Creating Social Engagement Through Social Network Sites: A Survey In An Italian University

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Abstract

The aim of this article is to investigate the use of social network sites (SNSs) by universities. Indeed, in a context where higher education institutions are systems open to all members of society, engaged in the social and economic development, communication between science and society becomes a key element of the Third Mission theory, consisting of universities having to learn to communicate to the society where they work and live. In this sense, we will start with a literature review on social network sites, then we will carry out a case study analysis through an online questionnaire, that was submitted to Italian students with the aim to understand university students' relationship with social networks and their perception of university's presence on them. Data were collected by referring to a specific organization, highlighting the existence of several "unofficial" profiles for the institution, with students claiming for greater clarity in order to understand which are the "official" ones. Furthermore, they express a strong need for a structured and effective social media presence by their university, but this is not always delivered. The outcome of this work represents an input to verify official accounts of universities and to close all the unofficial ones, in order to direct followers towards the official ones and improve the communication effectiveness. Thus, according to the social engagement perspective, this analysis wants to show the use of SNSs as an instrument to build collaborative relationships with the community.

Keywords: Communication, Social Network Sites, Public Engagement, Online Communities.

1. INTRODUCTION

Over the last years, universities have started to fulfil a third mission, along their traditional ones of teaching and researching, on the basis of which they promote innovative processes and development not only for what concerns culture, but also society, politics and the economy [1-3].

The university becomes a system that is open to all members of society, sharing with them the knowledge it produces and providing its contribution to the social and economic development of its environment. In this context, the role of the researcher changes too: he does not only have to learn to communicate what he does and why he does it, he also has to communicate effectively to the society where he works and lives. In a broader sense, we can say that the possibility to transfer knowledge depends on certain factors [4]: knowledge has to be expressible in a way that

can be communicated; the knowledge that is transferred must be understood both by the sender and by the recipient; it must be possible to integrate such knowledge with different knowledge [3; 4].

The diffusion of new communication media enlarged and diversified the public of science with respect to the past and, thanks to the Internet being universally accessible, the distinction between the communication of science to experts and non-experts is now less intense [13]. At the same time, scientific contents have entered both new media and traditional ones, even if the latter were usually dedicated to news, sports and entertainment. In addition to this, several scientific communities developed projects to bring non-experts closer to science: examples of this are museums, cities of science, science festivals, science weeks or days, contests and prizes.

For what concerns the academia and policy, these phenomena fall under the Public Understanding of Science [5] label and, more recently, under the Public Engagement with Science and Technology [6] one. While the first concept focuses on the importance of scientific development for the future of society and on the need for citizens to be more and better informed in order to have a role in such development, the second is based on the idea of engaging spectators of science and of dialogues between scientists and the general public, due to the consideration that scientific literacy processes and mere communications are not enough to improve the understanding of science by the public.

The new keywords, in the Public Engagement with Science and Technology model, are dialogue, discussion and debate [7], in the attempt to promote interaction and bidirectionality; it is in this sense that public engagement activities are now considered part of the third mission of universities, seen as their new involvement in socio-economic issues [3; 11]. The concept of Public Engagement can be seen in line with that of Social Engagement, described as the set of the activities through which higher education institutions build linkages with external stakeholders and share the results of their work, by ensuring mutual benefits [8]. In literature Social Engagement has been defined in several ways: if according to Annette [9] it represents a "service learning", based on the idea to engage students who will provide society with a variety of services, according to Strand [10] it consists in a new kind of research, carried out with society, furthermore, it can represent a new form of education aimed to ensure sustainable development within society [11].

Dialogue between science and society is also very important for the success of the Europe 2020 strategy drafted by the European Union. Two core articles in the Horizon 2020 Decision (Regulation of the European Parliament and of the Council establishing Horizon 2020 and The Framework Programme for Research and Innovation, Com.809, 2011) are especially interesting: article 12 states that, to carry out the new program, one must employ inputs coming from specific public consultations and interactive and transparent processes that ensure support to responsible research and innovation[1]; article 22 envisages the dissemination of research projects toward policy makers to encourage using their results to develop connected policies, at the Union level, for member States and regions[2]. The article also calls for the organization of initiatives to strengthen the debate and dialogue with the public on scientific and technologic innovation, suggesting the use of social media and other innovative communication outlets.

