THE DETERMINATION OF THE FACTORS THAT INFLUENCE THE USE OF SOCIAL NETWORKS

Alexandra IOANID[1], Gheorghe MILITARU [2], Cristian NICULESCU [3], Dana DESELNICU[4]

The purpose of this paper is to determine the factors that influence companies' representative, both employees and managers, to use social networks and in case they do, what are the benefits obtained. Prior research has focused especially on how social networks are used from the perspective of the individuals, while the analysis from the company perspective is limited. The authors test eight items for two social networks that are most used by Romanian companies: Facebook and LinkedIn. The results obtained are then correlated with the online success of the company.

Keywords: social networks, social media, Facebook, LinkedIn

1. Introduction

The use of social network sites has become a must for any company nowadays, as most of their clients are active on social networks like: Facebook, Twitter, YouTube or LinkedIn. According to the website statista.com, Facebook users' number raised from 100 million users in 2008 to 1654 million in the first quarter of 2016, with 15% increase in the last year. [1] To put the number in perspective, the total number of Facebook users is higher than the population of China at the end of 2015 - 1374.6 millions. And the users are not only young people that find it easy to adopt new technologies, but also users within the age range of 35-55 years join massively. LinkedIn also increased the number of users from 37 million in 2009 to 433 million users in 2016, but due to the fact that this network was created only for professionals, the number didn't grow that much as for Facebook. In Romania there are 8.5 million Facebook users on 5th of May 2016, meaning that 42.24% of the population uses this social network. Among the internet users this percent is even higher 88.15% use Facebook. [2] According to linkedin.com, there are over 1.7 million LinkedIn users in Romania, meaning 8.45% of the population. [3] Also the website expandedramblings.com publishes

[1] As. drd. eng , corresponding author, Dept. of Management, University POLITEHNICA of Bucharest, Romania, e-mail: alexandra.ioanid@upb.ro
[2] Prof., Dept. of Management, University POLITEHNICA of Bucharest, Romania
[3] Prof., Dept. of Management, University POLITEHNICA of Bucharest, Romania
[4] Asoc. Prof., Dept. of Management, University POLITEHNICA of Bucharest, Romania

the fact that 66.1% of all Facebook users log-in into their accounts daily, for at least 20 minutes. [4] The authors consider that taking into account all numbers presented above, social network sites represent a huge opportunity for all companies, regardless their business domain. In Romania not so many companies know how to deal with almost half of the population of the country being present on social networks sites and especially on Facebook, and have less control over the information spared by customers. If companies can apply SEO techniques in order to decide what information appears first on browser searches, on social networks they lost all control, as social networks are imply free user generated content.

The authors consider that this study is very important as the researchers in this field focus especially on how individuals user various social networks and not companies. The main purpose of this study is firstly, to provide an empirical analysis of the purposes for using social networks and its benefits, focusing mostly on Facebook and LinkedIn, as these two networks are the most used in Romania. Secondly, the exploratory study conducted among managers and employees of Romanian companies determines the critical factors that lead to the use of a certain social network. The paper is organized as follows. First, the authors review prior studies on this topic and adapt and comment their findings on social media use from the perspective of the company. Secondly, the research questions and methodology are presented in detail. Afterwards, the results of the study are discussed together with the management implications, the authors describing the directions for further research.

2. Theoretical background and hypothesis development

Social network sites employ mobile and web-based technologies that create interactive platforms where users can communicate, collaborate and share information and modify user-generated content. [5]

Many studies focus on how individuals use the social network sites, analyzing different categories from students to professionals in various areas, most of the topics being related to the average number of friends or how much influence a user has in his network. Tong at all [6] stats that the number of friends a user owns is displayed on his profile like a vestige of friend connections a user has accrued. This number doesn't always prove that the user is that attractive and extrovert, many times being exactly the reverse. Tong at all [6] demonstrated that an abundance of online friends raises many doubts about the social network popularity and desirability in real life. The authors consider that the number of followers found on a company's profile shows the value of that company and can be even seen as a guarantee for potential customers of the quality of products or services offered by the company. Even more, if a friend of the user follow a

certain company page, that user is more likely to follow it as well and even become a client of the company. This is the reason why companies find it so important to have as many followers as possible, organizing contests where the participation is based on becoming a follower and sharing this on the personal profile page.

