

STUDY OF SOCIAL NETWORKING USAGE IN HIGHER EDUCATION ENVIRONMENT

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ABSTRACT

Social networking, in specific term, access social network application through internet connection, is a new trend in almost organization today. This phenomenon also aroused some debate about impact of employee productivity by using social networking site during office hours. The phenomenon of social networking access also occurred in higher education environment. Despites of debate about negative assumption of social networking impact on productivities, some of campus elements such as students or lecturers using these sites to disseminate information and support the communication among them.

According to this phenomenon, we conducted the research to explore the usage of social networking in higher education environment, especially among lecturers and students, and analyse the impact into teaching-learning activity. Research was conducted in three private universities which have familiar with social networking activity. The research focused on usage of four kinds of activity such as connecting through facebook, microblogging, instant messaging, and blogging, by request online survey from 300 respondents, which come from three universities.

The result show that most respondents agree for free access into social networking during office hours, and at about 60% respondents using these access not only for entertain but also for information distribution and communication to support teaching activity. The usages vary from task assignment, announcement, class rescheduling negotiation, examination, and so on, which uses some application such as Facebook, Twitter, instant messenger and blog site. The objective of these results is trying to propose the policy of social networking access which most suitable with user behavior in each environment

Keywords: social network, usage, higher education.

1. INTRODUCTION

Web is a democratic, open and DIY (Do-It-Yourself) communication media, as mentioned by Berners-Lee (2001). The use of online social media networking activities in higher education varies from blogging, Wikis, and social networking sites. Table 1 shows summarize of online social media usage in higher education. (Hamid, 2009)

Table 1: Matrix of OSN and Social Technology (Hamid, 2009)

Social Technologies	Online Social Networking				Example
	Content Generating	Sharing	Interacting	Collaboratively Socialising	
Blogs	✓		✓		Blogger, wordpress
Wikis	✓	✓		✓	wikipedia
Photo Sharing	✓				Flickr,
Video Sharing	✓		✓		YouTube
Podcasting	✓	✓			
Social bookmarking	✓	✓			
Online discussion board	✓			✓	

Instant Messaging	✓			✓	Yahoo Messenger, Google Talk
Social network sites	✓	✓	✓	✓	Facebook, twitter

Social Network (SN) media had shown their growth rapidly in higher education where the most users are at young age and “digital native”. According to this trend, some universities had adopted this opportunity to support their academic activity, official or unofficial activity, by students and lecturers. In the other site, some of them still worry about negative impact of this trend and choose to apply restricted access on SN media. This research has an objective to explore the usage of SN media in higher education and try to uncover the benefit of SN usage to support academic activity.

2. LITERATURE REVIEW

2.1. Social Media Network: Definition and Usage

Social media has proof its ability to boost the communication between people and many industries are attempting capitalized on the power of social media. But, there is one industry in particular that is best suited to adapt to these new mediums – institutions of higher education. As social networking has become one of the most popular means of communication among the traditional college-age demographic, universities are beginning to utilize these technologies to communicate with current and prospective students (Gruber, 2009)

The Educause Center for Applied Research (ECAR) Study of Undergraduate Students and Information Technology, 2008 defines social networking sites 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 (Gruber, 2009).

According to recent statistics, some site published the survey result of social media usage. Socialnetworkingwatch.com states that 68% women and the rest are men. Socialnomics.net mentioned some fact which show the grow of social media, such as (Qualman, 2009):

- Years to reach 50 million users: radio (38 years), TV (13 years), internet (4 years), iPod (3years), and Facebook (100 million users in less than 9 month).
- If Facebook were a country it would be the world’s 4th largest between the United States and Indonesia (note that Facebook is now creeping up – recently announced 300 million users)

Social media take on many different forms, such as internet forums, weblogs, social blogs, microblogging, wiki, podcast, photo or video sharing, rating and social bookmarking. Kaplan and Haenlein divide the social media types into six categories such as (Wikipedia):

- Collaborative project (ex. Wikipedia)
- Blogs and microblogs (twitter)
- Content communities (youtube)
- Social networking sites(facebook)
- Virtual game worlds (world of warcraft)
- Virtual social worlds (second life)

Technologies used in social media include: blog, picture-sharing, vlogs, wall-posting, email, instant messaging, music-sharing, crowdsourcing, and VoIP.

