

# The role and potential of social networks sites in tertiary education

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## Abstract

**Purpose of the paper:** Social Networks Sites (SNSs) are becoming very popular among students and constitute a promising field for tertiary education evolution. This research aims at assessing the usage of social networks for educational aims and at evaluating the perception of university students towards this kind of usage.

**Methodology:** Methodologically, the paper rests on an extensive, comprehensive and comparative theoretical research on the subject, as well as on primary research involving the in-depth survey of 125 university students in Northern Italy.

**Findings:** The findings underline the importance of utilizing SNSs to improve educational communications, sharing of information, student-student and student-educator interaction, efficiency, polyphony and more. The research also stressed the need for SNS adoption to be specific and in accordance with both student and lecturer attitudes, competences and limitations, as well other therein specified stakeholders and added values.

**Research limitations:** this is an exploratory study based on a sample of moderately limited size and, although generically valuable, it focuses specifically on Northern Italy.

**Implications:** the present research, in addition to its practical applications, may be extended to the academic faculty and to an analysis, based on a wider sample, of the underlying motivators that inhibit students and faculty from adopting SNSs for educational purposes.

**Originality/Value of the paper:** although literature on SNSs in education does exist, studies on university students' attitude towards SNSs are scarce and contrasting. This research sheds light on this still underexplored, yet increasingly important subject by descriptively aiding the comprehension of SNSs for educational purposes, while prescriptively indicating advisable courses of action.

**Key words:** social networks sites (snss); student perceptions; student attitudes; student behavior; educational tools; tertiary education

## 1. Introduction, aim and structure

Well into the twenty-first century, the tertiary education sector, like every other sector, industry and organization, is trying to adapt to an incessantly changing external and internal environment (Thrassou and Vrontis, 2011). Technological, social, economic and customer behavior developments (Chebbi *et al.*, 2013) are pushing universities and colleges across the globe to develop, adopt or adapt new approaches, philosophies, processes and systems, in order to successfully fit into this new reality and research in education carries, perhaps, the greatest weight that it has in decades.

Social networks sites (SNSs) such as Myspace, Facebook, Twitter, etc. - increasingly used by consumers in order to search for information, communicate and share knowledge (Pantano *et al.*, 2010) - are becoming increasingly popular means of communication among university students, primarily due to their interactive and multidimensional features. After teaching and learning through educational modes such as m-learning or e-learning, interactivity and cooperation among students, as well as between students and teachers, without the confines of physical space are now possible throughout SNSs, allowing them to save time, risk-taking and monetary costs (Asabere, 2012). SNSs show progressively more sophisticated characteristics (Gandolfo and Lupi, 2014; Pace *et al.*, 2014) and most of them operate on a free service model based on advertizing revenues. Even if SNSs are attractive to educational institutions, they are prevalently commercially driven, albeit the result of an adaptation by educators and application builders (Weber, 2012). In any case, engaged learning in an online environment can be challenging for students, professors and administrators.

An important factor in the promotion of SNSs is the development and maintenance of social capital (Leafman *et al.*, 2013). The extensive use of social networking by students provides a great opportunity for educational researchers and an insight into the online behavior and preferences of learners (Hamat *et al.*, 2012). SNSs offer several resources and services such as messaging, blogging, group discussion, etc. and students are avid users of these sites (Haneefa and Sumitha, 2011). These sites could be an important tool for educational purposes, given that every day, through them, millions of people share information and resources and initiate communication and collaboration (Eteokleous and Ktoridou, 2011); moreover, they are user-friendly, student-centered and student-controlled (Bowers-Cambpell, 2008).

Even if the last few years have witnessed an increasing interest in using social media/social learning (Vernuccio *et al.*, 2015; Madge *et al.*, 2009) along with online courses, the actual educational functions are still limited and not developed to their full potential. Despite SNSs being a focus of discussion in various academic fields (Antonelli and Corrado, 2014; Galano and Marchigiani, 2013; Golder *et al.*, 2007; Pempek *et al.*, 2009; Hamid *et al.*, 2009; Pempek *et al.*, 2009; Eteokleous *et al.*, 2012), few studies have investigated their educational aims (Selwyn *et al.*, 2008; Schwartz, 2009) and almost none of them have evaluated the perception of university students within this scope. Most researches focus their attention on the real usage of SNSs by students and on their impact on their academic performance. For instance, Lee and McLoughlin (2010) consider SNSs useful for learners and instructors to present themselves socially in an online environment and connect with one another (Wheeler *et al.*, 2008). Many researchers however, have found that technological innovations should be accompanied by pedagogical enhancements for technology-rich interventions to be successful (Mishra and Koehler, 2006; Doering and Veletsianos, 2008; Veletsianos, 2010). Researchers have also carried out studies to assess the impact of SNSs on their users, showing how excessive usage causes psychological, physical, interpersonal

and educational problems (Suhail and Bargees, 2006). At the same time, education practitioners and theorists have begun to explore how SNSs can be used to describe and prescribe new paradigms for communication, learning and education (Abdelraheem, 2013). Al-Fahad (2009) shows how offering mobile learning could be our method for improving the retention of students by enhancing their teaching/learning.

