

Alejandro Valencia,  
Mauricio Vélez-Salazar,  
Ana María Correa-Díaz,  
Carolina Vélez-Salazar  
Colombia

## Acceptance Factors on the Use of Social Networks for Academic Purposes of Management Sciences Students

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### Abstract

This study examines factors involving the acceptance of social networks for academic purposes. A survey was applied to 290 graduate students as a quantitative methodological design. The main finding is that students thought that greater use of social networks for academic purposes would improve interaction and feedback among peers and also would improve teaching-learning processes. Also, students considered their skills as sufficient to use social networks for academic purposes, expressing their intention to incorporate them into the subjects dynamics.

*Keywords: learning, social networks, teaching innovation, university students, virtual*

### Introduction

A digital web revolution is taking place with the expansion of numerous types of social networks and online communities, which are used to be informed, purchase or sell diverse products online, receive information, make contacts, play, chat, share hobbies, among other daily uses. This revolution shows how our way of communicating has been modified by Information and Communication Technologies, ICT, (Islas & Carranza, 2011). It is affirmed that only a few technologies, like social networks, have proliferated fast in a short time. These have been globalized and have been incorporating into young people's daily life, sharing information and

knowledge in a fast, simple, and comfortable way (Gómez-Aguilar, Roses-Campos & Farias-Batlle, 2012, p. 135).

Fast moving advances of technology have caused improvements in communication networks, creating more and better information transfer to students through digital media such as learning platforms and social networks (Rodrigues, Sabino, & Zhou, 2011).

Social media attract millions of users worldwide creating an environment of ideas, exchange and mutual collaboration (Rodrigues, Sabino, & Zhou, 2011). Most college students are considered the “Millennium” generation because of having grown surrounded by a number of digital media, technological advances and gadgets such as tablets and cell phones, which explain their natural capability of doing multiple tasks and handling several devices at a time (Taleb & Sohrabi, 2012, p. 1106).

Applied knowledge is widely influenced by social media, where ideas are shared and spread (Cadima, Ojeda & Monguet, 2012). Virtual social networks promote interactive and experiential learning because they take place in a more dynamic environment (Imbernón-Muñoz, Silva-García & Guzmán-Valenzuela, 2011). The dynamics provided by these social networks have favored the creation of online learning communities and multiple communication networks among peers (García, 2009, p. 62) in an environment of mutual cooperation and based on reciprocal principles (Cobo y Pardo, 2007).

An advantage of social media is that they allow for uploading and sharing information, self-learning, team work, student-student and student-teacher communication and feedback, and access to different information sources which facilitate constructivist learning (Gómez-Aguilar, Roses-Campos & Farias-Batlle, 2012, p. 136). There are many academic social networks like ResearchGate and Academia, which are research-oriented. These academic social networks can be very helpful to the learning process, but in principle, they are not perceived as friendly as others.

To address these aspects, social networks must be recognized as an authentic revolution for networking and communicating, although they are not considered as a popular academic tool; that is the reason why they are used in an intermittent, isolated and disarticulated way (Espuny, González, Lleixà & Gisbert, 2011). One reason is the generation gap between digital natives (students) and digital immigrants (teachers); this situation highlights teachers’ need for skills and adaptation to new virtual environments. Additionally, teacher qualifications are necessary to know, select, create and use strategies of didactic intervention in the ICT context (Gómez-Aguilar, Roses-Campos & Farias-Batlle, 2012, p. 136). Also, even though there is a positive attitude of students towards social media as a learning resource

used by teachers, the frequency with which students use it as a learning tool is scarce (Gómez-Aguilar, Roses-Campos & Farias-Batlle, 2012).

In this respect, teachers must help students to find a flexible and fast thinking learning method which grants learning what is needed with innovation (Castillo, 2012, p 674). Accordingly, to the extent that teachers catch up with students and interact with them in the same appealing environment, commitment, interest levels and courses participation are improved (Lee, Teng, Hsuen & Li, 2013).

Social networks established as one of the most representative tools of WEB 2.0 must be promoted in learning contexts. Indeed, their credibility among students allows for great didactic possibilities, because social networks are linked to interaction, response capacity and fast communication and eloquence. Moreover, in order to obtain a more generalized use of them, teachers must consider social networks as an opportunity for tutorials and educational communication (Roblyer, McDaniel, Webb, Herman & Witty, 2010). An example of how well this technology can be used is shown in a study done by Fang – Lin y Lin (2013), in which the effectiveness of using social media technology in the classroom is proved; the study shows how students improve significantly their learning and also their academic responsibilities.