Functionality and the usage of Social Media Network has spread into several aspects as described in framework proposed by Kietzmann. (Hermida, 2011). This framework show the seven building block of social media functionality, which are: identity, conversation, sharing, presence, relationship, reputation and groups.

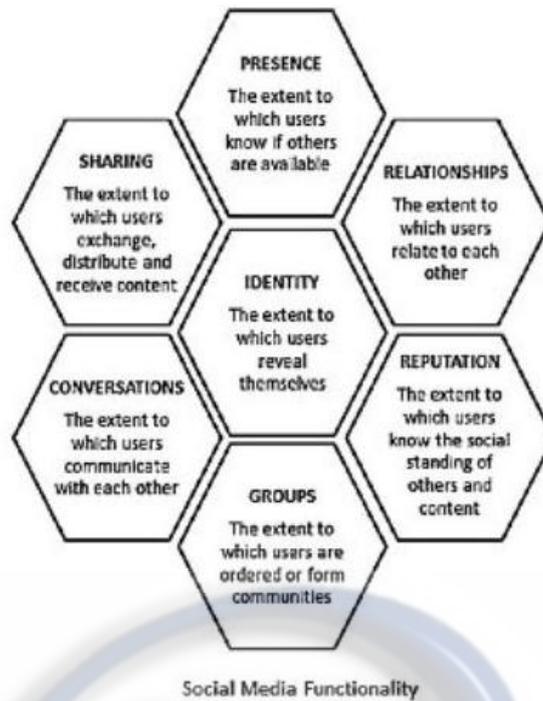


Figure 1: Social Media Functionality Framework (Kietzmann)

2.2. Usage of Social Network in Higher Education

There is pros and cons of social network (SN) usage in higher education environment. Although some of Web 2.0 users are youngster, but to adopt the social technologies in class room needs careful plan for some reason, for examples not all digital natives are keen to have such technologies for various reasons: diversity of experiences, familiarity, attitudes and expectation of the students towards online technologies (Hamid, 2009).

Despite of the pros and cons, some of social network media has exceed their functionality, from non formal media into formal and official media, both for public information and communication. Facebook and Twitter for example. Facebook itself, after 3 years release (2007), this site introduced the fan page concept which is successfully attracting many users to create their fan page officially. The owner of fan pages varies from small or individual business into big company such as HP, Fujitsu and so on. Many universities jumped at the opportunity to create an official Facebook, and also some of sub organization in the university, for example library, students association, students forum, etc. Fan pages can creates viral marketing effect, because it can catch the interest from the friends of people who already become fan (Reuben, 2009). Twitter also has successful reach the popularity relatively faster than Instant Messaging such as Yahoo Messenger (YM!) or Google Talk. Having Twitter account can become one of "official" identity in virtual worlds, beside email address as you can see in formal poster publication in public area. Many students and lecturer creates viral networking using twitter and follow each others. It also helps the user to spread information and express their opinion directly to the others.

Indonesia also has their own social networking media which is Kaskus. Most of students in higher education express their opinion, share the experience using Kaskus. Some of them create groups in Kaskus and kaskus also has successful create their own virtual community. They share common netiquette and some terminologies which have specific meaning in Kaskuser (the kaskus users) community.

The usage of SN media in higher education can vary from marketing media, information media, communication media, feedback, complain, announcement, sharing, task assignment and examination. The intensity of SN media usage depends of some factor such as:

- The background and behavior of user
- University policy on internet access
- The attitude of user

- The behavior of university communication
- The role and rule of SN in daily communication

3. RESEARCH OBJECTIVE AND METHODOLOGY

The objective of this research is to uncover some fact about SN usage in higher education by identify the dominant usages on basic functionality and academic specific activity. The result is expected can answer such questions as:

1. Are there positive benefits of SN usage in higher education?
2. What of dominant functionality of SN usage in higher education?
3. What kind of policy and support needed to optimize the benefits of SN usage?

The research was held in three universities which has different policies on social networking usage during office hours. University A is relatively the biggest one, which has good IT support and facility, but only has one faculty of engineering with 20% of total student come from faculty of engineering. The second University, B, has established almost 25 years, has specific field of interest in engineering area so most of the students are come from faculty of engineering. Both University A and B has some lecture and management who come from oldies generation which are not so familiar with new technologies such as internet and Web 2.0.