Despite the rich literature on this topic, studies on students' attitude towards SNSs are limited and contrasting. This research builds the foundation necessary to bridge this literature gap by assessing the usage of social networks for educational aims and evaluating the perception of university students towards this kind of usage. The research focuses on the higher (tertiary) education sector and specifically on a university in Northern Italy. Methodologically, the research rested on an extensive literature review and the qualitative study of 125 university students. The first part of the paper is devoted to the definition and understanding of SNSs, their educational purpose and the attitudes of students towards them. The second part investigates their implementation towards educational purposes and the relative evaluation of the perception of university students towards them. In the context of the latter, the paper identifies the main potential consequences on the educational system to subsequently define and prescribe a new integrative framework of analysis and development. The paper concludes with some preliminary directions towards a value-based analysis that will ultimately refine and define SNSs-facilitated education.

## 2. Literature Review

### 2.1 Social network sites' definition and background

Every day millions of people use social networks (Pantano *et al.*, 2010) like Facebook (Conti and Carriero, 2014), Twitter, LinkedIn, etc. (Antonelli and Corrado, 2014) in order to create profile pages and groups with common interests, they socialize, upload pictures, videos, music, etc., leading the sites to involve an increasing number of people (Eteokleous *et al.*, 2012). As maintained by Kord and Wolf-Wendel (2009), they are part of youth's daily experiences and particularly attract young people (Hamid *et al.*, 2009) also because of their interactive and multidimensional characteristics. As a matter of definition, it is noted that user profiles or the ability to post comments on other users' content are not sufficient features to make a website a SNS. The latter term refers to websites that enable users to articulate a network of connections of people with whom they wish to share access to profile information, news, status updates, comments, photos, or other forms of content (Steinfeld *et al.*, 2012). Social network sites are defined by Boyd and Ellison (2008, p. 211) as "web-based services that allow individuals to construct a public or semi-public profile within a bounded system, articulate a list of other users with whom they share a connection, and view and traverse their list of connections and those made by others within the system". Boyd and Ellison (2007) also denote three essential components of SNSs: a user constructed public or semipublic profile, a set

of connections to other users within the system, and the ability to view one's own list of connections, as well as the connections made by others in the system.

Even if very recent, SNSs have their own interesting history. The first SNS, called SixDegrees, was created in 1997 and allowed people to create profiles, list their friends and, since 1998, to surf their friends' lists: this attracted a lot of people, but failed to become a sustainable business, leading to the site's closure in 2000. In the 1997-2001 period, several community tools (i.e. AsianAvenue, MiGente, BlackPlanet) started to support various combinations of profiles and publicly articulated friends, with a real wave of SNSs occurring in 2001 with the launch of Ryze.com that helped people leverage their business networks. Subsequently, in 2002, Friendster was launched as a complement to Ryze (Cohen, 2003), helping friends meet each other, but its servers and databases were not able to handle its rapid growth. Starting from 2003, several SNSs were launched - among which MySpace - obtaining great success and diffusion in 2004, especially among teenagers. This was the same year of the creation of Facebook, which was at first a Harvard-only SNS but then expanded to other universities and then globally (Boyd, 2008). Some SNSs personalized and/or customized their users' online communication: for example, LinkedIn is characterized as a SNS for professional contacts, while Facebook and MySpace have developed reputations for having a more 'open' nature with a large number of members who seek to contact users with shared interests or educational backgrounds (Ellison *et al.*, 2007).

There are several studies that focus on the use of social network sites by young people. While some researchers analyze their use among undergraduates, graduates and faculty or college members (Golder *et al.*, 2007; Pempek *et al.* 2009), others focus their attention on even younger people, aged 13-14 years old (Mikami *et al.*, 2010). The purposes of these studies on social network sites have also varied: some researchers analyze how SNSs encourage sociability (Keenan and Shiri, 2009) while others (Pfeil *et al.*, 2009) investigate age differences and similarities in the use of SNSs. Boyd (2008) studied how users construct online identities, manipulate SNSs profiles, and how certain aspects of profiles are capable of influencing friendship formation and others' impressions of SNSs users.

Ali (2012) identified their positive and negative effects and several other studies investigated the profile of users of SNSs and their underlying motivators and exhibited behaviors. For example, Young *et al.* (2009) studied this aspect in order to determine why and to which extent users are keen on posting their entire identity by sharing pictures and videos, etc.; while Hampton (2011) found that women use SNSs more than men to communicate and exchange information. Other researchers studied users' structure of friendship (Kumar *et al.*, 2004) while Gross and Acquisti (2005) investigated crucial aspects connected to SNSs, such as information revelation and privacy. Gross and Acquisti (2005) also investigated into the topic of privacy, which is the extent to which SNS users reveal personal information; and others analyzed the structure of the networks themselves (Hogan, 2008; Liben-Nowell *et al.*, 2005).

More recently, researchers have begun to show interest in their educational intent. Oradini and Saunders 2008 in fact, found that SNSs engage students in learning activities and communities through technologies which are familiar and accepted by them. This research joins this stream of research to investigate students' perception towards the usage of SNSs for educational purposes.

## 2.2 The educational role of social networks

The use of SNSs by students provides a great opportunity for educational researchers; the latter are becoming increasingly employed in the educational context and many educators are already exploring ways in which these tools can be used for teaching and learning (Ranieri and Manca, 2013; Selwyn *et al.*, 2008; Schwartz, 2009). The perception of students towards the usage of SNSs for educational purposes is a topic of both high knowledge value and in need of exploration. The use of SNSs appears to increase the sense of belonging among university students. Dorum *et al.* (2010) show how SNSs are associated with positive attitudes towards the academic, social and personal aspects of students' life; a most important association, especially for students who are not well integrated into the university and at high risk of dropping out. Furthermore, SNSs, and in particular Facebook, are used by students to manage group projects, coordinate meetings, chat and message about homework (Ellison, 2010). Typically, students at the University of North Carolina prefer debating on Facebook versus using the standard course management system and list pre-existing familiarity and user experience as key factors (Stutzman, 2008). Selwyn (2009) shows how students discuss five main themes through SNSs: recounting and reflecting on the university experience, exchange of practical information, exchange of academic information, displays of supplication and/or disengagement and "banter". Additionally, most students declare that a Facebook page would facilitate their learning, by means of increased interaction with students and instructors, and notifications for course information (Irwin *et al.*, 2012).

