

## Corporate Social Networks Applied in the Classroom

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Received: 2016-01-21; Accepted: 2016-05-22

### Abstract

The impact of online social networks has been extensive because of the new way they enable not only in terms of the relation, communication and collaboration among people, but also between people and businesses. So much so, their use is already habitual within organizations, known as Corporate Social Networks, in order to achieve the same benefits.

The present study aims to analyze the advantages these corporate social networks have in the classroom seen as a micro-organization where a group of students interact, work and collaborate during a master's or postgraduate course. To support this research, during 2015 a corporate social network (Yammer) has been introduced to 5 groups of students of various master's in the prestigious business school ESIC. The feedback obtained from those students and some examples of classroom dynamics prove the usefulness and great value of a corporate social network in postgraduate classes, although some common difficulties and considerations raised by the students themselves have to be taken into account in order to manage its optimal adoption in class.

This study also tries to propose some guidelines and best practices obtained as a result of the experience of use and the adoption of social networks in class in order to improve the learning process and innovate in the methodology applied to education.

### Keywords

Online social networks, corporate social network, innovation, education, master's degree, education





## 1 INTRODUCTION

With the rapid evolution caused by ICT (Information Technology) nowadays the teacher has ceased to be a mere speaker or imparter of classes to become a facilitator of learning for their students *Adell (1997) Cebrián and Rios (2000), Aguaded and Cabero (2002), Cabero and Cervera (2002), Cabero (2007)*, while students have become participants on the classroom stage. This participation has a very relevant component of social interaction inside and outside the classroom. Authors like Cook & Steinert (2013) note that online courses are much more likely to succeed, among other aspects, when collaboration, cooperative work and social interaction of students are encouraged in a seminar. It has also been shown that for the success of MOOCs (Massive Open Online Courses) students require socialization (Coughlan, 2014), and authors like (Gašević, et al., 2015) highlight the importance and advantages of socialization in education. Given the importance of social interaction in education, the ICT that support this process nowadays have a greater social orientation (Skrypnyk, et al., 2015).

On the other hand, Web 2.0 and social software technologies enable two-way communication, sharing, extracting and organizing knowledge, as well as building social relationships, all this having great potential for the educational world (Anderson, 2008). Therefore, it seems coherent to try to boost students' need for social interaction by implementing social software technologies in the classroom.

The present study analyzes the experience of using an online social network in the classroom to research on the advantages of Web 2.0 and the social technologies linked to class dynamics in several postgraduate courses. This will allow us to identify not only the advantages of a social network like Yammer in the classroom, from the perspective of the student and the teacher, but also the difficulties of its adoption and use. The experiment also reveals a set of uses and good practices of social networks in the classroom, and eases the way for whoever wishes to implement this educational innovation in their educational environment.



## 2 ONLINE SOCIAL NETWORKS AND THE CLASSROOM

Dale Dougherty, vice-president of O'Reilly Media coined the term Web 2.0 (O'Reilly, 2007) at the Web 2.0 conference of O'Reilly Media and MediaLive International in 2004, and as the result of this technological evolution and its uses a new era began in the world of the Internet. According to Erragcha and Romdhane (2014) Web 2.0 rests on 5 pillars: (a) participation, where all users can express their opinion and they actually express it, (b) opening, based on collaboration and information exchange, (c) conversation and dialogue among different users, (d) community or groups of people with common interests, (e) interconnection and links to other sites, resources or people.

Examples of Web 2.0 are communities, services and web applications, video hosting services, wikis, blogs, mashups, folksonomies and, undoubtedly, the most important applications of Web 2.0: online social networks (Pallis et al., 2011).

Online forums, the predecessors of online social networks, have been essential in online education and still are for MOOCs or "massive open online courses" (Joks et al., 2015).

Technology for learning can be divided into three broad categories: i) information technologies that assist delivery and access to information ii) interactive and communication technologies that mediate the relationship of exchange with the user and iii) social software that sustain group activities such as decision making, planning or training activities of higher order (Anderson, 2008; Hüulsmann, 2004). Social networks, by their nature are found in ii) and iii) of these categories.