The third university, C, relatively new and most of lecturer and staff are young age people. This university only has specific interest in computing area which includes networking and application. This university also has good network platform and encourage the students to take a laptop in every place at the campus environment. To support this atmosphere, they provide wireless and wired network access almost everywhere in the campus area and it is easy to access the internet during or after office hours.

Internet has become significant requirement for these universities, but they apply different policies in managing internet access. The first university (A), apply tight policies such as not allowing open Facebook, yahoo messenger, tagged, and other site which has little relation with academic purpose during office hours, they also put limitation on download site such as Torrent but it allow us to open the Rapidshare, 4shared, Ziddu, Youtube, and other site. The second University is relatively open in the Social Networking sites such as Facebook, yahoo messenger but apply restricted policy on Twitter and downloading document from site such as Rapidshare, Ziddu and Torrent. The last one, University C, has no limitation to open any SN site but put limitation on downloading file especially from Torrent and Rapidshare.

To assess the characteristic of social networking usage in these universities, we conducted the survey to answer the usage of social networking according to 7 functionality framework and also tried to explore the usage in academic purposes.

The survey was held by online questioner which asked into at least 300 respondents, 100 respondents from each university. The composition of respondents consists of 50% students, 30% lecturers and 20% staff.

The questioner was divided into 4 segments which are:

1. University Profile (according to internet facility) : the time of availability, restricted site access, quality of connection, speed of connection, speed of updating content, speed of download/upload content.
2. Respondent profile and internet literacy profile which are : age, work experience (years), gender, Internet account : email, Facebook, Twitter, Instant Messenger, blog, and LinkedIn), the period of internet usage (years), the frequent of internet usage in daily(times) , the time spent of internet usage for each event (minutes), most frequent visited site, and the reason when visiting (sharing, collect information, conversation, presence, reputation, and groups)
3. The usage of social networking according to its basic functionality :
 - a. Sharing
 - b. Presence
 - c. Relationship
 - d. Conversation,
 - e. Identity
 - f. Reputation
 - g. Groups

4. The usage of social networking according to its support in academic activity:
 - a. Task Assignment
 - b. Announcement
 - c. Class Rescheduling
 - d. Task/schedule negotiation
 - e. Examination
 - f. Resource Material (searching/sharing)
 - g. Others (entertain, communication, information update)

Table 2 shows the profile of internet facilities on three universities. Most of them has good internet connection and has good perception from their users.

Table 2: Profile of Internet Facility

University	A	B	C
Operation (years)	22	30	5
Internet adoption (years)	8	8	5
Internet connection availability	WIFI : poor Wired : strong Time : 24 hours	WIFI : poor Wired : strong Time : 24 hours	WIFI : good enough Wired : strong Time : 24 hours
Restricted site access during office hours	Facebook IM Rapidshare, torrent	Twitter	Rapidshare Torrent Ziddu
Speed of upload/download *)	Very good	Very good	Very good
Speed of updating content *)	Very good	Good	Very good

*) based on general users perception.

Respondent was selected mostly from “techie” generation which has good internet literacy, because we use online questioner tool when conducting these survey. Table 3 shows the profile of respondent. As mentioned above, the third university (C) has relative younger lecturer and staff than the others. Facebook is the most favorite account of each student. All of them already has facebook account. Despite of this fact, not all of them had an official email address (which has domain their own university). The usage of official email only dominant at University A, that has formal regulation and culture to spread formal information using official email address. Table 3 show the percentage of respondent relative to the others. For example, only 50 % students in University A (from total respondent) who has an official email address.