Mazer *et al.* (2007) observe good performances from SNSs users in terms of effective learning, which has resulted in a positive learning climate among students. Madge *et al.* (2009) found that 53% of the students who participated in a survey were positive regarding the use of Facebook for teaching and learning, as long as the focus was on administrative matters. Furthermore, Keenan and Shirii (2009) explored how SNSs encourage friendliness through the use of Facebook, Twitter and LinkedIn. On the contrary, other authors (Karl and Peluchette, 2011) concluded that many students feel uncomfortable with becoming friends with teachers and they aren't so keen on dealing with teachers through SNSs for educational purposes because they consider these to be a social space (Madge *et al.* 2009).

With regard to the usage of SNSs, research has found that SNSs have great potential to improve learning and sharing of information among learners and teachers (Ferdig, 2007; Maloney, 2007; Pence, 2007; Simoes and Borges Gouveia, 2008), with detailed evidence on students using SNSs for informal learning (Mazman and Usluel, 2010; Vivian and Barnes,

2010). Yu *et al.* (2010) suggested how social networking of university students with peers and professors could be a way to obtain information, knowledge, social acceptance and support. In the same way, Kosik (2007) noted that students use Facebook for academic purposes, particularly to connect people and to get information about assignments; while Chu and Meulemans (2008) found that SNSs are used in order to communicate with other students about school, instructors and courses. Professors could use Facebook to facilitate instructor-to-student and student-to-student course communication, manage class projects, answer questions, etc. (Abdelraheem, 2013). Furthermore, some authors (Daalsgard, 2008; Madge *et al.*, 2009) sustain that SNSs are used both as a “social glue” that helps students familiarize with other students and deepen the knowledge of their interests, ideas etc., and as a potentially useful tool for promoting effective academic practice. Hamid *et al.* (2009) propose a detailed literature review on the educational activities facilitated by SNSs, showing how most literature has focused on content generation, while not so much is understood about how SNSs could be used to share, interact and socialize (Table 1).

Tab. 1: SNS literature

	Online social networking			
Social Technologies	Content Generating	Sharing	Interacting	Collaboratively socialising
Blogs	(Sandars and Schroter, 2007) (Hargadon, 2008) (Churchill, 2009) (Murray, 2008)		(Churchill, 2009)	
Wikis	(Ras and Rech, 2009) (Sandars and Schroter, 2007) (Hargadon, 2008) (Kane and Fichman, 2009) (Murray, 2008)	(Kane and Fichman, 2009) (Ras and Rech, 2009)		(Kane and Fichman, 2009) (Sandars and Schroter, 2007) (Ras and Rech, 2009) (Rhoades <i>et al.</i> , 2009)
Photo sharing	(Sandars and Schroter, 2007) (Hargadon, 2008)			
Video sharing	(Sandars and Schroter, 2007) (Hargadon, 2008)		(Mason and Rennie, 2008)	
Podcasting	(Sandars and Schroter, 2007) (Minocha and Thomas, 2007) (Hargadon, 2008)	(Sandars and Schroter, 2007)		
Social bookmarking	(Sandars and Schroter, 2007)	(Eysenbach, 2008) (Churchill, 2009)		
Online discussion board	(Hemmi <i>et al.</i> , 2009)			(Wuensch <i>et al.</i> , 2009)
Instant messaging	(Sandars and Schroter, 2007)			(Sandars and Schroter, 2007) (Mason and Rennie, 2008)
Social Networking Sites	(Murray, 2008) (Virkus, 2008) (Sandars and Schroter, 2007) (Hargadon, 2008)	(Murray, 2008) (Oradini and Saunders, 2008)	(Murray, 2008) (Minocha, 2009)	(Murray, 2008) (Supe, 2008) (Oradini and Saunders, 2008)

Conversely, several researchers are skeptical towards the use of SNSs for educational purposes (Oliver and Goerke, 2007); Kennedy *et al.*, 2008; Kumar, 2009). Several studies have found how university students use SNSs prevalently to communicate with family and friends, to spend time, for entertainment (Sponcil and Gitimu, 2012; Sheldon, 2008) and mainly for social purposes (Boyd and Ellison, 2007; Lampe *et al.*, 2008; Madge *et al.*, 2009). Kirschner finds that the use of SNSs could lower a student's grade, a position shared by Enriquez (2010) who declares that "*the problem is that most people have Facebook or other social networking sites, their e-mails and maybe instant messaging constantly running in the background while they are carrying out their tasks*". Additionally, Szwelnik (2008) finds that students express their unease at the idea of their instructors being present in what these students consider their 'private personal space'. In essence, it is questionable whether students are willing or able to use them for teaching and learning or not, even if they are familiar with SNSs.

The true nature of the effectiveness of SNSs for educational purposes therefore is clearly debatable. It is however quite clear that the potential at least does exist for SNSs to promote cooperative learning; but this must be developed through empirical testing on university students.