Teachers must be aware of the fact that students are immersed in social networks in their relationships and interests, but there is not enough clarity on how this tool can be used as an opportunity to make learning more attractive, by creating formal and informal channels in these social media (Gewerc-Barujel, Montero-Mesa & Lama-Penín, 2014, p 61). Besides, there is a considerable number of teachers who mistrust the use of social networks for learning because they think that those networks interfere with the natural flow of traditional teaching (Espuny, González, Lleixà & Gisbert, 2011, p. 182).

With the purpose of improving learning methodologies using this resource, what is proposed is the development of groups, contexts, and appealing dynamics, where academic communities can interact and be empowered by virtual resources (Piscitelli, Adaime & Binder, 2010).

The disadvantages of using social networks for academic purposes are: distraction caused by the variety of irrelevant information, lack of concentration on assignments, and distraction coming from links to data, texts or complementary information. Sites of irrelevant information, low academic quality and content overflow are also disadvantages of using social networks when they cannot be categorized in terms of their suitability and interest for students (Sandoval-Almazán, 2011). Furthermore, privacy and moral integrity inconvenience for the users may occur (Rodrigues, Sabino, & Zhou, 2011, p. 246).

## Research Methodology

In order to assure the quality of the qualitative instrument, the structure of the survey was previously tested with 42 students. The survey showed internal coherence, proper design and report analysis. The types of questions used were open-ended, close-ended and multiple choice ones (dichotomous and Likert-type response scale). The questions were designed and applied to measure each of the constructs and factors specified in the model of academic use of social networks, proposed by this study (cf., Figure 1).

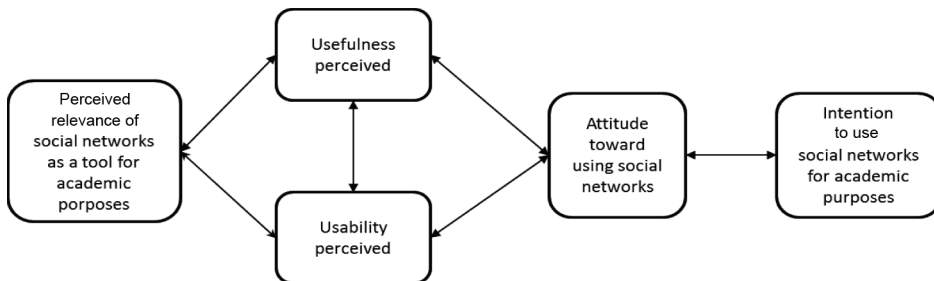


Figure 1. Proposed model for the academic use of social networks

It is important to note that some factors are unobservable constructs; thus, these are compiled directly through a Likert-type scale. Based on the above, interdependence among each of the factors of the academic use of the social network model was analyzed, considering the typology qualitative analysis of the information gathered. Besides, aiming at assessing interdependence, levels of association among variables were quantified through Cramer's V, which is a symmetrical measure for the correlation between two or more variables on a nominal scale. This contingency coefficient was chosen because it is a value measurement regardless of the sample size. Subsequently, construct typology analysis was made to identify sub-populations whose factors of academic use of social networks can be better explained through the model proposed.

Cross-curricular field research was conducted with the use of a self-report questionnaire. This study was carried out at the MTI Metropolitan Technology Institute and Escolme University, where the questionnaire was applied to 290 graduate students of Management Sciences. This sample was chosen with the use of nonprobability sampling.

## Research Results and Discussion

Firstly, it is important to assure the degree of certainty with which questions of the survey measured every model construct, proposed by the methodology, known as reliability of the scale (Oviedo & Campo-Arias, 2005, p. 577). Therefore, two indices were applied: Cronbach's Alpha and split-half method. Cronbach's Alpha is used to measure internal consistency of a scale, i.e., to assess the magnitude of item correlation.

When the alpha value is between 0.7 and 0.9 it has high reliability (Oviedo 2005, p. 575). Therefore, in this research case, each of the scales represents values between 0.671 and 0.851, showing that the only construct with medium reliability is the facility of usage. However, this is also used for research measuring non-observable constructs, as in the case of perceived usage facility. On the other hand, the correlation analyzed with the use of the Split-Half Method, an indicator of co-variance between two halves of a complete sample, indicates good correlation to confirm internal consistency among the items measured (cf., Table 4).