As the concept of Web 2.0 has been maturing, the world of education has been increasingly adopting blogs, wikis, syndication through RSS and social bookmarking as teaching tools. While this approach gives students the opportunity to experience the most collaborative and social learning, the weakly connected toolset has sometimes led institutions to frustration as learner data are distributed in a wide range of disconnected tools (Siemens, et al., 2015).



When online social networks are designed and used to give support and catalyze collaboration and sharing of content among members directly linked to the organization or related to it (like the ecosystem existing in a classroom) are called “*Enterprise Social Networks*” or ESN in the Web 2.0 culture (Back, Gronau and Tochtermann, 2009). According to Riemer and Tavakoli, (2013) the term Enterprise Social Networking (ESN) refers to the application of social media platforms that facilitate short messages and establish social connections within an organization (or classroom). ESN enables organizations to create spaces where people can connect, communicate, collaborate and exchange information.

According to Treem and Leonardi (2012) what makes ESN unique and potentially transformative within an organization is that it allows users to exchange messages with other users, post messages to a large or unknown audience, list and select other members in order to form groups or teams, and publish documents, images, videos etc. that can be searched, sorted and found by others. But, most importantly, it can be recorded, stored and made available to other co-workers or classmates, as well as seen at any time.

Li (2010) summarizes the concept of ESN as any kind of technology that allows certain users to create and modify content such as corporate wikis, business blogs, corporate instant messaging, etc. Leonardi, Huysman and Steinfeld (2013) define ESN as web-based platforms that allow employees or students of the organization to (1) communicate messages to certain peers or send messages to everyone in the organization; (2) explicitly indicate or implicitly disclose certain co-workers as communication partners; (3) publish, edit, and organize texts and files relative to themselves or other people; and (4) viewing messages, connections, texts and files that are communicated, published, edited and sorted by anyone in the organization at any time of choice. According to Leonardi et al., (2013) ESN allows visibility and persistence in communicative actions, and expands the range of people, networks and texts that employees can learn from in the entire organization, which thereby increases their social learning opportunities.

### 3 TESTING THE INTRODUCTION OF CORPORATE SOCIAL NETWORKS IN THE CLASSROOM

In response to the previous literature and research, it makes much sense to try to introduce a corporate social network or ESN in the dynamics of a postgraduate class, meaning that a class is an organization in itself that socially relates and interacts not only during in-class sessions, but also outside them, anytime and anywhere.

The experiment was tested in 5 different groups that were studying a master's degree in the Valencia campus (Spain) of ESIC Business School Marketing & Business School in 2015. A corporate social network was specifically set up for each of the five groups during different seminars dealing with topics related to digital economy during 1 month approximately. The corporate social network was implemented using the Yammer platform (a Microsoft Office365 pay-per-use software service) that was already available in the cloud infrastructure at ESIC Business & Marketing School. The network was named after the edition of the master's degree that the group was studying and was minimally set up with the ESIC corporate identity, as well as the basic network information, descriptions and tags. In addition, a specific group for the seminar to be taught was created in the network and another group for the use and support of the Yammer network. Students were invited via email to be part of the network accessing it from the invitation they had received by email, while those who had failed to do so were helped to register in the first face-to-face session. Besides helping them to access the network, about 30 minutes were allotted to help them to understand and manage this social network.

Students had full powers to set up and complete their profile on the network, create new groups, write posts, comment on other participants' posts or mark them with "likes", post announcements, resources, links, files, videos, documents, etc. In short, they were not network administrators, but had all the authorization of a user with full power.

During the seminar for which the Yammer network had been created and where 30 minutes were allotted for its explanation to the students, the teacher also encouraged students to use the network as any other available tool in the dynamics of the in-class seminar.



Two months after the end of the seminar where the corporate social network was presented to each group, students were asked to fill out a survey to get their feedback on the platform and its use in the classroom dynamics, as well as on its transfer to the workplace.

They were asked to rate the following eight issues on the Likert scale of 5:

1. Do you know what a Corporate Social Network (ESN) is?
2. Do you know the value, features and potentiality of Yammer?
3. Do you know the value, features and potentiality of Yammer to boost learning and training?
4. What is the contribution of Yammer in a seminar, course or master's degree?
5. How do you assess your experience with Yammer in the classroom?
6. What influence do you think the following variables might have on the failure of Yammer in classroom?
7. What do you think would help Yammer become a more useful tool in the classroom?
8. Do you think you will use Yammer in business or for other professional purposes in the future?