### 3. Research Methodology

The research aims at (1) investigating the usage of SNSs for educational purposes and (2) evaluating the perception of university students themselves towards this. To carry out these tasks, the research involved 125 university students aged between 18 and 35, recruited between October 2013 and November 2013 in Northern Italy. Similar efforts were made in the past by researchers who, however, generally focused their attention on the academic usage of SNSs (Zanamwe *et al.*, 2013; Hussain *et al.*, 2012) or on the perception of students towards them (Al-Fahad, 2009; Dorum *et al.*, 2010).

The choice of exploring only the perception of students of this age range is dictated by the fact that this range of population is the one using SNSs most easily and will de facto represent a growing segment for educational purposes, assuming SNSs are indeed able to satisfy such needs.

The number of questionnaires (125) constitutes a representative sample for this partly exploratory research, necessary for developing an in-depth understanding of the perspective of university students. The sample is made up only of students (as opposed to faculty or administrators) as natural consequence of the focus of the research and because of the need to understand if SNSs would be accepted and considered valuable to the subjects themselves, before proposing them. The research is qualitative and based on a structured questionnaire which allows the emergence of the true motivators underlying the use of SNSs for educational purposes. The respondents were university students that were actively involved in the process of learning at the time and with knowledge of such tools.

The questionnaire comprises five main sections. The first describes the general data of the respondents, and the second investigates their individual usage of social networks for educational purposes by means of 7 closed-ended questions. A similar survey has been also carried out

by Hussain *et al.* (2012) in order to examine the academic use of social media. The third section seeks the respondents' evaluation in order to draw future strategies; and the fourth includes a 5-point Likert Scale (Likert, 1932) evaluation of 17 items structured on 4 main dimensions: learning, commitment/motivation, communication with classmates, and communication with professors. With regard to the latter section, a similar questionnaire, based on students' attitudes and perceptions regarding these tools, has been used in the past by Al-Fahad (2009); and another one (7-points Likert scale) has been used by Dorum *et al.* (2010) to measure the students' sense of belonging to SNSs. Brady *et al.* (2010) also used this type of questionnaire (albeit with different items), as did Barcelos and Batista (2013) who used a 5-points Likert scale in order to analyze the difficulties and advantages of the use of the Internet and Social Networks in teacher education programs.

The last of the five questionnaire sections rests on open-ended questions regarding the present and potential importance and usefulness of social networks for learning purposes. A similar questionnaire was used on the other perspective (teaching) by Bicen and Uzunboylu (2013) in order to find out how Facebook and Web 2.0 tools create a positive effect when used in education and to investigate teachers' opinions about the online learning environment. The questionnaire proved to be a suitable tool for the measurement of this variable: in fact, it shows a high validity of content and reliability, emphasized by a high level (0.894) of Cronbach's Alpha resulting in a high level of the internal consistency of the scale used with the sample of reference. Table 2 presents the sample's characteristics.

*Tab. 2: Sample demographics*

	Percentage
Students' gender	
<i>Male</i>	40%
<i>Female</i>	60%
Students' age	
<i>18-20</i>	10.4
<i>21-23</i>	49.6
<i>24-26</i>	36.8
<i>27-30</i>	2.4
<i>Older than 30</i>	0.8
Employment/University	
<i>Only Student</i>	92.5%
<i>Public employee</i>	1.7%
<i>Private employee</i>	1.7%
<i>Unemployed</i>	0%
<i>Other</i>	4.1%

Source: Research elaboration

The research design, as well as the elaboration of its findings, was further developed by considering its strategic marketing environmental context. This last one pertains also to theories on new product development, reflexivity and related and consequent organisational works (Vrontis *et al.*, 2010, 2011, 2012; Thrassou *et al.*, 2012).

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#### 4. Primary research findings

The acceptably completed questionnaires (125) were analyzed through SPSS 19.0 suite. The first study - in addition to the participants' general information - is based on the frequency analysis of the usage of social networks for educational purposes by university students.

With regard to the first objective of the paper (investigating the usage of SNSs for educational purposes) results show how most university students (61%) use SNSs for this purpose almost 1-3 times a week and, in terms of usage, the first place is covered by Facebook (87.2%) followed by YouTube (4.8%), MySpace (1.6%) and Skype (1.6%) (Tab. 3).

The main usage of these tools by university students is reserved to the interaction of pairs (Tab. 4): they use SNSs in order to interact with other classmates (prevalently to get help on academic matters, 48.4%) and to contact their classmates to arrange for group discussions (23.8%). As regard interaction with other students/professors, SNSs are considered useful in exchanging information about exam rules (36%) and in discussing class assignments (32%). University students think that SNSs facilitate their learning given that they increase interaction with professors and fellow students (28.7%) and allow them to participate in general discussions about course topics (38.3%). Interaction with professors is a critical point because students found a lower utility in interacting with them (very or extremely important only in 43.3% of cases); with messages (39.2%) and chats (30%) being the main functions.

The second part of the questionnaire is based on the evaluation of perceptions of university students towards SNSs for educational purposes (Figure 1, 2, 3, 4) and it is evident that the highest levels of agreement (that is the highest percentage of agreement at levels 4 and 5) is registered by two items relating to communication with classmates: "*I can share and solve my doubts through social networks*" (54.9% at levels 4 and 5) and "*Through social networks I can participate in group discussions about lectures, projects, exams*" (46.3% at levels 4 and 5) (Tab. 5). The first also shows the highest average level of agreement (3,546).