Table 3: Profile of Respondent

Respondent's Type	Students			Lecturers			Supporting staff			
	A	B	C	A	B	C	A	B	C	
University	A	B	C	A	B	C	A	B	C	
Age (average)	20	21	20	32	35	30	35	35	30	
Gender (%) **)	M=60	M=70	M=50	M=70	M=50	M=50	M=80	M=60	M=30	
Working experience (years)				8	8	3	10	8	3	
Internet account (%) **)	Official email	50	0	20	90%	60%	50%	90%	20%	40%
	Free email	80	100	85	80	85	90	30	30	90
	Facebook	100	100	100	85	75	100	50	40	80
	Twitter	80	60	75	50	20	30	10	10	15

	IM	30	50	55	50	50	50	10	10	35
	Blog	20	10	25	30	10	35	10	0	10
	LinkedIn	20	0	10	35	20	25	0	0	10

***) Percentage of total respondent, Gender M=male

We use information in Table 4 to show the internet literacy profile of our respondent. The values that put on the table are the average took from the respondent's answers. This table can show that in University C, the average of time spent on internet (for each site) is relative higher than the others, although their period of internet usage is the smallest one. It has strong relationship with academic atmosphere and availability of internet access.

Table 4: Internet Literacy Profile

University	A	B	C
The period of internet usage (years)	5.5	4.2	3.2
Frequent of internet usage daily (times)	4	3	6
the time spent of internet usage for each site (minutes)	10	10	15
the site is most frequent visit	Twitter, wikis, facebook	Facebook, wikis, blog	Facebook, wikis, twitter,
the reason when visit the site	Presence Reply email Collect information Sharing	Presence Reply email Sharing Collect information	Sharing, Collect information Conversation Reply email

Table 5 show the recapitulation of questioner for University A, for basic functionality of SN usage which refer to Social Media Network Functionality. Function No. show the number of functionality which is: (1) Sharing, (2) Presence, (3) Relationship, (4) Conversation, (5) Identity, (6) Reputation, and (7) Groups. S, L and F represent the Students, Lecturer and Staff responden.

Table 5: Social Network Usage based on Basic Functionality for University A

Function No.	1			2			3			4			5			6			7		
	S	L	F	S	L	F	S	L	F	S	L	F	S	L	F	S	L	F	S	L	F
Facebook	50	25	10	65	20	10	70	20	10	40	10	0	10	20	10	15	20	10	30	10	10
IM	10	10	50	10	20	10	40	30	0	30	10	0	10	0	0	10	20	20	10	10	0
Blogging	10	10	0	5	10	0	10	10	0	10	10	0	10	20	0	10	16	20	0	15	0
twitter	68	60	30	20	65	30	20	10	10	60	40	35	40	35	30	20	28	25	60	31	10
average	35	26	23	25	29	13	35	18	5	35	18	9	18	19	10	14	21	19	25	17	5

4. RESULTS AND DISCUSSIONS

Table 6 and Table 8 show the average value of SN usage based on Basic functionality (table 6) and academic specific purpose (table 8).

Table 6: The Average Values of Basic Functionality of Social Networking Usage

Function No.	1			2			3			4			5			6			7		
Responden	S	L	F	S	L	F	S	L	F	S	L	F	S	L	F	S	L	F	S	L	F
average (A)	34.5	26.3	22.5	25.0	28.8	12.5	35.0	17.5	5.0	35.0	17.5	8.8	17.5	18.8	10.0	13.8	21.0	18.8	25.0	16.5	5.0
average (B)	19.3	10.0	2.5	16.0	8.8	6.3	27.5	20.0	3.8	31.3	3.0	0.0	22.3	5.0	2.5	13.0	2.5	2.5	17.5	2.5	0.0
average (C)	28.0	28.8	25.0	22.5	16.8	30.0	27.5	22.0	29.8	33.8	24.3	22.5	35.0	23.8	28.0	21.5	32.5	19.8	28.8	24.3	24.3
total average	27.3	21.7	16.7	21.2	18.1	16.3	30.0	19.8	12.8	33.3	14.9	10.4	24.9	15.8	13.5	16.1	18.7	13.7	23.8	14.4	9.8
total average/function	21.86			18.50			20.89			19.56			18.08			16.14			15.97		

According to the values on Table 6, we can see that the most dominant functionality of social networking usage is for sharing and relationship. Most of respondents use SN for sharing their opinion, feeling, complaint or anything in their mind to their friends. Some of them do not apply different treat when sharing opinion, for example, with the students or between lecturers. They treat them nearly equal that show the democracy of internet social media. Table 7 shows the 3 dominant functionalities of SN. The different result show that most student using SN for conversation and sharing and they almost do not care about reputation. In the other hand, some of lecturers still keep their reputation and identity while communicating and using SN. The column of most visited SN reflects the impact of access restricted policy that applies on each university. Most of them visit Facebook as dominant social media than the others. It is also can explain why Indonesia became the second of Facebook's user in the world.