This paper will focus on the role played by social media, and specifically by social network sites (SNSs), in higher education institutions. Indeed, these new communication media are extremely important for universities, whose primary stakeholders are student who, as we will see, massively use these tools, for university purposes as well [15]. Most studies so far focused on the educational purpose of SNSs, as well as on the ability of students to use them, while there are

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[1] "USE OF IN-KIND CONTRIBUTIONS PROVIDED BY THIRD PARTIES FREE OF CHARGE" Available: https://ec.europa.eu/research/participants/data/ref/h2020/mga/gga/h2020-mga-gga-multi_en.pdf
[2] "CHECKS, REVIEWS, AUDITS AND INVESTIGATIONS — EXTENSION OF FINDINGS" Available: https://ec.europa.eu/research/participants/data/ref/h2020/mga/gga/h2020-mga-gga-multi_en.pdf

very few studies analyzing how students perceive their university's presence and activity on SNSs. In our work we will focus on the Italian context and we will attempt to understand university students' relationship with social networks and their perception of their university's activity on social networks. More in-depth, we try to answer the following research question: *what is the university students' relationship with social networks and their perception of the university's presence on them?*

To do so, data were collected through an online questionnaire submitted to Italian students from all Italian universities, obtaining responses from 36 different institutions. Since the 88,96% of the total sample was from the same organization, we decided to exclusively focus on it, without considering responses deriving from the other ones. Collected data were analyzed with descriptive statistics, with the aim to retrace students' behavior on social networks.

The paper is organized as follows. In Section 2. we will conduct a literature review on social network sites, starting from their definition and then focusing on the main academic contributions on social network sites in higher education institutions. After depicting the methodology adopted in the research (Section 3.), in Section 4. we will present findings and results. Finally, Section 5. is dedicated to discussion and conclusions.

2. LITERATURE REVIEW
2.1 Social network sites
Today, we cannot imagine our lives without social networks: they make it easier to stay in touch with friends, to set up meetings and to connect and socialize with communities of like-minded individuals. Social networks have deeply impacted communication, both between individuals and between them and organizations, making it more direct, informal and horizontal [18-20].

If in September 2016, Facebook was by far the largest social network site, with more than 1,5 billion active users, in 2020 Instagram represents the most popular one, with over a billion users.

While the concept of social network was introduced by Barnes in 1954 [12] and defined as social structures made up of actors (both individuals and groups) and ties between them, the rise of the Internet led to the creation of online platforms, known as social network sites (SNSs), that have the potential of expanding the reach of traditional social networks to a global level.

Boyd and Ellison [13] define SNSs as "web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system".

Although SNSs widely differ in their features and in what they offer, a common trait is the creation of a personal profile by the user, within which contents (such as text posts, pictures, videos, music, news etc.) can be created and shared with a list of "friends" (which can be named differently based on the SNS being used), who in turn can share content with the user and their friends. It's the existence of a "friends" network that draws the line to identify a SNS, according to Steinfield et al. [14], rather than just the possibility to create one's profile and publish content to it.

The set-up process is similar for most SNSs: first of all, the user is asked to create his profile by answering questions on his age, location and personal interests. Depending on the SNS, different levels of customization can be attained. The second step requires to add others as one's contacts: the resulting network can be named "Friends", "Followers", "Fans" etc. Some SNSs, such as Facebook, require an approval by the friend to be added to the user's list of contacts, while others, such as Instagram and Twitter, allow users to "follow" others without their approval (except for private profiles, which are only visible to the user's network and need a "follow" request to be viewed), and in turn the user can be "followed" by people that are not part of his contact list. Certain information on the profile is public by default, such as the user's name and

profile picture; each SNS offers different privacy settings, meaning that content can be shared with the general public, only with the user's network or even with selected members of the network.