Tab. 3: Usage of Social networks for educational purposes (first part)

	Percentage
Use of SNSs for educational purposes	
<i>Never</i>	8.9
<i>Only once</i>	3.3
<i>Once per year</i>	0
<i>2-6 times per year</i>	7.3
<i>Once per month</i>	9.8
<i>2-3 times per month</i>	9.8
<i>1-3 times per week</i>	40.7
<i>Every day</i>	20.3
Most frequently used SNSs	
<i>MySpace</i>	1.6
<i>Facebook</i>	87.2
<i>Skype</i>	1.6
<i>Friendster</i>	0
<i>Hi-5</i>	0.8
<i>Flickr</i>	0
<i>Blog</i>	0.8
<i>YouTube</i>	4.8
<i>Classemate.com</i>	0
<i>Bebo</i>	0.8
<i>LinkedIn</i>	0
<i>Twitter</i>	0
<i>Other</i>	0.8
Why do you use social networks for informal learning?	
<i>To get help from my professors on academic subjects</i>	5.7
<i>To get help from my classmates on academic subjects</i>	48.4
<i>To contact my classmates to arrange for group discussions</i>	23.8
<i>To submit work/assignments to my professors</i>	2.5
<i>To contact my classmates to discuss academic work</i>	18
<i>Other</i>	1.6

Source: Research elaboration

Tab. 4: Usage of Social networks for educational purposes (second part)

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	Percentage
How do social networks facilitate your communication with your classmates/professors?	
<i>By discussing class assignments</i>	32
<i>By exchanging info about examination rules</i>	36
<i>By exchanging notes</i>	19.2
<i>By asking professors for information</i>	10.4
<i>Other</i>	2.4
How do social networks facilitate your learning?	
<i>They increase interaction with professors and fellow students</i>	21.7
<i>Participation in general discussions (with professors/students) about course topics</i>	38.3
<i>They allow me to ask for/receive information in real time from professors</i>	18.3
<i>They let me know about the availability of lecture notes and assessment parameters</i>	20.8
<i>Other</i>	0.8
How useful have you found them when trying to contact your lecturers?	
<i>Extremely</i>	8.3
<i>Very</i>	35
<i>Somehow</i>	36.7
<i>Just a little</i>	19.2
<i>Not at all</i>	0.8
Which function of social networks have you found most useful to contact your lecturers?	
<i>Chat</i>	30
<i>Messages</i>	39.2
<i>Events</i>	4.2
<i>Notifications</i>	8.3
<i>Comments</i>	17.5
<i>Friend requests</i>	0
<i>Photos</i>	0
<i>Other</i>	0.8

Source: Research elaboration

The highest levels of disagreement are registered with regard to the “Communication with Professors” and “Learning” dimensions. The most negative peak is obtained by the item “I interact better with my professor through social networks” for the former dimension (70.5% at levels 1 and 2

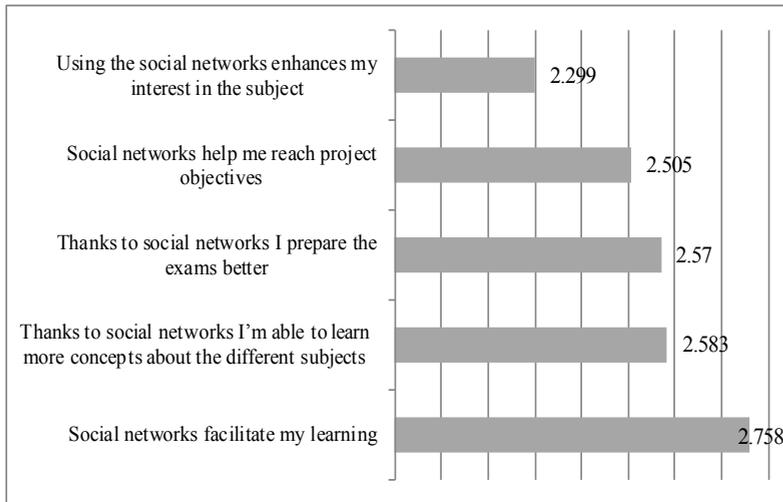
and an average level of agreement by 2.106) and “Using the social networks enhances my interest in the subject” (with an average level of agreement of 2.299) for the last one.

*Tab. 5: Evaluation of perceptions of university students towards SNSs for educational purposes*

	1	2	3	4	5
1. Learning					
Social networks facilitate my learning	10.7	32.2	34.7	14.9	7.4
Thanks to social networks I'm able to learn more concepts about the various subjects	13.2	33.9	38	10.7	4.1
Thanks to social networks I better prepare for my exams	24.2	22.5	30	19.2	4.2
Social networks help me reach project objectives	20	30.8	30.8	15	3.3
Using social networks enhances my interest in the subject	20	44.2	25	7.5	3.3
2. Commitment/Motivation					
I enjoy using social networking tools for educational purposes	16.4	42.6	26.2	12.3	2.5
I would like a higher usage of social networks for educational purposes by professors	10.7	24.6	31.1	21.3	12.3
I'm more interested in committing to course activities because of the use of social networks by professors	14.9	33.1	30.6	16.5	5
3. Communication with classmates					
Social networks increase my creativity and interactivity with the class	10.8	24.2	38.3	20.8	5.8
Through social networks I can participate in group discussions about lectures, projects, exams	2.5	16.5	34.7	37.2	9.1
Through social networks I learn more about my classmates	8.3	18.2	28.1	35.5	9.9
I can share and solve my doubts through social networks	4.1	9.8	31.1	36.9	18
Online discussions help me develop a sense of collaboration with the class	6.7	20	38.3	26.7	8.3
4. Communication with professors					
I interact better with my professor through social networks	36.1	34.4	16.4	9	4.1
Through social networks I can get more information from my professors in less time	21.3	39.3	21.3	14.8	3.3
Communication between students and professors through these tools enforce their relationship	19.7	35.2	29.5	12.3	3.3
Social networks allow me to know my professors better	21.7	28.9	32.5	12	4.8

