New Ways To Improve Business Management.
Facebook Graph, A Search Tool That Uses Artificial Intelligence.

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Abstract: *The main purpose of the paper is to illustrate the importance of the new neural networks improvements for artificial intelligence, in the help of building new ways of management of employees and new ways of marketing strategies. Artificial Intelligence helps understand the need of the customer and to deliver what he really wants. Facebook Graph is a search tool that can be used also by company's employees to improve their strategies of personnel and marketing.*

Key words*: facebook graph, artificial intelligence, new ways of search engines, search engines AI*

If we wake up in the morning or we are walking on the street, we will see that everyone use gadgets and all sort of technology in order to be up-to-date with news or to tell someone else about them. We are all using all sort of applications and social media portals to be connected to our friends.

Facebook is the biggest social media portal, a social network started in 2006 where you make friends and where you are connected with your friends by posts, photos, movies etc. You are connected by everything you want to share.

Since 2013, a new way of indexing and delivering the searching requests has been implemented to Facebook. Two former employees of Google, Lars Rasmussen and Tom Stocky, have delivered a new functionality called Facebook Graph that replaced the old, traditional Facebook search engine function.

"Facebook Graph Search is a semantic search engine that was introduced by Facebook in March 2013. It was designed to give answers to user natural language queries rather than a list of links. The Graph Search feature combined the big data acquired from its over one billion users and external data into a search engine providing user-specific search results" [1].

[1] Source: Wikipedia : https://en.wikipedia.org/wiki/Facebook_Graph_Search

Fig. 1 Facebook AI

http://2.bp.blogspot.com/-lz0cVPZh--c/UnucGlbMynI/AAAAAAAAWEk/PpN2jmjRNOo/s640/facebook_AI.pn

"Semantic search seeks to improve search accuracy by understanding the searcher's intent and the contextual meaning of terms as they appear in the searchable dataspace, whether on the Web or within a closed system, to generate more relevant results. Semantic search systems consider various points including context of search, location, intent, variation of words, synonyms, generalized and specialized queries, concept matching and natural language queries to provide relevant search result" [2].

The new neural networks rules developed by Lars Rasmussen and Tom Stocky have evolved into a complex system where searching is the result of understanding.

Everything you posts on Facebook is indexed and processed through the learning engine. This way, new concepts of you, of your behavior, of your likes and dislikes is

[2] Source: https://www.revolvy.com/main/index.php?s=Semantic%20search

recorded and learned.

There are even public institutions, public persons, companies with their own pages, where they post a lot of information, photos, movies etc. based on a detailed marketing and communication plan[3]. On Facebook you

[3] Rădulescu, Corina. „THE PUBLIC IMAGE–FACETS AND STAGES IN ITS CREATION." Lex ET Scientia International Journal (LESIJ) XVIII-2 (2011): 268-282.

can target any person in the world older than 14… THAT'S A HUGE OPPORTUNITY

As a usual user, more than 70% hasn't got a clue that the search tab is more powerful than ever. You can do a lot of things with that option (fig 2). For example you may find out all your friends or groups who like PHD.

Fig. 2 Facebook Search Graph
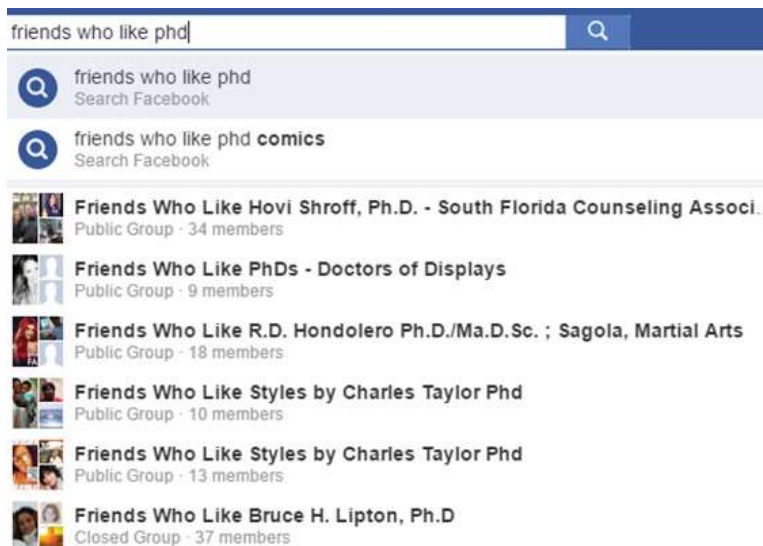
Moreover, you can find out all the photos of your friends who were in a public place or location: "photos of friends visited universitatea din bucuresti"

But, what about information for the business sector?