The students' responses were collected with the online survey software [surveymonkey.com](http://www.surveymonkey.com)

The teacher who had used Yammer in this experiment replied on the uses, advantages and difficulties of Yammer in a postgraduate class via personal interview.

On the other hand, the authors of this study accessed the Yammer networks that had been created for the 5 groups (only in the open groups) and thoroughly analysed students' and teachers' uses and consumption of these networks.



## **4 OBTAINED RESULTS**

### **4.1 Usefulness and Value of the Corporate Social Network in the Classroom**

There were repeated dynamics of use of the corporate social network during the different class sessions with a great pedagogical interest for students, as exemplified with real cases that can be summarized as follows:

1. Sharing knowledge between students and teacher via posts and comments to the posts.
2. Sharing resources, events and recommendations on educational improvements between students and teacher
3. Notifying students
4. Sharing and spreading considerations and advice to students
5. Group exercise correction and feedback to all students
6. Facilitating student interaction during students' presentations
7. Facilitating classroom presentations
8. Sending congratulations to students and teacher
9. Giving social support to conversations among students
10. Sharing links and resources for tasks with the class
11. Tagging and classifying knowledge
12. Inventorying resources and links in groups
13. Setting up open in-class groups and private groups for student projects
14. Recording and sharing videos with the class



## 4.2 Student Feedback

The survey was responded by 37 students with an average age of 33 years with ages ranging from 24 to 49 years. Of all respondents only one used the Yammer tool regularly, 6 of them were already familiar with this social network but unaware of their use in education, as for the rest, this was a first experience of use, and therefore, the analysis of the survey will give us comprehensive information on their perception of use of the network in an educational context.

Out of the 37 students, 20 have a good opinion (Table X) about the tool but claim that it could be better exploited; as any new technology, its use has a learning curve, after which its achievable performance improves. There is a group of 7 people that considers the experience as average and only one person as bad.

Table X. Evaluation of the experience of using Yammer in the classroom

None, as I have not tried or used it in any way (1)	Bad, because I have not seen much meaning or value to it in the classroom (2)	Average, because it makes sense, but I have not made the most of it (3)	Good, I think it has added value, although it could have been used better (4)	Very good, because it has added value to the class and I will make much more use of it in the future (5)
0	1	13	20	3

As about its different contributions to the lesson (Table Y) the evidence says that students see much potential to the tool in terms of sharing all kinds of resources: files, documents, links, news and photos. In addition, students welcome the fact that the tool can be used to create workgroups and also view favourably the way in which the tool can contribute to collaborative learning although it has not been used much for this purpose.

Regarding the more social part and the relationship with other people, they acknowledge its potential usefulness, but have not implemented it during these sessions.



Table Y. Contribution of Yammer to a seminar or course

	It contributes nothing new, because I have not used it (1)	Yes, it might add value, but I have barely used it only for this purpose (2)	Yes, it adds value, although we have use it little for this purpose (3)	Yes, it is valuable and we have used it for this purpose, although we could have made more use of it (4)	Yes, it undoubtedly adds a lot of value for this purpose, and we have used it (5)
Sharing files and group work documents	0	6	9	17	6
Creating groups for business cases, projects, exercises, class dynamics, etc.	0	5	11	17	5
Sharing links and valuable resources	1	6	8	22	2
Sharing news and events	1	10	12	14	2
Sharing pictures and interesting group moments	1	11	14	10	3
Debates and group thinking	0	11	20	7	1
Congratulating classmates, giving "likes" to others, creating a good group dynamics	2	13	13	7	4
Better knowing peers and teachers in a ubiquitous and timeless way	3	15	14	6	1

On the possible variables of failure of a tool like Yammer in the classroom (Table Z) students respond that they do not think they might feel uncomfortable with the use of social technology and there is no doubt about the value it adds to the lesson. The effort to maintain a social network and the workload can definitely be a problem and a source of the tool's failure.

Table Z. In what way do you think the failure of Yammer in the classroom can affect the following variables?

