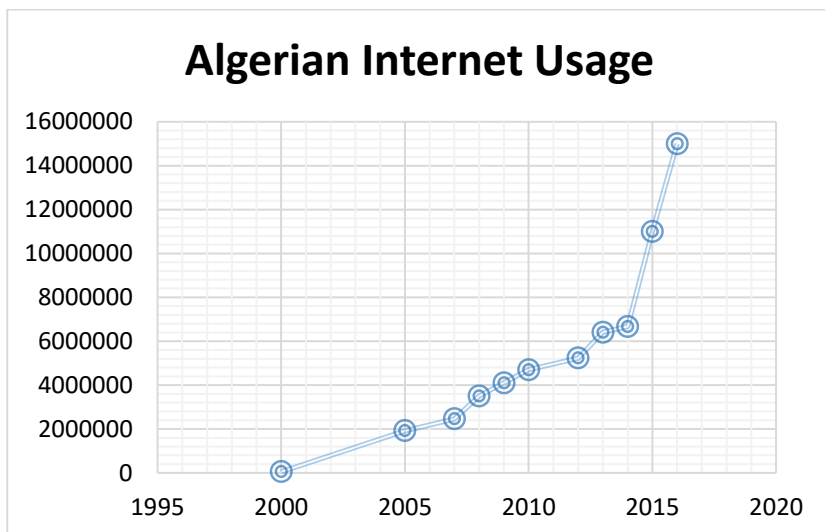
Africa top 10 countries in internet (June, 2016) in millions



Source : <http://www.internetworldstats.com/stats1.htm>

In Africa, 25 % of the population are internet users, more than $\frac{1}{4}$ of them from Nigeria. Egypt, Kenya, South Africa, Morocco, and Algeria has more than 10 million subscribers for each country.

1-3-3- Internet and Facebook use in Algeria



Source : <http://www.internetworldstats.com/af/dz.ht>

According to Facebook, there are 15 million Facebook users in Algeria in June 2016. In Algeria, internet use has become widespread especially in the last two years, when the percentage of internet users represent $\frac{1}{4}$ of the population.

1-3-4- Facebook and agricultural activity in Algeria

There are many Facebook pages talk about the agricultural sector, food Industry, and animal Husbandry. These pages display various agricultural products, agricultural statistics, the latest technologies used in agricultural activity, agricultural exhibitions and modern irrigation methods. In the communication context, these Facebook pages help farmers connect with each other, and coordination among themselves. These are examples of agricultural Facebook pages:

- Filaha agro dz¹¹.
- Agriculture news¹².
- Agrivi¹³.
- Statistiques agricoles¹⁴.

¹¹ <https://www.facebook.com/Filaha-Agro-dz-170831602984085/?ref=ts&fref=ts>

¹² <https://www.facebook.com/A.A.Algerie/?ref=ts&fref=ts>

¹³ <https://www.facebook.com/AgriviCorp/?ref=ts&fref=ts>

¹⁴ <https://www.facebook.com/dsasi.madrp/?ref=ts&fref=ts>

There are more than 100000 followers of these pages: farmers, Engineers in agriculture, producers, and industrialists. They interact with all the events that are related to agricultural activity.

2- Surveys

Businesses and researchers in different fields conduct surveys to uncover answers to specific and important questions. These questions are varied, and can be asked in several ways and meanings.

2-1- Definition of a survey

A survey is method of collection data in a consistent and systematic way. A survey is an organized and methodical activity of collecting data on characteristics of interest of some or all units of a population using well-defined concepts, methods, and procedures¹⁵.

Surveys can use to:

- Determine characteristics of a population or a community.
- Define conditions in a community or region.
- Comparing groups of communities.

2-2- Surveys methods

Surveys can be divided into two broad categories: questionnaire and interview¹⁶.

2-2-1- Questionnaire: is a paper and pencil instrument that is administrated to the respondents.