How do we find which "interests" to target?   How can we find if we have

some paths to deliver our secrets to our competition?

Facebook Graph search have already indexed everything and can deliver what we want.

For instance we can find out all our friends who liked our competition page or are friends with competition employees .

"Friends who Like Competition Name/ Competition Employees"

"Photos of Friends who Like Competition Name/Competition Employees"

You have to notice that like is written with capital L. That means that the search return every click on the like button of your friends, no matter if there are posts, photos , videos etc. (fig 3).

Fig. 3 Facebook Search Graph: Friends who Like Coca Cola
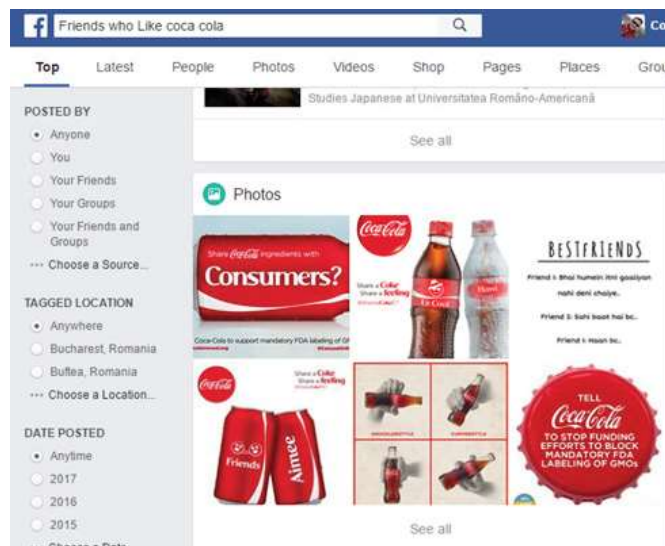
If the Human Resource employees can see what employees from our company are friends with persons from our competition, or even more, are hanging out together, they better talk with the employee to see if he wants to move forward to competition or the secrets of company are safe.

There are a lot of search methods to find out all king of information. You can even find out people who are, for example, Apple employees who are friends with the ones at Microsoft.

"Apple employees who are friends with people at Microsoft"

Or maybe you just want to find out people that are not your friends and who like a certain product or service from competition

and you want to target them in your future marketing campaigns.

"People who are not my friend who like brand name "

For targeting, Facebook Graph is limitless. You can even find out people who like a brand and more, you can extrapolate to a specific location. This way you can determine a very narrow group of people for your future promotions, campaigns etc.

"People who like brand name and live in a specific location"

In order to see if companies use Facebook Graph Search in Romania, I have made a survey of 342 people from different companies and areas like resource management employees, marketing specialists etc. and the results are the flowing:

Fig. 4 Facebook Graph Search in Romania
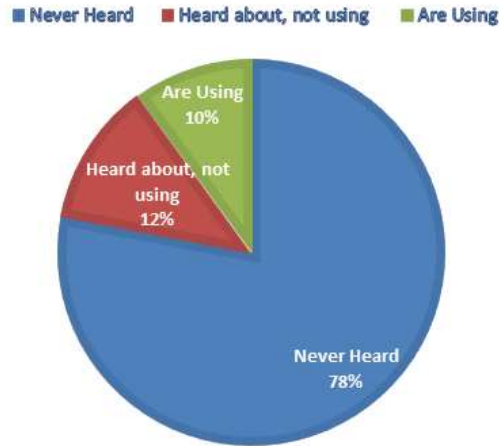
The results show us that the Facebook Graph Search is still not used by professionals even is was implemented since 2013, but the opportunity is huge and in near future I think, more and more employees will use this functionality in order to improve their marketing or communication campaigns.

Conclusions

The AI functions implemented in social networks can be a real help for individuals and for professionals. These networks are learning from us continuously and we can use them for personal use or for business one to improve our methods of delivering the right information, on the right time, to the right persons. Remember that online marketing is about one to one communication and this means to find the right way to deliver your information to every person that is part of your campaign target group.

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