**Table 4.** Reliability indices of the scale applied

Factor	Alpha	Split-half
Perceived relevance of social networks as academic support	0.851	0.836
Perceived usefulness	0.736	0.732
Perceived usage facility	0.671	0.664
Usage attitude	0.705	0.703

Furthermore, Table 5 shows the association of the factors considered when assessing the usage intention of social networks for academic purposes. What is more, the item Current Use of Social Networks for academic purposes shows the association among factors, considering the entire sample of the survey, and assessing its use dichotomously. The *Frequent Use of Social Networks for Academic Purposes* subdivides the survey estimating the time devoted to using social networks for academic purposes into 5 categories in a Likert-type scale (always, often, sometimes, rarely, never).

Other rows in the table indicate the association between usefulness perceived and perceived usage facility (main constructs) in relation to age and current semester; and considering the typology "Frequent use of social networks for academic purposes".

**Table 5.** Association of factors with the intention of using social media for academic purposes

		Cramer's Coefficient			
	Sample size	Perceived usefulness	Perceived usage facility	Correlation between usefulness and facility	
Usage intention of Social Networks for academic purposes (YES/NO)		290	0.486	0.539	0.608
Frequency of use of social networks for academic purposes (Always, often, sometimes, rarely, never)		290	0.628	0.706	0.608
Age groups	16–20	27	NA	NA	NA
	21–25	117	0.584	0.657	0.667
	26 and older	134	0.685	0.795	0.741
Current semester	Initial	57	0.658	0.907	0.770
	Intermediate	53	0.808	0.652	0.728
	Advanced	171	0.655	0.791	0.701
Typologies of students (Average)			29.2%	30.9%	NA

Table 6 shows improvements in the association of perceived usefulness and perceived usage facility after considering 5 categories in the frequency of use of social networks for academic purposes (always, often, sometimes, rarely, never). Furthermore, upgrading is observed when relating different factors of the methodology model to the level of social networks use mentioned above (demonstrating coefficient improvement compared to the obtained one). Besides, when asking for this item in a dichotomous scale (Yes/No) in relation to the above aspect, progress in association with the perceived usefulness is 29.2% and with the perceived usage facility it is 30.9%.

Moreover, the typology analysis presented in this research allows for identification of subpopulation groups, whose social networks usage intention is better explained when analyzing the student's typology (these typologies are age and current semester).

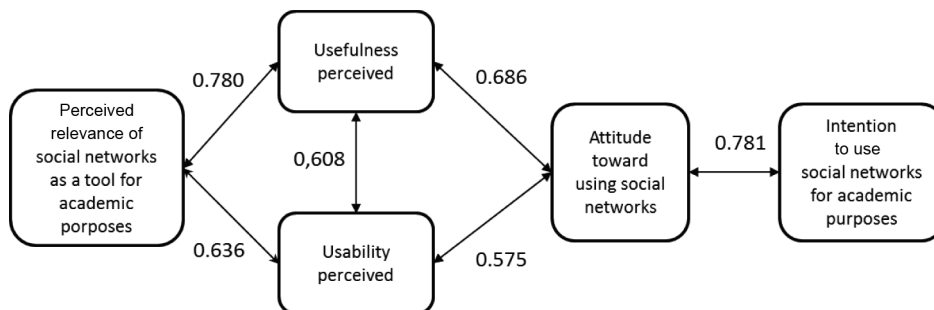
In the "age" typology group, it is observed that the model provides a clearer explanation of usage facility for a population group aged 26 and older (0.741). In the population group aged 21–25 (0.667) the difference is 11.1. In the case of the students aged 16–20, Cramer's coefficient was not calculated because the sample was not considered representative for this type of analysis.

On the other hand, in the “current semester of the career” typology, for the initial cycle sub-sample an explanatory improvement of 14% is observed in the perceived usefulness and perceived usage facility facing the coefficient reported at an advanced level and an explanatory progress of 39% of the same factor facing the intermediate cycle sub-sample. With respect to the explanatory improvement of Cramer’s coefficient, it is observed that the usage intention of social networks for academic purposes can provide wider and more reliable explanations when the population is subdivided in subsampling and in wider usage intention criteria.