	<b>I strongly disagree.</b> (1)	<b>I do not think so, but it might be the case sometimes.</b> (2)	<b>Undecided. It may happen sometimes.</b> (3)	<b>Yes, it is likely.</b> (4)	<b>Yes, it is absolutely true.</b> (5)
The student is uncomfortable or does not see the potential of social technologies	9	10	14	4	1
Yammer cannot add value in the classroom, because it is meant for other purposes	12	14	7	5	0
The effort to maintain the Yammer network active does not compensate for the obtained value	6	8	12	12	0
We have much workload to deal with secondary issues instead of key processes in the classroom	1	8	10	16	3
Neither students nor teachers know how to use Yammer to create value in the classroom	14	9	9	5	0

Finally, feedback meant to improve the use of Yammer in the classroom is requested (Table ZZ). Students ask for more extensive and specific training on the tool as, for example, a specialized seminar on the matter. They also suggest that a person should be designated to motivate the entire group. They strongly disagree with turning the training on this tool into something assessable and, on the whole, with all teachers generalizing the use of this technology in the classroom.

Table ZZ. What do you think could make Yammer a more useful tool in the classroom?

	Strongly disagree (1)	Slightly agree (2)	Agree (3)	Strongly agree (4)	Absolutely (5)
A specific seminar to learn how to make the most of it in class	5	6	14	8	5
Someone with the role of a community manager to motivate the group daily	2	6	12	15	3
Transform its use into an assessable case or academic subject	13	7	8	8	2
Teachers should apply it in their every-day classes	1	5	13	10	9
More 2.0 vision and training in the classroom and in life in general.	1	6	12	10	9

### 4.3 Teacher Feedback

It was easy to explain corporate social network to students and the concept was quickly understood, since they were already accustomed and comfortable using other social networks in other areas of their life (like Facebook, for example). The advantages for the teacher during the seminars were several, as described in the following list:

1. The possibility to give feedback to different groups on cases, presentations or tasks, a feedback that is open and reusable in other groups.
2. Progressively documenting references, useful links and resources as they appear during seminars or even outside of class time, once they have been consulted with the teacher or approved offline.
3. Notifying students about the following lessons or any changes, replacing the email.

4. Avoiding copies and file transfers by USB or other exchange mechanisms, for example, presentations of cases discussed by the groups.
5. Asking questions and encouraging discussion not only during face-to-face classes, but also during the whole course.
6. Facilitating dynamism and interaction in class, especially in the cases where students can sometimes be more reluctant to interrupt or participate in class.

The teacher positively assessed the contribution of Yammer in the classroom and would recommend it to other teachers from the beginning and throughout the whole master's degree, as well as during all its seminars.

## 5 CONCLUSIONS

This research establishes that the use of corporate social networks (in this case Yammer) as a support in the communication and interaction between students and teachers in a postgraduate program is considered a good practice because it facilitates communication and social dialogue among all the members related to the class. The fact is that students' activity in online social networks has been shown to have a positive effect on various educational achievements like creative potential (*Dawson, et al., 2011*), the sense of belonging (*Dawson, et al., 2011*) and academic achievement (*Gašević, et al., 2013*), while the latter is transferable to the context of a social network in the very classroom. It is also a good support for knowledge management and a useful tool for many class dynamics (as listed among the real cases under study).

The majority of students believe their experience with Yammer in the classroom has been good and believe it has added value, although it could have been put to better use. The uses they most welcome, among the many they carried out and the ones available, were: "Sharing files and work documents in the group," "Creating groups for cases, projects, exercises, class dynamics, etc.," "Sharing links and valuable resources " and " Sharing news and events."



However, according to students, this corporate social network competes in some way with the rest of the communication, interaction and knowledge management systems existing among students (ex .: email lists, WhatsApp, Dropbox, etc. ), and it takes up part of students' scarce time and attention to achieve the network's highest level of performance. Moreover, students claim that they have no time to deal with the corporate social network in class and this effort does not compensate them for the value they obtain from it.

Students' experience and feedback shows that it would be recommendable to run the platform from the beginning of the postgraduate program, together with some training and examples of good practices, so that students should know how to make the most of it with the least effort possible. It needs to be done at the beginning of the master's degree to make sure that the platform meets students' necessities and avoid any improvised solutions that would be inadequate, less complete and with less potential for a group of postgraduate students.