Initially restricted to individual users and universities, in the last five years Facebook opened to corporate use. Skeels and Grudin [7] found out in a study realized in United States that one third of employees were active on both Facebook and LinkedIn. Their research showed that this massive presence online creates some tensions for using such networks in the workplace, but has some benefits as well, for example the social capital gained [7] There are many respondents in our study that mentioned how LinkedIn helped them to find collaborators abroad, being able in this way to develop business with partners in other countries. This would be hard to accomplish without the help of such a network where professionals publish their experience and affiliations.

Kaplan and Haenlein [8] state that the reason why managers haven't made the decision of communicating with the customers on the official company's profile on a social platform yet is that they can't chose on which to go first. This study aims at determining the critical factors that make companies use one social network or another according to the benefits obtained on eight categories, from communication to increasing revenue or recruiting the most valuable employees.
Kietzmann et al [5] proposed a model with seven functional blocks of social media: identity, conversations, sharing, presence, relationship, reputation and groups. These blocks allow researchers to determine the social media user experience and the implications for the company.

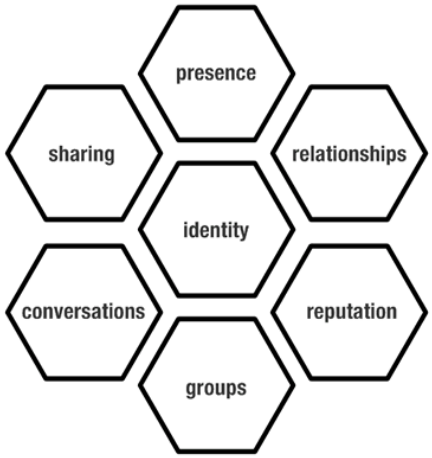

Fig1. The honeycomb of social media functionalities (adapted after [5])

The central block, *Identity* allows user to self- promote (via Facebook) or to self- brand (via LinkedIn). [5] There should be a balance between sharing personal details and protecting the privacy, the wrong mix between these two leading to information stealing, cyber-bullying or misleading.

The second block, *Conversations***,** might be analyzed by companies through some complex tools in order to determine how favorable or unfavorable the users towards their company or products / services offered are. Conversations among users also offer companies valuable feedback that otherwise would be difficult and expensive to get.

Sharing allows user to distribute content. Kietzmann et al [5] advice that companies are very careful when choosing what to share as it has to respects the interests of the followers and secondly, the degree in which the object should be shared.

The *Presence* block gives information on how the company can be reached, like a link to the website of the company or the address of the offices. Kaplan and Haenlein [8] state that higher degree of presence make conversation more influential. This block became extremely important after smart phones become used my large masses, allowing companies to promote themselves by targeting the users located close to their business.

Relationships block offers value to a network, as depending on the number of relations and on their density a user can be considered influential or not. This block is especially valuable for companies because they can reach with their messages to large audiences.

The *Reputation* block is in most cases a matter of trust, various tools being used to determine the trustworthiness of a company or a brand. The reputation is also determined by the number of followers, likes, shares in Facebook or the connection number and testimonials colleagues and former colleagues in LinkedIn.

Finally, the *Group* block is influenced by the way users form communities. In most of the case their interests, hobbies and aspirations bring them together in a group. Companies can take advantage by this by promoting events in these groups where the members have been filtered previously by their interest to join the group, so companies can target better their potential customers.
The authors want to test which of the items listed in the table below represent critical factors that lead to the use of Facebook or Twitter among Romanian companies:

Table 1

Association between the items tested and the honeycomb of social media

Item	Functionality
I1 - Communication	Conversations
I2 - Customer Service	Relationships
I3 - Gain exposure and create awareness	Reputation
I4 - Gain new Customers	Sharing
I5 - Increase revenue	Identity
I6 - Marketing	Sharing
I7 - Networking	Relationships
I8 - Recruiting	Relationships

Kietzmann et al [5] noticed that for Facebook the main block is the one of Relationships, followed by Presence, Identity, Conversation and Reputation, while in LinkedIn the most important is the Identity, followed by Reputation and Relationships.