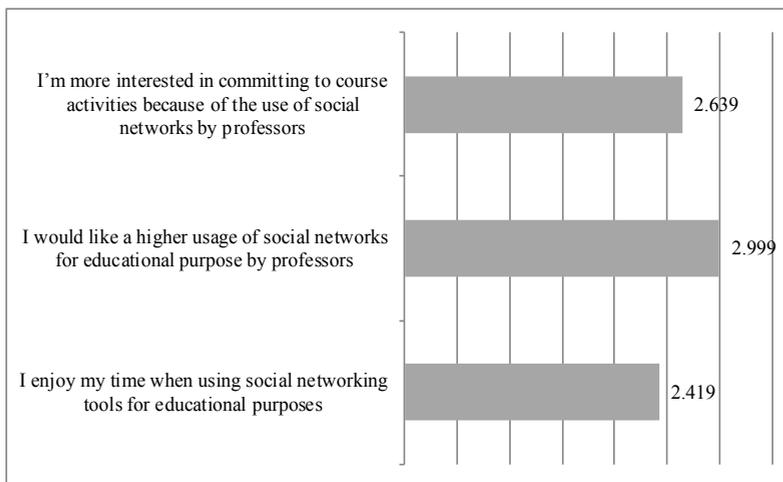
Source: Research elaboration

*Fig. 1: Evaluation of perceptions of university students towards SNSs for educational purposes – Learning*



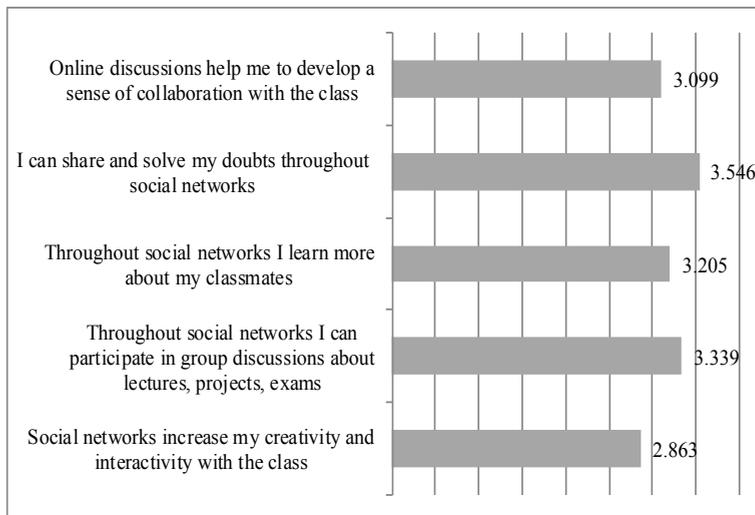
Source: Research elaboration

*Fig. 2: Evaluation of perceptions of university students towards SNSs for educational purposes – Commitment/Motivation*



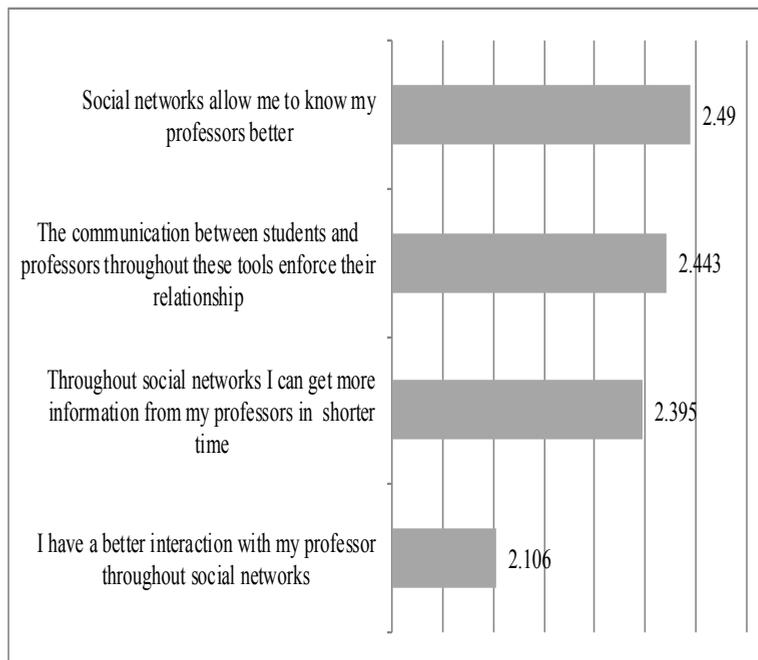
Source: Research elaboration

*Fig. 3: Evaluation of perceptions of university students towards SNSs for educational purposes – Communication with classmates*



Source: Research elaboration

*Fig. 4: Evaluation of perceptions of university students towards SNSs for educational purposes – Communication with Professors*



Source: Research elaboration

Despite the great diffusion of the use of SNSs, the analysis shows students' scarce interest in adopting them for educational purposes, or better, they consider SNSs as tools to interact with their classmates, but do not use them for learning or interacting with their professors.