Table 7: Most SN Functionality and Most Visited Site

Responden	Institution	Most SN Functionality			Most Visited
Student	A	Sharing	Relationship	Conversation	Twitter
	B	Conversation	Relationship	Identity	Facebook
	C	Conversation	Identity	Groups	
Lecturers	A	Sharing	Presence	Reputation	Twitter
	B	Relationship	Sharing	Presence	Facebook
	C	Reputation	Sharing	Identity	
Staffs	A	Sharing	Identity		Google Talk
	B	Presence	Relationship	Identity	Facebook
	C	Presence	Relationship	Identity	Facebook

Despite of pros and cons about SN usage in office hours, in campus/university, the survey can show that the respondents also using SN for academic activity. Some of them use SN to share the resources, task assignments and announcements. However, some of them still use SN for entertain, communication and news but the big portion of academic activity oriented usage such as task assignment and announcement should not ignored as an important impact of SN in higher education environment. Some of lecturer state that it is more efficient to put the announcement in Twitter or Facebook rather than send a message using mobile services to some students or ask academic staff to put paper based announcement. The students, which are "digital natives", are easier to get information from digital device rather than traditional media. But, this behavior depends on lecturer's background or age. The younger lecturer, the more they tend to use digital media than traditional ones.

Table 8 shows the average values of academic specific purpose of social networking usage. Each value in the header show the aspect of usage which is:

1. Task Assignment
2. Announcement
3. Class Rescheduling

4. Task/schedule negotiation
5. Examination
6. Resource Material (searching/sharing)
7. Others (entertain, communication, information update)

The interesting fact from these result show that the dominant purpose of SN in academic activity is to publish or communicate the task assignment. The SN has succeeded change the way of interaction between students and lecturers. Now they can interact via many media, mobile text messaging, Facebook, Twitter, blog or Instant Messenger. The availability of SN also made lecturers easy to publish the announcement, task assignment or negotiate the schedule with the students, in relative shorter time than before. The lecture can communicate with many class representatives in the same time, without need presence in many places but just sit and chat with many students. They can promote or forward the information to the others quicker and more efficient than before by using Facebook and Twitter.

Table 8: The Average Values of Academic Specific Purpose of Social Networking Usage

Function No.	1			2			3			4			5			6			7		
Responden	S	L	F	S	L	F	S	L	F	S	L	F	S	L	F	S	L	F	S	L	F
average (A)	30	25	0	22	32.5	5.5	10	12	0	20	10	0	10	10	0	35	60	0	20	10	10
average (B)	20	10	0	12.5	6	3	5	0	0	10	0	0	0	0	0	30	30	0	5	15	6
average (C)	45	55	12.5	33.5	44.2	10	8	18.5	0	26.5	15	0	5	15	0	58.6	70	0	35	30	18.5
total average	31.7	30.0	4.2	22.7	27.6	6.2	7.7	10.2	0.0	18.8	8.3	0.0	5.0	8.3	0.0	41.2	53.3	0.0	20.0	18.3	11.5
total average/function	21.94			18.80			5.94			9.06			4.44			31.51			16.61		

The most dominant usage of SN is for resource material sharing and searching. Some of lecturers use their blog to provide resources material for their students. Students also can share the resource with the others and it can help us to spread the material more efficient that using traditional way such as copy of paper based material. However, we could not reduce the impact of SN usage for “wasting resource” such as entertaining (watching movie on Youtube, download or playing online game, reading the news and so on), but the proportion of this usage is relatively small compare with positive benefits.

Others interesting results derived from this research are:

1. Most of respondents agree for free access into social networking during office hours, and the opinion that SN usage in office hours may impact the productivity is not proven yet.
2. About 60% respondents using these access not only for entertain but also for information distribution and communication to support teaching activity
3. Usages of SN are vary from task assignment, announcement, class rescheduling negotiation, examination, and so on, which uses some application such as facebook, twitter, instant messenger and blog site.

This result can give us a suggestion to manage the policy of SN usage in our environment based on the user profile or behavior. If user can get positive benefits of SN usage, why we should put big worries to utilize it in academic activity? It would be contradictive if University applies restricted policy to access the SN media, but they use it to promote their program and information to public. The key solution is how we can manage this opportunity wisely so every stakeholder in academic environment can gain optimum benefits.