There are four questionnaire types: open ended questionnaire, where the respondents is free to express his views; close ended questionnaire, where the respondents cannot express his own judgment; mixed questionnaire, where questions are both close and open ended; and Pictorial questionnaire that used very rarely.

2-2-2- Interview: is a far more personal than questionnaire.

There are three main interview types: self-administrated, on-site interview and telephone interview.

2-3- Steps for conducting surveys

To conduct a survey we must follow these steps:

- Define purpose of study.

¹⁵ Ivan P Fellegi, Méthode et pratiques d'enquêtes, 2003, Statistiques Canada.

¹⁶ www.mbaofficial.com.

- Determine goals and objectives.
- Locate other surveys for examples.
- Plan the survey design.
- Design the instrument for data collection.
- Need to revise instrument: if yes, make revision in instrument. If no, train staff and collect the data.
- Analyze the data.
- Report and apply the results.

2-4- Sampling methods

We can define a sample as a small (but hopefully representative) collection of units from a population used to determine truths about that population (Field, 2005).

The sampling method is very important because if we are incorrect in the way the result will inevitably be incorrect. There are two sampling methods types¹⁷: Probability (Random) samples and nonprobability samples (Non-representative samples).

2-4-1- Probability (Random) samples

All elements in the population have some opportunity of being included in the sample and the mathematical probability that any one of them will be selected can be calculated. There are five types:

- **Simple random sample:** is a method of selection of a sample comprising of n number of sampling units out of the population having N number of sample units such that every sampling unit has an equal chance of being chosen.
- **Systematic Sampling:** In this method, we select the first unit randomly, and the other units are selected automatically according to a predetermined pattern.
- **Stratified random sampling:** In stratified sampling, the population of N units is first divided into disjoint groups ($N_1, N_2, \dots, N_i$). These subgroups called strata compromise the whole population from each stratum a sample of pre-specified size.
- **Multistage sampling:** refers to sampling plans where the sampling is carried out in stages using smaller and smaller sampling units at each stage.
- **Multiphase sampling:** A sampling method in which certain items of information are drawn from the whole units of a sample and certain other are taken from the subsample.

¹⁷ <https://onlinecourses.science.psu.edu/stat100/node/18>

2-4-2- Nonprobability samples

Non-probability samples are less desirable than probability samples. There are three types: quota sample, purpose sample and convenience sample.

- **Quota sample:** The defining characteristic of a **quota sample** is that the researcher deliberately sets the proportions of levels or strata within the sample.
- **Purpose sample:** A **purposive sample** is a non-representative subset of some larger population, and is constructed to serve a very specific need or purpose
- Convenience sample:** A **convenience sample** is a matter of taking what you can get. It is an **accidental** sample. Although selection may be unguided, it probably is not random, using the correct definition of everyone in the population having an equal chance of being selected.

3- The analysis of the results

The study is an online survey, which aims to analyze the role of Facebook in the agricultural activity in Algeria. 149 farmer answer the questionnaire.

The questionnaire is divided on three parts. The first part is about personnel information of the farmer (the gender, the age and the educational level). The second part in about the characteristics of the agricultural activity (the agricultural activity, the type of the agricultural activity, the origin of the capital, the ownership of the agricultural activity, and the geographical location). The third part is about the importance of using Facebook in the agricultural activity.

We can summary the results of the first part in table 01.

Table 01: Personnel information of the farmer

The gender		The age		The educational level	
Male	91.95 %	18-24	15.4 %	Primary	8.1 %
Female	8.05 %	25-29	30.2 %	Average	12.1 %
		30-34	20.8 %	Secondary	27.5 %
		35-39	16.1 %	Bachelor	21.5 %
		40-44	8.7 %	Master	30.9 %
		45-49	6.7 %		
		50-55	2 %		

Source: realized using SPSS

More than ninety percent of the respondents were men, which explains their monopoly on agricultural activity in Algeria. The weak role of women in the agricultural activity in Algeria is may be explained by the decrease of illiteracy, and the work in other sectors such as health and education. By the way, more than seventy percent of the respondents are under forty years, which shows us the important role of Youngers in the agricultural activity in Algeria.