Lastly and significantly, university students expressed their opinions regarding the main advantages and disadvantages of SNSs, emphasizing their unsatisfied needs and suggesting important possible future innovations/uses of social networks for learning purposes (see subsequent sections).

## 5. Results' elaboration and findings

The results of this research confirm the increasing diffusion of the usage of SNSs among university students (Selwyn *et al.*, 2008; Schwartz, 2009).

In fact, with regard to the first objective of the paper (investigating the usage of SNSs for educational purposes), there is a widespread usage of these (61%) for educational purposes with a predominance of Facebook, which has become the most popular SNS in the world (Mazman and Usluel, 2010), recognized as a respectable e-learning platform (Bosch, 2009).

Despite the several possible usages of SNSs, this paper emphasizes a very important result: university students use them only for limited aspects and in particular to quickly interact (prevalently via chat) with their pairs/classmates (e.g. to get help and to arrange for group discussions). In particular, the most used functions of SNSs are those allowing students to interact better with other classmates in order to discuss and share doubts and information like in the case of messages (39.2%) and comments (17.5%).

This confirms the results of a corresponding study by Hussain *et al.* (2012) who observes how university students use SNSs to share their learning experiences and research findings, get updated information and develop academic networks. Similarly, Kosik (2007) found that students use Facebook for academic purposes, particularly to connect people in their classes, and to get information about assignments. Chu and Meulemans (2008) found that the majority of students on a graduate program used both Facebook and Myspace to communicate with other students about school, instructors and courses.

With regard to the way SNSs can facilitate students' learning, the highest number of interviewees underline the importance of their participation in general discussions about course topics (38.3%) while scarce results are obtained with reference to the utility of SNSs in the interaction of university students with professors. In fact university students found SNSs "somehow" (35%) or "just a little" (19.2%) useful to contact their lecturers. Results confirm the position of Kosik (2007) and Chu and Meulemans (2008) on the use of Facebook by students and, more generally, SNSs to connect with people in their class and get information, but their interlocutors are mostly other students and not professors.

With regard to the second objective (evaluating the perception of university students themselves towards SNSs for educational purposes) this research underlines another important result. It identifies a positive attitude of students towards the use of SNSs for educational purposes, but only in

relation to their interaction and communication with their classmates and only when limited to particular aims such as discussion (46.3% of agreement at levels 4 and 5 and an average level of agreement of 3.339), and the sharing of doubts (54.9% at levels 4 and 5 and an average level of agreement of 3.546); this is expressed in the study carried out by Hussain *et al.* (2012).

Another noteworthy fact is that the only item which doesn't collect positive results regarding communication with classmates is "*Social networks increase my creativity and interactivity with the class*". This trend has also been observed in the pilot study for platforms for social interactions. Students therefore only use these tools to satisfy their needs (share doubts, discuss and get information). At any rate, students accept to use SNSs for educational purposes only when communicating with peers who are considered to be part of their social circle, while they exclude professors/lecturers from it, thus confirming the results of previous studies (Hamat *et al.*, 2012).

In fact, contrary to important contributions that emphasize the high potential of SNSs of improving learning and sharing information among learners and teachers (Ferdig, 2007; Maloney, 2007; Pence, 2007; Simoes and Borges Gouveia, 2008), interviewees expressed a degree of reservation/skepticism towards learning and communication with professors.

The highest level of negative perception is registered by the item "*I interact better with my professor through social networks*" (70.5% at levels 1 and 2). This shows a certain reluctance to use SNSs in order to interact with professors, thus confirming the results of another important study carried out by Chu and Meulemans (2006) who noted students' unwillingness to communicate with professors via SNSs and indicated that e-mails were considered a more appropriate means to communicate with faculty members. In any case, the use of SNSs was found to be uncorrelated with an increase of interest by students towards the subject.

Our analysis shows that "*communication with classmates*" was the only dimension that met the needs of university students, conversely underlying a scarce perception of their usage for different purposes. This should initiate a debate on the possibility of extending their use to improve communication between students and professors.

Overall, these findings show that SNSs for educational purposes have already naturally started to develop in this representative Italian university, but also that significant and well-targeted efforts should be made to ensure their further development.

Furthermore, the study shows also a balance (of benefits and disadvantages) of SNSs' development. The former include: better interaction with other students, the possibility of contacting people to ask questions '24/365', better preparation for exams, communication efficiency leading to saving time, the ability to elaborate on topics of individual courses and, in some cases, the ability to contact lecturers directly and more rapidly without waiting for office hours and outside of normal and confining structured procedures. Collaboration, time-efficiency and varied viewpoints are the same benefits identified by

Brady *et al.* (2010). Moreover, it is apparent that, as other sectors have seen, the use of internet-based innovations can reduce some of the competitive disadvantages of smaller organizations in both local and international contexts (Thrassou and Vrontis, 2008; Thrassou *et al.*, 2009; Tardivo *et al.*, 2014).

On the contrary, among the several disadvantages of SNSs, students identified the possibility of losing time because of the distractions they may pose, as well as their non-educational role. This is corroborated by Pierce and Vaca (2008) who noted that some uses of SNSs could be an additional distraction that influences grades negatively. They also noted the negative effect of the circulation of wrong or unofficial information through SNSs, their lack of privacy and, in some cases, the technical problems related to relying on internet-based educational tools. These were included in the findings by Kwan *et al.* (2010) who sustains that although the internet and SNSs are common sources for information among college students, they are not perceived as credible sources. An enhancing factor of the latter phenomenon is the lecturers' frequent inability or unwillingness to use such tools and their consequent limited contribution to them. In fact, despite the enormous potentialities of SNSs for educational purposes, many educators blame social media, such as Facebook, for the lack of quality in their students' writing (Abdelraheem, 2013). A final negative effect of SNSs' role is the gradual limitation of direct contact among students and between students and educators.