**Table 6.** Factor correlation

Cramer’s Coefficient – Correlation				
	Perceived usefulness	Perceived usage facility	Perceived usage of social networks for academic purposes	Usage Attitude
Perceived usefulness	1.0	0.608	0.780	0.686
Perceived usage facility	0.608	1.0	0.636	0.575
Perceived usage of social networks for academic purposes	0.780	0.636	1.0	NA
Usage attitude	0.686	0.575	NA	1.0

Table 6 shows an association between the factors of perceived relevance to social networks as academic support usage attitude and usage facility, according to the analysis made with the use of Cramer’s V coefficient. There is also a strong association among these factors and usage intention of social networks for academic purposes, validating the application of the model proposed for 290 surveyed students of Management Sciences Associations as presented in Figure 2.



**Figure 2.** Cramer’s coefficient for the Technological Acceptance Model

In social studies framework, Cramer's  $V$  coefficient can be interpreted as follows: low association ( $0 < \text{Cramer's } V \leq 0.2$ ), modest association ( $0.2 < \text{Cramer's } V \leq 0.3$ ) and high association ( $0.3 < \text{Cramer's } V \leq 1.0$ ), which is a significant referent for research result analysis (Fierro, 2010). Based on this, it is observed that Cramer's  $V$  states that associations are more representative between the items mentioned: attitude of usage and intention of usage of social networks for academic purposes (0.781), between the perceived relevance of social networks as academic support and the perceived usefulness (0.780), and between the perceived usefulness and usage attitude (0.686). Also, it is observed that, when expanding the analysis of the research subsamples (Table 6), explanatory capacities of the model "*Use of social networks for academic purposes*" are improved, indicating higher associations in the following subsamples: group aged 26 and older, perceived usefulness according to the current semester (in the middle 0.808), and perceived usage facility in the semesters (at the beginning 0.907).

Besides, the fact that Cramer's  $V$  allows for finding associations among variables must be taken into consideration (Valencia, Cadavid, Echeverri & Awad, 2014). Consequently, Figure 3 shows arrows in both directions; thus, the methodology used indicates associations among the factors composing the usage intention model of social networks for academic purposes; but this did not imply casualty relationships among the perceived relevance of social networks as academic support, perceived usefulness, usage attitude, and usage intention of social networks for academic purposes.

## **Conclusions**

The diversity of cultural and social contexts of college students leads to varied acceptance factors of using social networks for academic purposes in specific departments of institutions. Studies involving specific target populations are required to facilitate the identification of particularities of each study group aiming to determine adequate strategies to foster the use of social networks for academic purposes.

Worldwide social networks have hugely grown and as a consequence, their academic use has become an essential tool for curriculum development. Due to constant asynchronous contact and feedback possibilities provided by networking, benefits of using social networks must be deeply investigated, with the purpose of reaching their appropriate inclusion in the methodological design of the subjects in which they could be implemented. In the case of Management Sciences, social



networks for academic purposes can be useful in the subjects of marketing, human resources, strategies and management.

The students stated that the main use of social networking is interacting with teachers, resolving doubts, sharing class topics and accessing online study groups. The previous statement shows that these resources have not been optimized because their use has focused on a limited dynamic, which impedes the opportunity to obtain better results out of the high interaction potential offered by these networking tools.

One of the uses of academic networking considered more important by the students is "Interacting with teachers"; therefore, the students think that teachers' greater use of social networks will benefit interaction and feedback among peers along with their learning processes. For that, it is suggested that institutions should design strategies towards this aim, because this option can integrate other academic interests in an assisted way, thus making more effective process.

On the other hand, students can have a very positive attitude towards networking for academic purposes, because social networks are perceived as tools for fun and entertainment. Thus, learning through social networks may be nicer and more fun, in comparison with the conventional strategies. Also, the students think they have enough skills and knowledge to use social networks for academic purposes, expressing their intention to get the best of these resources by incorporating them into their subjects.

The methodology employed in this study allowed for verification of the explanatory capacity of the model proposed in the research design, because significant relationships were found among the perceived relevance of social networks as academic support, perceived usefulness, usage facility, usage attitude and intention to use social networks for academic purposes. In that sense, the results showed that greater explanatory capacities are evident in the group subsample aged 26 and older. Also, in the perceived usefulness in the middle of the study (Current semester: Intermediate 0.808) and in the perceived usage facility at the beginning of the study (Current semester: Initial 0.907).

By using Cramer's V coefficient methodology, strong associations were observed among several factors. However, such a coefficient does not allow for establishing casualty among factors and intentions. Due to the above, it is recommended for future studies to validate this model based on statistical analysis which allows for the establishment of unidirectional casualty among factors, considering that its validity to calculate mutual influences among the constructs of the model has been proved.

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