The second part is divided also on three sub-part. The first sub-part is about the characteristics of the agricultural activity. The second sub-part is about the ownership and the capital of the agricultural entrepreneurship. The third sub-part is about the agricultural activity and Markets, Marketing, and State support.

Table 02: Characteristics of the agricultural activity

The agricultural Training (%)		The agricultural activity (%)		The type of the agricultural activity (%)		The importance of the agricultural activity (%)		The origin of the agricultural activity (%)	
Yes	32.9	Farming	63.1	Traditional	53.7	Primary activity	51	inherited	55.7
No	67.1	Animal husband-ing	36.9	Modern	46.3	Seconda-ry activity	49	Not inherited	44.3

Source: realized using SPSS

According to table 02, 67.6 % of the respondents did not take any agricultural training, when 63 % of them practice farming. In addition, 53 % of them practice traditional farming. The agricultural activity represents the first revenue of 51 % of the respondents. The results shows us the important role of the family in the agricultural activity. Indeed, 55.7 % of the respondents said that they have inherited the agricultural activity from their families and grandparents.

Table 03: The ownership and the capital of the agricultural entrepreneurship

The capital (%)		The ownership Of The agricultural Activity (%)	
Internal financing	81.2	Private property	85.9
External financing	2.7	Partnership	14.1
Both	16.1		

Source: realized using SPSS

Table 03 shows us that more than 80 % of the respondents starts their agricultural activity by their own resources without any external

financing. In addition, 85 % of them are property owners of their agricultural activity.

Table 04: The agricultural activity and Markets, Marketing, and State support

The Geographical Location (%)		The Marketing (%)		Markets (%)		The State support (%)		Training Centers (%)	
Inna-proprieate At all	13.4	Very weak	14.8	Very far	10.1	Very weak	33.6	Very few	31.5
Inna-proprieate	12.1	Weak	39.6	Far	38.3	Weak	29.5	Few	49.7
Appropriate	53	Good	34.2	Close	46.3	Good	32.2	Available	16.8
Very Appropriate	21.5	Very good	11.4	Very close	5.4	Very good	4.7	Widely Available	2

Source: realized using SPSS

According to table 04, more than 70 % of the respondents practice their agricultural activity in a convenient geographical location. While, the capacity of the marketing of the agricultural products is more or less weak for more than 50 % of the respondents. The markets are close to the geographical locations for 51 % of cases. In addition, the State support is considered weak and not enough for more than 60 % of the respondents. More than 80 % of the respondents considers that the agricultural training centers are few or not available.

Table 05: The role of Facebook in the agricultural activity

The Importance Of Facebook (%)		Using Facebook To find other farmers (%)		Using Facebook To find New Techniques (%)		Using Facebook To find Out Exhibitions (%)		Using Facebook To Show products		Using The Site to Report risks	
Unhelpful At all	5.4	Yes	55	Yes	85.2	Yes	63.1	Yes	44.3	Yes	54
Unhelpful	21.5	No	45	No	14.8	No	36.9	No	55.7	No	46
Useful	43.6										
Very Useful	29.5										

Source: realized using SPSS

This is the important part of the study: the role of Facebook in the agricultural activity in Algeria. Table 05 shows us that more than 70 %

of the respondents think that Facebook is useful for their agricultural activity. 55 % of them use it to communicate with other farmers. 85 % of them use Facebook to find new agricultural techniques, and 63 % of them use it to identify the date and the location of the agricultural exhibitions. More than the half of the respondents use Facebook to report risks related to the agricultural activity.

Table 06: Pearson correlation (Gender, Age, Educational level)

	Gender	Age	Educational level
Gender			
Age	0.079		
Educational level	-0.070	-0.331*	

Source: Realized using SPSS

According to this table, there are a negative correlation between the age and the educational level, which means that Youngers have a higher educational level.