2.2 Social Network Sites and Universities

Social media, and SNSs, are seen as capable of strengthening knowledge creation [15]: this means that they could become a support for innovation and creativity [16].

In addition to this, they represent a useful tool to acquire knowledge, which in turn fosters innovation.

Universities, which are the object of this study, are places for knowledge creation and dissemination, but their web-based activities, such as e-learning, are often unidirectional and do not involve much exchange with students; SNSs are not much used by universities, at least not in a systematic and constant way [17]. However, universities could use SNSs in a variety of ways (and some already do), especially to encourage informal learning. The educational purpose of SNSs, and the subsequent opportunities for universities, are the most common objects of academic studies so far [18-20], although the amount of literature is still limited. Several studies also focus on the impact of SNSs on students' academic performance, which is mention-worth but beyond the scope of this study.

The use of SNSs is associated with positive attitudes from students towards academic, social and personal aspects of their lives [21]. In addition to this, students use SNSs to discuss classes and homework and to manage group projects [22]. When provided, students use Facebook pages linked to university classes, and they think that these would help them in interacting with others and in keeping up with their duties [23]: in fact, SNSs are an immediate and informal channel, which can encourage communication with teachers and learning, as well as bonding with fellow students and adjusting to university life [24-26]. Students can also use SNSs to improve their assignments before handing them in to teachers, and this behavior is shown to have a positive impact on assignment quality and marks [27].

Not all researchers agree on the positive effects of SNSs on learning, but according to Vrontis et al. [20] they at least can potentially promote cooperative learning, although empirical testing on university students is necessary.

Vrontis et al. [20] study how and if SNSs are employed for educational aims, and evaluate students' perception of this specific use of SNSs: their research focuses on universities in Northern Italy. According to the authors, 61% of their sample (comprising 125 university students) use SNSs for educational purposes at least 1-3 times a week, mostly to interact with other students and discuss class topics. Facebook is the preferred SNSs for this purpose. However, students are not interested in interacting with teachers and learning through SNSs.

At the same time, teachers and academic staff make limited use of SNSs for teaching purposes, mainly because of cultural resistance, pedagogical issues and institutional constraints [28].

Existing literature mostly studies specific cases, such as how a single university, or a part of it (e.g. a library) manages its SNSs, and the quality of students' engagement.

Peranginangin and Alamsyah [29] find that the most engaging topics on the university's Facebook page are visual presentations of the building and students' communal activities. However, students do not contribute the insight required so that the university can improve its activities, which means that engagement is not high enough.

University libraries often use SNSs, especially Facebook, in an effort to keep up with new technologies and to create borderless communities, accessible by everyone. The use of SNSs can either be spontaneous or part of a broader communication strategy by the university

institutions: in this case, the activity of the Facebook page will be linked to the institutional website and to other means of communication. The most frequent use of Facebook and other SNSs is exploratory and aimed at communicating information, rather than building new online relationships with students [30].

Another stream of research focuses on the influence of SNSs on power dynamics in academic contexts, showing that Facebook interactions between students and lecturers tend to preserve existing power relationships [31].

This research focuses on how a specific university uses SNSs based on students' perception, and how its strategies could be improved to provide a better service to students and to increase public engagement. Therefore, the perspective is the same as Vrontis et al. [16] in that it takes into account students' opinion, but the object of observation concerns the behavior of universities (and their single offices/administrations) when using SNSs.

3. RESEARCH METHODOLOGY

The research aims at analyzing (I) university students' relationship with social networks and (II) their perception of their university's activity on social networks. To do so, an online questionnaire was submitted to Italian students from all universities from May to June 2016, obtaining 1902 responses from 36 different universities. However, since 1692 (88,96% of the total sample) of those all came from the same university, from now on defined University X, we decided to restrict the sample to them in order to make it more homogenous, by excluding responses from the other institutions.

Before we look into the survey's results, we should describe the university's social media channels and activity. This will be done by checking the university's official documents, its website and by relying on interviews with communication staff; we also analyzed the results of searches on the main social networks. Data were obtained on October 14th, 2016.