3. Methods

Sample

The data was collected through a structured questionnaire in February 2016, by surveying employees, managers or entrepreneurs in Romania. The respondents belong to a wide range of industries and organization types. The authors wanted to cover in this exploratory study as many categories of companies as possible, in order to increase the reliability of the results. 962 respondents provided complete answers and there has been also 43 questionnaires eliminated from the study due to missing information or other issues such as, unemployed respondent without previous work experience or the location of the company was not in Romania. [8]

Descriptive statistics

Table 2

Sample structure

Age	Gender					
	Male			Female		
	Studies level					
	High school	Faculty	Master	High school	Faculty	Master
18-25	30	165	9	46	167	48
26-35	3	41	46	10	33	62
36-45	14	17	18	29	18	12
46-55	53	38	11	37	23	4
>56	13	11	1	3	0	0

From table 2, one can notice than the sample contains responses from 51% women and 49% male, with ages between: 18-25 years- 48%; 26 - 35 years – 20%; 36 - 45– 11%; 46 55– 17% and over 56 years old 4%. With respect to the level of the studies, 25% of respondents graduated high school, 53% graduated faculty and 22% a master programs.

Most of the companies analyzed that use Facebook and LinkedIn belong to IT sector (24% use Facebook and 39% use LinkedIn) and Services sectors (21% use Facebook and 22% use LinkedIn).

Measures

The items used in this study where carefully analyzed, each dependent mediator and independent variable being measured with a 5 Likert multi-level scale. The answers ranged from 1 (strongly disagree) to 5 (strongly agree).
All respondents were asked to give their opinion on which of the following factors would determine them to use Facebook and LinkedIn for their company.
The results for Facebook were the following:

Table 3

The frequencies for the component items of Facebook use

Item	Strongly disagree	Disagree	Indifferent	Agree	Strongly agree
I1 - Communication	5.61%	27.55%	14.14%	10.40%	42.31%
I2 - Customer Service	45.43%	4.89%	7.48%	19.02%	23.18%
I3 - Gain exposure and create awareness	10.60%	17.36%	23.39%	11.85%	36.80%
I4 - Gain new Customers	6.24%	19.85%	27.44%	12.06%	34.41%
I5 - Increase revenue	39.81%	23.08%	18.81%	12.58%	5.72%
I6 - Marketing	13.31%	9.36%	27.13%	13.20%	37.01%
I7 - Networking	12.58%	23.08%	30.25%	6.13%	27.96%
I8 - Recruiting	60.19%	20.79%	11.43%	3.12%	4.47%

It can be noticed that the majority of the subjects use Facebook especially for communication purpose, but also for gaining exposure and new customers and for marketing, while very use Facebook for recruiting.

The results for LinkedIn were the following:

Table 4

The frequencies for the component items of LinkedIn use

Item	Strongly disagree	Disagree	Indifferent	Agree	Strongly agree
I1 - Communication	4.78%	28.48%	41.58%	7.07%	18.09%
I2 - Customer Service	71.73%	10.60%	10.19%	6.65%	0.83%
I3 - Gain exposure and create awareness	61.12%	11.54%	7.28%	12.47%	7.59%
I4 - Gain new Customers	1.87%	44.91%	28.38%	13.93%	10.91%

I5 - Increase revenue	45.95%	36.38%	11.64%	6.03%	0.00%
I6 - Marketing	46.88%	38.77%	4.16%	1.56%	8.63%
I7 - Networking	18.30%	18.50%	11.85%	11.02%	40.33%
I8 - Recruiting	20.17%	12.68%	13.12%	13.20%	40.83%

The results for the correlation matrix and principal component analysis are as follows:

Table 5

Correlation matrix for Facebook items

		FB1	FB2	FB3	FB4	FB5	FB6	FB7	FB8
Correlation	FB1	-							
	FB2	.866	-						
	FB3	.859	.845	-					
	FB4	.868	.753	.829	-				
	FB5	.711	.765	.682	.567	-			
	FB6	.909	.827	.901	.848	.701	-		
	FB7	.623	.627	.652	.691	.502	.668	-	
	FB8	.619	.692	.609	.629	.577	.606	.678	-

Table 6

Principal Component Analysis – Facebook

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.062	75.779	75.779	6.062	75.779	75.779

Table 5 shows the correlation between the items analyzed for the use of Facebook, while table 6 shows covariance of variables. It can be observed that the highest correlations are between marketing and communication, this explaining the fact that for most users see Facebook as a marketing tool used for communication with potential customers. The respondents do not make a clear difference between the purposes for using Facebook and this explains the high intensity correlations between the investigated variables. It can be noticed that all correlations are statistically significant at a confidence level of 99%.