Table 07: Pearson correlation (agricultural activity characteristics)

	Training	Activity	The type	Importance	Origin
Training					
Activity	-0.086				
The type	-0.267*	0.071			
Importance	0.200*	-0.305*	-0.210*		
Origin	-0.181*	0.046	0.120		

Source: Realized using SPSS

According to this table, we find that there is a negative relationship between the agricultural activity and the importance of it.

Table 08: Pearson correlation (geographical location and markets)

	Location	Marketing	Markets	Support	Training centers
Location					
Marketing	0.192*				
Markets	0.374**	0.312**			
Support	0.288**	0.091	0.111		
Training centers	0.278**	0.039	0.236**		

Source: realized using SPSS

There are a positive relationship between the geographical location and the distance to the markets. Most of the respondents that said that they works in appropriate location, the markets are close for them.

Table 09: Pearson correlation (the importance of Facebook in the agricultural activity)

	Importance	Comm...	New-...	Exhibiti.	Show..	Re..
Importance						
Communication	-0.352**					
New-techniques	-0.498**	0.346**				
Exhibitions	-0.417**	0.371**	0.427**			
Show products	-0.330**	0.534**	0.333**	0.458**		
Report risks	-0.0493**	0.270**	0.410**	0.517**	0.422**	

Source: realized using SPSS

Farmers, who use Facebook in the communication with other farmers, use it also in the marketing of their agricultural products. Other farmers when use Facebook to find the date and the location of the agricultural exhibitions, take the opportunity to report risks about the agricultural activity.

Conclusion

In the last two decades, Social Media Sites (SMSs) represents a precious resource of data. Facebook -the legal illegal spy machine-attract millions of people around the world with their real identities.

The analysis of the results of the online survey shows us that Facebook play a great role in the development of the agricultural activity. Farmers think that Facebook is useful for their agricultural activity; they use it the communication with other farmers, find agricultural exhibitions, and reporting risks related to their agricultural activity.

In the next work, we try to analyze the role of the other SNSs in the agricultural activity with a large population.

Bibliography

Christopher Chan, Using online advertising to increase the impact of a library Facebook page, 2016, Emerald.

Chui M. Manyika J. Bughin J. Dobbs R. Roxburg C. Sarrazin H. Sands G, The social economy: unlocking value and productivity through social technologies, 2012.

Denah M. Boyd & Nicole B. Ellison, Social Network Sites: Definition, History, and scholarship, 2008, Journal of Computer Mediated Communication.

<http://dictionary.cambridge.org/dictionary/english/facebook>
<http://www.internetworldstats.com/af/dz.ht>
<http://www.internetworldstats.com/facebook.htm>
<http://www.internetworldstats.com/stats1.htm>
<http://www.smartinsights.com/social-media-marketing/social-media-strategy/new-global-social-media-research/>
<http://onlinecourses.science.psu.edu/stat100/node/18>
<https://www.facebook.com/A.A.Algerie/?ref=ts&fref=ts>
<https://www.facebook.com/AgriviCorp/?ref=ts&fref=ts>
<https://www.facebook.com/dsasi.madrp/?ref=ts&fref=ts>
<https://www.facebook.com/Filaha-Agro-dz-170831602984085/?ref=ts&fref=ts>

Ivan P Fellegi, Méthode et pratiques d'enquêtes, 2003, Statistiques Canada.

Linnea Hansson. Anton Wrangmo, Optimal ways for companies to use Facebook as a marketing channel, 2013, Emerald.

Newton lee, Facebook Nation Total information Awareness, 2014, Springer.

Sophie Stanley, Harnessing Social Media in Agriculture, 2013, report for the New Zealand Nuffield Farming Scholarship Trust, Nuffield.

Sundén J, Material Virtualities, 2003, Peter Lang.

www.mbaofficial.com.