Due to the university's organizational structure, communication activities, including managing social media channels, are assigned to employees who directly report to the Dean. The official university website lists four social media channels on its homepage: Facebook, Twitter, LinkedIn and YouTube.

For what concerns Facebook, the link goes to a page that is liked by 2.253 people. The official Twitter account is followed by 1.981 people; the linked LinkedIn profile only has 50 connections. Finally, the YouTube channels has 61 uploaded videos. The university website does not mention any other social media channels, but the YouTube official profile links to a Google+ account with 226 followers and a very limited activity.

Based on the interviews and on searches on the SNSs we just mentioned, we found other profiles, pages and accounts that are managed by university employees, although they are not listed as "official" channels. We found a Facebook page that is liked by 15.785 people, a Twitter account with 1.987 followers, a LinkedIn "company" page with 52.279 followers, which is not updated, and another "education" page with around 48.000 followers (the exact number is not available). Finally, there is an Instagram profile with 25 posts and 880 followers. All these channels are managed by university employees, but they are not official.

The university is not present on other SNSs (Snapchat, Tumblr, Flickr, Telegram). We should also note that none of the accounts, official or not, is verified.

We chose to exclude from the analysis all profiles, accounts and pages of specific offices, faculties, departments and courses which, although they are presented as official on university web pages, are focused on specific areas within the university. There are also several channels

created by students, and they often have more followers than official accounts managed by the university.

For what concerns other official communications channels, in addition to the general university website and specific faculty, department and course websites, there is mention of an E-magazine, a TV and a radio channel. While the E-magazine is up-to-date (although it does not share many posts), both the TV and radio channels do not seem to be active, and this was confirmed in interviews with the communication staff.

The data we collected indicate a poorly developed presence on social media, and a lack of clarity on which channel is official and which is not. This might mean that students, as well as other stakeholders, do not think that their university's social media presence is sufficient. We want to understand whether this could be true, and we will do so by using a survey whose results are presented in the next section.

Table 1 presents the sample's demographics, classified by gender, age, employment, level of study, and field of study. Most (60,46%) of the sample is female, with an age between 21 and 23 years. They mainly are full-time students at the bachelor level, while, for what concerns the field of the study, the most represented areas are Economics, Engineering, and Medicine and Health Science.

Gender	Female	60,46%
	Male	39,54%

Age	18-20	22,53%
	21-23	37,52%
	24-26	26,02%
	27-30	8,71%
	Older than 30	5,22%

Employment	Student-only	75,30%
	Part-time worker	18,84%
	Full-time worker	5,86%

Level of study	Bachelor's Degree	57,04%
	2-Year Master's Degree	29,59%
	5-Year Master's Degree	13,37%

Field of study	Economics	22,93%
	Engineering	22,34%
	Medicine and Health Sciences	19,50%
	Mathematical, Physical and Natural Sciences	14,54%
	Humanities, Arts, Philosophy, Foreign Languages, History, Archaeology	13,65%
	Law	5,61%
	Physical Education and Sports Science	0,95%
	Pedagogy, Education and Social Services Administration	0,47%

TABLE 1: Sample Demographics.

4. FINDINGS
The first part of the study aims at identifying the social networks that are the most used by Italian university students. Facebook is used by 94,33% of respondents, followed by Twitter (60,52%) and YouTube (49,65%) (Table 2.). Almost all students in the sample have a Facebook account, yet only 7% of the total university population follows the official Facebook page. This could depend on the quality of the content shared by the page which generates a low level of engagement, or by the lack of knowledge about the existence of the page itself.

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Social Network	Popularity
Facebook	94,33%
Instagram	60,52%
YouTube	49,65%
Google +	41,19%
Twitter	30,02%
LinkedIn	21,75%
Telegram	21,51%
Snapchat	21,04%
Pinterest	8,63%
Tumblr	6,68%
Flickr	2,30%
Other	0,95%
None	1,60%

TABLE 2: The most popular social networks among students.

For what concerns the use of SNSs for university purposes, 47,04% of students use them at least twice a week (and 6 times a week at most); 21,62% of students, however, use them everyday. Only 4,92% have never used SNSs for university purposes. (Table 3).