The first factor (Communication) explains 75.77% of the common variance of all variables. This factor explains 75% of the investigated variable.

Table 7

Correlation matrix for LinkedIn items

		LI1	LI2	LI3	LI4	LI5	LI6	LI7	LI8
Correlation	LI1	-							
	LI2	.662	-						
	LI3	.735	.780	-					
	LI4	.788	.667	.747	-				
	LI5	.564	.674	.599	.598	-			
	LI6	.547	.609	.559	.698	.696	-		
	LI7	.888	.561	.620	.718	.459	.516	-	
	LI8	.843	.679	.678	.796	.524	.608	.852	-

Table 8

Principal Component Analysis –LinkedIn

Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	5.687	71.085	71.085

Table 7 shows the correlation between the items analyzed for the use of LinkedIn, while table 8 shows covariance of variables. It can be observed that the highest correlations are between networking and recruiting, this explaining the fact that for most users see LinkedIn as tool for networking with potential employers or other business partners and also for being informed about new job openings. It can be noticed that similar to the previous analysis, all correlations are statistically significant at a confidence level of 99%; however the correlations are not that strong as for the Facebook analysis.

From table 8 it results that one factor (networking) explains 71.08% of the common variance of all variables.

Results

The hypothesized relationships were tested using linear regression analysis. The independent variables are the eight items presented above and the dependent variable is the online performance of the company after using one of the two social networks.

The model summaries are presented below:

Table 8

Model Summary ¯ Facebook

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.656[a]	.431	.426	1.06683

Table 9

Model Summary – LinkedIn

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.603[a]	.363	.358	1.12816

Analyzing the results of the linear regression, R=0.656 for Facebook and R=0.603 for LinkedIn for $p<0.001$, prove that there is a significant correlation among the variables for each of the two social networks. The value of R Square, 0.431 for Facebook and 0.363 for LinkedIn shows that the variation of the factors that determines the use of Facebook and respectively Twitter, explains 43% of the performance of the company in Facebook case and 36% of the performance in LinkedIn case.

6. Conclusions

The results show that the both Facebook and LinkedIn are used the most in IT sector, followed closely by Services sector. This is explained by the fact that companies in the IT sector are closer to technology and more likely to adopt new ways of increasing the visibility and online performance, while the companies in Services sector try to get as closer as they can to their customers, being present on all social networks, where their potential customers are.

This study shows that by using Facebook or LinkedIn companies can increase their visibility and their online performance by up to 30-40% depending on the sector. Facebook proved to be used mostly for communicating with customers, obtaining feedback on services or products offered, while LinkedIn is used mostly for Networking. However, in both social networks the identity mentioned by Kietzmann et al [5] remains the first aspect a potential customer looks for.

R E F E R E N C E S

[1]. statista.com, accessed in May 2016
[2]. facebrands.ro, accessed in May 2016
[3]. linkedin.com, accessed in May 2016
[4]. expandedramblings.com, accessed in May 2016
[5]. *Kietzmann, J. H., Hermkens, K., McCarthy, I. P., & Silvestre, B. S.* Social media? Get serious! Understanding the functional building blocks of social media. Business horizons, 54(3), 241-251,2011.

[6]. *Tong, S. T., Van Der Heide, B., Langwell, L., & Walther, J. B.* Too much of a good thing? The relationship between number of friends and interpersonal impressions on Facebook. Journal of computer-Mediated Communication, 13(3), 531-549, 2008.
[7]. *Skeels, M. M., & Grudin, J.* When social networks cross boundaries: a case study of workplace use of facebook and linkedin. In *Proceedings of the ACM 2009 international conference on Supporting group work* , 95-104, 2009.
[8]. *Kaplan, A. M., & Haenlein, M.* Users of the world, unite! The challenges and opportunities of Social Media. Business horizons, 53(1), 59-68, 2010.
[8]. *Ioanid, A., Scarlat, C. and Militaru, G.* How managers and entrepreneurs use the innovative social technologies. Proceedings of the 10th European Conference on Inovation and Entrepreneurship, p. 298-302, 2015