Another interesting finding of this research relates to students' corresponding and expressed unfulfilled needs of SNSs. Most need to interact with and quickly receive information from their lecturers, who however often do not use SNSs. This occurs in spite of the fact that SNSs (and in particular Facebook) have the capacity to support course management activities, enhance the provision of information and resources for students, as well as commit and motivate students through interactivity and collaboration (Naidu, 2005).

The final set of findings relate to students' suggestions/improvements regarding SNSs' use. Firstly, they prefer a greater use of SNSs by lecturers who, in their opinion, should post lessons on YouTube, as well as forums and groups on Facebook where they can answer students' questions. Secondly, they support the greater use of SNSs by the university to act as a bridge between the university and employers. Thirdly, it would be desirable the use of SNSs for university students of common country/national background. Fourthly, the development of a platform to facilitate the continuous interaction between students and professionals, for educational purposes would be very useful. Finally, the students favor the creation of a single page for each course where everybody can add information and important documents. These of course are only students' beliefs on how SNSs may improve their educational experience so they are not necessarily true. However, what emerges is that, from the students' perspective, SNSs are capable of contributing educationally in additional ways compared to the existing ones.

## 6. Concluding elucidations. A value based perspective and further research

By integrating suggestions from innovation management, educational tools and communication management perspectives, and combining them with its own primary findings, the present study has identified an increasing usage of SNSs by young people. This segment is proportionately growing in size and importance with time, and evidently constitutes a logical investment ground for the immediate future for tertiary education establishments.

Investment in SNSs for education however should not be 'blind', in the sense that not all SNSs' apparent potentialities are necessarily transcribed into true added value for educational purposes. The primary limiting factor, as in most industries and sectors, is the consumers (Thrassou, 2007) themselves (the students) whose attitudes and corresponding behavior ultimately define the scope and nature of useful SNSs' contribution. In particular, in the field of education, the study has identified that SNS use is especially valuable for interaction among students for direct and indirect educational purposes. The corresponding interaction between students and educators is quite limited owing to the lecturers' inability and/or unwillingness to engage in this and/or the students' apprehension in allowing their lecturers to 'invade' their personal cyberspace. These in fact (especially the former) are areas in which investment can be made. As regards student attitudes, the study also notes their rather negative stand concerning three dimensions (learning, commitment, communication with professors). This should be researched further to uncover the underlying motivators and potential subsequent investments to correct potentially erroneous compunctions.

By holding a wider perspective on the subject, the study finally must underline an erroneous anomaly of the current system. On the one hand we (essentially) have a generation of SNS users, who have in fact already incorporated SNSs in their everyday life. On the other hand, we have an educational system that largely relies on communication means to achieve its goals and yet is still largely unmoved by SNSs' educational potential. The anomaly does not lie in the contradiction per se, but the fact that through educational technology-based communication advancements, the greatest challenge has always been to teach educators and especially students to appreciate and use them. In the case of SNSs, most students and many educators are already familiar with these 'new' means, they accept them and are willing to use them. The task at hand for educational institutions is to adopt the system and processes that will maximize its value for all stakeholders.

This brings the present study to its last, but probably most important, elucidation: in order for the SNS-facilitated education to be viable and offer its best service, the offered *value* must be *comprehensive*. This does not relate to the multiplicity of its potential benefits (which are of course a self-evident goal), but to the need for SNS-facilitated education to add value to all stakeholders, in particular in an international context (Vrontis and Papasolomou, 2005). This means that further research should:

1. identify and comprehend the role of all the stakeholders who are involved in this effort;
2. define the potential benefits (added values) of the new value chain;
3. interrelate values with stakeholders to understand the system elements whose adoption will maximize the gains of the system both individually and comprehensively.

As far as *stakeholders* are concerned, simply and simplistically considering the two sides of ‘the university’ and ‘the students’ is not just inadequate, rather, it is probably setting the wrong scientific foundation to understanding the complexities and intricacies of the forces involved. To this end, this study proposes a more accurate breakdown of stakeholder groups to include:

1. tertiary education establishments such as *academic* units;
2. tertiary education establishments such as *business/economic* units, even for non-for-profit establishments (Vrontis *et al.*, 2007);
3. the tertiary education establishment’s *educators* as a group with individual and potentially separate attitudes and interests;
4. *students*, who could be subcategorized depending on educational criteria;
5. social/public groups that directly or indirectly affect education;
6. governmental and regulatory groups that directly or indirectly affect education;
7. others.

Even this preliminary list of stakeholders indicates the degree of complexity of balancing the interests and benefits of all subjects. Regarding the potential *gained values* that need to be considered, they preliminarily include:

1. economic benefits through efficiency;
2. economic benefits through disintermediation;
3. economic benefits through personal interaction limitation;
4. qualitative benefits through better communication and access to information;
5. marketing and public relations gains through establishment status upgrade;
6. product, usage and status upgrade of used individual SNSs;
7. others.

As a concluding remark, the present study states that *education cannot remain impervious to the social and technological developments that characterize the very people it is supposedly helping. SNSs have already been extensively adopted and adapted by individuals, businesses, organizations, industries and sectors across the globe successfully and with significant benefits. Tertiary education shall inevitably follow, but it must occur at the right pace, in the right way and for the right reasons.*

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