Frequency in social network using	Percentage
Everyday	21,62%
2-6 times per week	47,04%
Once per week	8,71%
2-3 times per month	8,83%
Once per month	2,07%
Less than once per month	6,10%
Only once in my university career	0,71%
Never	4,92%

TABLE 3: Frequency in social network using for university purposes.

The vast majority of respondents (83,81%) use SNSs to get in contact with fellow students; 42,79% use them to get information about university events, and 34,16% to further discuss about what they learned in class. Only 20,15% of students use SNSs to contact professors and researchers (Table 4). The strong prevalence of reasons linked to communicating with peers when using SNSs for university purposes might explain the low amount of followers registered by all official accounts; in addition to this, students might also get information about university events from unofficial pages, which we know have consistently higher amounts of followers than official ones.

Social networks for university purposes	Percentage
To get in contact with other students for university purposes	83,81%
To get information about university events	42,79%
To go deeper into topics discussed in class	34,16%
To get in contact with professors and researchers	20,15%
Other	1,54%

TABLE 4: University purposes for using social networks.

The questionnaire then proceeded to investigate students' perception of the presence of their university on SNSs. 37,71% of students think their university is present on Facebook, followed by Google+ (34,04%), Instagram (11,29%), LinkedIn (9,24%), Twitter (8,93%) and YouTube (6,1%) (Table 5). Given the information provided in section 3, students' perception may be wrong, or they may be following unofficial accounts, believing that they are managed by the university. In fact,

7% of students think that their university is present on certain social networks (Snapchat, Flickr, Tumblr, Telegram) while it is not.

SN	Yes
Facebook	37,71%
Instagram	11,29%
YouTube	6,10%
Google +	34,04%
Twitter	8,93%
LinkedIn	9,24%
Telegram	2,60%
Snapchat	1,53%
Pinterest	1,30%
Tumblr	0,89%
Flickr	0,71%
Other	0,06%

TABLE 5: Students' perception of their university presence on specific social network sites.

Direct interaction was then investigated, asking students whether they follow their university's official page on different SNSs. Facebook is once again the most popular platform, with 70,53% of students "liking" their university's page. Twitter ranks second, although the percentage of students following their university's account is much lower (39,74%) (Table 6). Although 70% of students claim to follow their university's official Facebook page, we know that only 7% of the total student population does, so we observe a strong discrepancy in this result. The same can be said for the other official accounts, whose following is even lower than the Facebook one.

University's official pages	Percentage
Facebook - *Like*	70,53%
Twitter - *Follow*	39,74%
Youtube - *Subscribe*	27,18%
LinkedIn - *Follow*	15,38%

TABLE 6: Students who follow their university's official pages on SNSs.

While 32,09% of students never interacted with their university's social network channels, most of them do so for information purposes, such as obtaining information about university events (37,12%), about scholarships and other opportunities (30,85%), or about the university itself before enrolling (19,15%). 24,05% of students, rather than just browsing the social network channels to find useful information, ask for it by wall posts or private messages (Table 7).

Students' purposes	Percentage
To get information about university events	37,12%
To get information about scholarships and other opportunities	30,85%
To ask for information by wall posts or private messages	24,05%
To get information about the university before enrolling	19,15%
I tagged my university's official channels on a post, tweet, picture, etc.	3,78%
Other	0,12%
I have never used my university's social network channels	32,09%

TABLE 7: How students have used their university's social network channels.

Students also use the university's official media, such as the faculty website (83,69%), the department website (63,71%) and the general university website (55,14%) (Table 8). It's interesting to note that 5,26% of students claim to use the university mobile app, but it does not exist, so they might be using an unofficial app and believe that it is managed by university staff. University, faculty and department websites might be more useful to students in fulfilling their

needs, since they usually provide all the information they might look for, both on "educational" aspects (course structures, lesson schedules, etc.) and for "recreational" ones (events, gatherings), while a social media channel might not do this.