Students also welcome the idea of a person who should boost class content and conversation in the corporate social network; it is undoubtedly so because the more useful the network, the more value it contains (in the form of contributions to the content and to dialogues) and only by ensuring sufficient activity will it attract the interest and activity of other users. This information is complemented by the respondents' suggestion that more vision and training in the Web 2.0 culture are needed in the classroom and in life in general.

It is also recommended that all teachers who teach postgraduate seminars as well as tutors of master's dissertations should know how to leverage the platform inside and outside the classroom in an appropriate, coherent and complementary way to the rest of the solutions in the virtual campus they might use. From the same viewpoint, teachers have found it very useful as a support tool for their seminars in all cases. However, its performance would be maximized if students joined the seminar with good practices of use of the platform acquired beforehand and if all previous and subsequent teachers consistently took advantage of the platform and the dynamics that allow to use a corporate social network in the classroom.

On the less positive side most students believe that "they doubt" that transferring the use of a corporate social network as the one used in class to their professional life would happen in the future. This is an opinion based on the insufficient attachment generated by the platform during the short period of study or by the previously mentioned deficiency in the Web 2.0 culture ("The student is not comfortable or does not see the potential of social technologies").

From the above results and considerations the authors conclude that corporate social networks like Yammer applied in the classroom are a very good platform for knowledge management, communication and interaction among all the actors involved in postgraduate education and strongly recommend it. However, proper student and teacher guidance and training is needed to motivate and maximize its use throughout the entire master's degree and possibly after its completion.

Among the limitations of this experience the fact that it has been limited to a single master's seminar and to only 5 groups could be emphasized. It is also a limitation the mediation of only one teacher during only one edition of each of the five master's degrees in 2015.

In future research the authors intend to carry out the study of this experience from the beginning of several master's programs and continue it throughout their duration, even further on, during the stage of alumni in order to strengthen social links between former students, teachers and the very platform of the organization.

It would also be advisable to extend the study of this experience to an undergraduate or college environment and compare the results with the ones obtained in this study.

## 6 REFERENCES

- Adell, J. (1997). Tendencias en Educación en la Sociedad de las Tecnologías de la Información. EDUTEC. No. 7, SIN: 1135-9250.
- Aghaei, S., Nematbakhsh, M. A. and Khosravi Farsani, H. (2012). Evolution of the world wide web: from web 1.0 to web 4.0. International Journal of Web & Semantic Technology (IJWesT), pp. Vol.3, No.1.
- Aguaded G., J. I. y Cabero, A., J. (2002). *Educación en Red. Internet como Recurso para la Educación*. Madrid: Ediciones Aljibe.
- Anderson, T. (2008). Social software technologies in distance education: Maximizing learning freedoms. En: International Handbook of Distance Education. s.l.:merald Group Publishing, p. 167–184.
- Back, A., Gronau, N., Tochtermann, K.: “Web 2.0” in der Unternehmenspraxis. Oldenbourg, München (2009)
- Berners-Lee, T., Cailliau, R., Groff, J. and Pollermann, B. (2010). World-wide web: the information universe. Internet Research, pp. Vol. 20 Iss: 4, pp.461 - 471.  
<http://dx.doi.org/10.1108/10662241011059471>
- Boyd, D. M. & Ellison, N. B. (2007). Social Network Sites: Definition, History, and Scholarship. Journal of Computer-Mediated Communication 13(1). <http://dx.doi.org/10.1111/j.1083-6101.2007.00393.x>
- Cabero A., J. y Cervera, M. G. (2002). *Materiales Formativos Multimedia en la Red. Guía Práctica para su Diseño*. Madrid: Doblas.
- Cabero A., J. (Coord.) (2007). *Tecnología Educativa*. Madrid: McGraw-Hill Interamericana de España, S.A.U.
- Cebrián de la S., M. y Ríos, J. (2000). *Nuevas Tecnologías Aplicadas a las Didácticas Especiales*. Madrid: Ediciones Pirámide.
- Cook, D. & Steinert, Y. (2013). Online learning for faculty development: A review of the literature. Medical Teacher, 35(11), p. 930 – 937. <http://dx.doi.org/10.3109/0142159X.2013.827328>
- Coughlan, S. (2014). The irresistible urge for students to talk. [En línea] Available at: <http://www.bbc.com/news/business-26925463>[Último acceso: 08 5 2016].