5. CONCLUSIONS

The usage of SN media in higher education has emerging new opportunity both for basic functional usage or academic specific usage.

Research shown some interesting result of SN usage in higher education, such as:

1. Based on questioner which held in three private universities, the main functionalities of SN usage are for sharing, conversation and relationship, which the most famous visited site is

Facebook and Twitter. Facebook and Twitter seems more interesting for lecturers to share their opinion or build communication with the students and friends. Only small portion of lecturers are blogging and updating the content frequently.

2. The choice of what site that most frequent visited is depend on environmental access policy. In the university that applies limited access to SN, the lecturers and students have no choice so they only can use the available site. The university has applied the policy based on assumption that access to SN site would has negative impact into productivity, but the fact show that most of lecturer and student use the SN not only to entertain but also to facilitate effective communication within the groups.
3. Usage of SN in academic activity was dominated by resource material sharing and searching and task assignment. By SN connection, the lecturer can spread the information instantly more effective than others media, because almost all students has account in SN site such as Facebook. The negative impact such as wasted resource by using the network for entertaining is relative small comparing with positive benefits.
4. Most of respondent using the SN not only for entertain but also for task assignment, announcement, class rescheduling negotiation, and examination. Most of them agree for opening access of SN sites during office hours, because they still can keep their priority in job or main task, despite the assumption that SN will reduce the productivity.

As derived from this result, the university need to explore the intensity of SN usage before decide to implement limited access on SN site. The rapid growth of SN usage in higher education is a fact that we can deny anymore. Despite to refuse it, we should think the most effective way to adopt it in higher education and promote the suitable usage policy based on environment user behavior.

REFERENCES

- Alexander, Bryan, 2009, "Social Networking in Higher Education", accessed from <http://net.educause.edu/ir/library/pdf/PUB7202s.pdf>, 20 September 2011
- Hamid, S., Chang, S. & Kurnia, S (2009). Identifying the use of online social networking in higher education. In Same places, different spaces. Proceedings ascilite Auckland 2009, accessed from <http://www.ascilite.org.au/conferences/auckland09/procs/hamid-poster.pdf>, 21 September 2011
- Gruber, Abe, 2009, "Social Media in Undergraduate University Admissions", Thesis of M.B.A. at Hawaii Pacific University, Honolulu. Accessed from http://www.bloomfield.edu/socialmediathesis/AbeGruber_SocialMediaThesis.pdf, 20 September 2011
- Hermida, Alfred, 2011 "Social media is inherently a system of peer evaluation and is changing the way scholars disseminate their research, raising questions about the way we evaluate academic authority", accessed from <http://blogs.lse.ac.uk/impactofsocialsciences/2011/06/27/social-media-is-inherently-a-system-of-peer-evaluation-and-is-changing-the-way-scholars-disseminate-their-research-raising-questions-about-the-way-we-evaluate-academic-authority/>, 22 September 2011
- Oradini, F., & Saunders, G. (2008). The Use of Social Networking By Students and Staff In Higher Education. Paper presented at the iLearning Forum, 2008, Paris. Accessed from : http://www.eife-l.org/publications/proceedings/ilf08/contributions/improving-quality-of-learning-with-technologies/Oradini_Saunders.pdf, 23 September 2011.
- Qualman, Eric, 2009, "Statistic Show Social Media is Bigger Than You Thinks", accessed from: <http://www.socialnomics.net/2009/08/11/statistics-show-social-media-is-bigger-than-you-think/>, 22 September 2011
- Reuben, Rachel, "The Use of Social Media in Higher Education for Marketing and Communications: A Guide for Professionals in Higher Education", accessed from <http://www.ciff.net/seminarioformanciononline/DocumentoSeminarioII.pdf>, 21 September 2011
- http://www.socialnetworkingwatch.com/all_social_networking_statistics/, accessed at 20 September 2011
- <http://id.berita.yahoo.com/indonesia-urutan-ke-2-terbesar-pengguna-facebook-025416888.html>, accessed at 22 September 2011,"Social Media", accessed from http://en.wikipedia.org/wiki/Social_media, 20 September 2011.