University's media	Percentage
University School/Faculty Website	83,69%
University Department/Course of Study Website	63,71%
University General Website	55,14%
University mobile app	5,26%
University radio	0,41%
University newspaper/magazine	0,35%
Other	0,06%

TABLE 8: Other university's official media used by students.

Finally, 69,86% of students also use non-official social network channels for university purposes (Table 9).

The questionnaire goes on to ask students for their opinion on their university's social media presence. On a scale from 0 ("absolutely not") to 5 ("absolutely yes"), students think that it's fairly important that universities are actively present on SNSs (score: 3,7) (Figure 1).

Absolutely 0 ——————— **3.7** ——→ 5 Absolutely
not   yes

FIGURE 1: Students perception of the importance of an active presence
on social networks for universities.

For what concerns the presence of their own university on SNSs, students are not entirely satisfied, with a score of 2,1/5 for the adequacy of the social media presence of their university (Figure 2).

Absolutely 0 ——— **2.1** ——————→ 5 Absolutely
not   yes

FIGURE 2: Students' perception of the adequacy of the university presence
on social network sites.

5. DISCUSSION AND CONCLUSIONS

Since, according to the Social Engagement perspective, universities have been called to perform a set of activities in order to build linkages with external stakeholders and share the results of their work [32; 33], the aim of the research was to understand whether and how higher education institutions exploit social networks as an engagement tool. Our analysis is based on data collected four years ago, indicating that the use of social networks was widely spread among university students, with almost all respondents used them for university purposes. At the same time, the most frequent reason to use them was to communicate with other students and find information about university events; in fact, the majority of respondents didn't know if their university was present on the main social networks. Students who knew their university's official accounts on social networks only interacted with the Facebook page, and even the amount of "likes" was extremely low when compared with the total student population and with the amount of respondents that had an account on Facebook at that time. The university's official website, as

well as faculty and department websites, seemed to be students' preferred channel for interacting with the university, since they included all the information that they might be looking for. Students thought that being present and active on social networks is important, but they didn't think that their university understands it, and therefore it didn't have an adequate strategy to face this challenge. In this sense, the value of this work is the demonstration of the potential that characterizes social networks in the university's social engagement perspective: they have to be used in a bidirectional way (and not unidirectionally [17]), with the aim to stimulate a sense of belonging and connection from students to their institutions.

Given these considerations, for what concerns our research question - *what is the university students' relationship with social networks and their perception of the university's presence on them?* - we can conclude that there was a meaningful online interaction between Italian universities and their students, but several aspects had to be improved in order to make social networks as a relevant and recognized instrument to engage students; consequently, some recommendations for universities were derived from this study.

First of all, official accounts should be verified, and all unofficial accounts should be closed, with their followers directed toward the official ones. This would increase clarity in communication, and it would provide students with a single profile on each social network, rather than multiple accounts whose information is not always up-to-date.

Secondly, employees in charge of managing social media channels should receive adequate training in order to be able to increase the engagement rate on the university's accounts; a specific task force could be created within the communication department, with the specific goal of improving the university's social media strategy.

Of course, such situation has evolved overtime: today the university has improved its engagement through the official website and then, in order to better meet the new students' online habits, an official account on Instagram (currently the most used social network) was opened. In this sense, Instagram posts and stories are exploited by the university in order to share information, to promote events, but also to collect students' opinions, stimulating their engagement in the content design process. At the same time, a series of unofficial accounts and pages have been closed.

The use of SNSs by universities is also important in a social engagement perspective, as long as it is included in a broader strategy that aims at building collaborative relationships with the community, and not just random projects and activities.

This paper is not without limitations. This research is mainly limited by the fact that it only focuses on a specific university: further analyses could compare data from other universities to understand whether they perform better in terms of social media presence, and what are their points of strength. It could then be possible to draft a social media strategy theory specifically designed for universities. Other limitations regard the validity of the results achieved and the lack of inferential analyses: for what concerns discrepancies we retraced, we have to consider that students could have provided incorrect answers to the survey, while for what concerns the methodology, in a future perspective, we can think to perform inferential quantitative analyses (such as multiple regressions) in order to verify the extent to which universities' performances on social networks influence the students' enrollment.

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