Dans, E. & Allen, D. (2001). B2B e-marketplaces: Percepción de la propuesta de valor en un mercado incipiente. *Economía Industrial*, IV(340), pp. 101-108.

Dawson, S., Tan, J. P.-L. and McWilliam, E. (2011). Measuring creative potential: Using social network analysis to monitor a learners' creative capacity. *Australasian Journal of Educational Technology*, 27(6), p. 924–942. <http://dx.doi.org/10.14742/ajet.921>

Erragcha, N. and Romdhane, R. (2014). Social Networks as Marketing Tools. *Journal of Internet Banking and Commerce*, 19(1).

Gašević, D., Kovanović, V., Joks imo vić, S. and Siemens, G. (2015). Where is Research on Massive Open Online Courses Headed? A data analysis of the MOOC Research Initiative, Alberta, Canada: Athabasca University.

Gašević, D., Zouaq, A. and Janzen, R. (2013). "Choose Your Classmates, Your GPA Is at Stake!": The Association of Cross-Class Social Ties and Academic Performance.. *American Behavioral Scientist*, 12 March, 57(10), p. 1460–1479. <http://dx.doi.org/10.1177/0002764213479362>

Hülsmann, T. (2004). The Two-Pronged Attack on Learner Support: Costs and the Centrifugal Forces of Convergence. En: C. W. & O. Z. J.E. Brindley, ed. *Learner Support in Open, Distance and Online Learning Environments*. Oldenburg: Universitat Oldenburg, p. 498–504.

Joks, S.; Kovanović, V.; Skrypyuk, O.; Gašević, D.; Dawson, S.; Siemens, G. (2015). The History and State of Online Learning, Alberta, Canada: Athabasca University.

Leiner, B.; Kahn, R.; Postel, J.; Cerf, V.; Kleinrock, L.; Roberts, L.; Clark, D.; Lynch, D.; Wolff, S. (2009). A Brief History of the Internet. *ACM SIGCOMM Computer Communication Review*, pp. Volume 39, Number 5, 22-31.

Leonardi, P., Huysman M., Steinfield, Ch. (2013). Enterprise Social Media: Definition, History, and Prospects for the Study of Social Technologies in Organizations. *Journal of Computer-Mediated Communication*, 19, 1–19 <http://dx.doi.org/10.1111/jcc4.12029>

Li, H.X. (2010), *SNS Tide – Embracing the New Transformation of Social Network*, Posts and Telecom Press, Beijing.

O'Reilly, T., 2007. "What is Web 2.0. Design Patterns and Business Models for the Next Generation of Software." , s.l.: Communications & Strategies.







Pallis, G., Zeinalipour-Yazti, D. and Dikaiakos, M. D. (2011). Online Social Networks: Status and Trends. *New Directions in Web Data Management* 1, pp. SCI 331, pp. 213–234.

[http://dx.doi.org/10.1007/978-3-642-17551-0\\_8](http://dx.doi.org/10.1007/978-3-642-17551-0_8)

Riemer., K, Tavakoli., A (2013) "The role of groups as local context in large Enterprise Social Networks: A Case Study of Yammer at Deloitte Australia", Business information systems working paper.

Ronald, B., Kilduff, M. and Tasselli, S. (2013). Social Network Analysis: Foundations and Frontiers on Advantage. *Annual Review of Psychology*, 64(1), p. 527–547.

<http://dx.doi.org/10.1146/annurev-psych-113011-143828>

Siemens, G., Gašević, D. and Dawson, S. (2015). *Future Technology Infrastructures for Learning*, Alberta, Canada: Athabasca University.

Skrypnik, O.; Joks, S.; Kovanović, V.; Dawson, S.; Gašević, D.; Siemens, G. (2015). *The History and State of Blended Learning*, Alberta, Canada: Athabasca University.

Treem, J.W., & Leonardi, P. (2012). Socialmedia use in organizations: Exploring the affordances of visibility, editability, persistence, and association. *Communication Yearbook*, 36, 143–189.

Walsh, J. P., & Ungson, G. R. (1991). Organizational memory. *Academy ofmanagement Review*, 16(1), 57–91. <http://dx.doi.org/10.5465/amr.1991.4278992>

