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## **EMPOWERING DIGITAL SOCIAL MEDIA IN ORGANIZING COMPUTER SCIENCE STUDENTS HIGHER EDUCATION ASSIGNMENTS**

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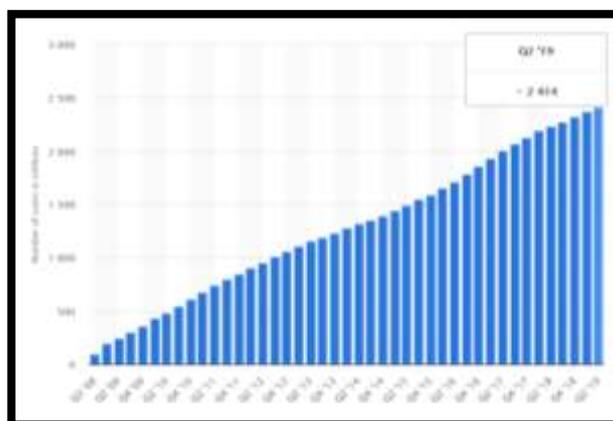
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**Abstract.** Information technology has transformed higher education in various sectors, including academic field. This study discusses how blog by using WordPress facilitate online activity in computer science and information systems college students. The research objective to be achieved by the researchers through the research, are as follows: 1) Utilizing DropBox & WordPress as a media for students assignments online, 2) How to make use of social technologies in the education atmosphere, and 3) Identify the features or facilities that could be used for the implementation of an online assignments. Observation was conducted with 93 second year students as respondents. Author develops the virtual class blog page by using WordPress, and Facebook to disseminate assignments instructions. Research findings show that male students are more dominant in this scheme. Social information technology likes WordPress and Facebook have many rich features in supporting virtual class activity for computer science students. The use of WordPress, Facebook, and DropBox can create an atmosphere of assignments and teamproject more modern, efficient, and environmentally friendly.

**Keywords.** Blended Learning, Blog, DropBox, E-Learning, Facebook, WordPress.

### **1. INTRODUCTION**

In the era of modern disruption, the necessary with the spread of information technology (IT) creates the sphere of academics need to adapt and involve IT in the study activities. Education is the main channel to deliver information and knowledge sharing (El Kabtane, El Adnani, Sadgal, & Mourdi, 2018; Abdillah, 2014) into learner. Online learning getting more recognitions and popularity today (Li, 2018). In reality, the millennial college students were born in a digital phase where information technology and modern gadgets have become their close friends from the beginning endorsing the environment for them. The key topic of this study is IT-based academics. A research (O'Donoghue, Singh, & Green, 2004) proved that students get benefit from the frequent use of technology and multi-media, which can help enriching the learning process. This article is the extend of previous article that cover blog in e-learning (Abdillah, 2013), social technology and blended learning (Abdillah, 2016a) in the studies that received a very good reaction (Abdillah, Sari, & Indriani, 2018) from the learners.



**Graphic A.1.** Number of users of facebook (Clement, 2019)

On the other hand, social media as one of internet application offers many benefits to modern learning systems (Abdillah, 2016a). One of the most users used are a lot to post, re-share the contents to various of social media platforms. Author has been use social media to disseminate learning material into computer science students in information systems study program. Statistica (Clement, 2019) showed that until early 2019 (Q1), famous social media, facebook, users have been reached 2.414 million people arround the world (see Graphic A.1). This research extends the tactics scheme of college student learning centers by collaborating blogs, electronic learning, and famous social information technology.

Current IT applications have been changed the activity of learning no longer limited by time, place and time. One of the most desired characteristics of an e-learning system is personalization, as people with different skill sets use the system (Abraham, Balasubramanian, & Saravanaguru, 2013). Furthermore, internet-based distance learning has typically been asynchronous, multimedia enhanced, and learner centered/directed (Edwards & Finger, 2007). The major advantage of electronic learning incorporated the handy of entrance to the origin and the clause of the base zone for college students to access to discover information or spacious resources offend to every module (Concannon, Flynn, & Campbell, 2005). College students allow requesting the matter related to the subject substance at any time, trigger college student to learn independently or self-learning, and to use e-learning pedagogical tools (Tanveer, 2011). The combination of web based technologies and powerful internet connections provide various new possibilities and latest trends for teachers and learners (Sarica & Cavus, 2009).

Another famous social technology used in this article is weblog (blog). Blog has been used to disseminate the science via the internet. Web-blog grows as one of the most famous icons in internet practice presently (Abdillah, 2013). Web-blog even testify to be a powerful instrument that sustains college students knowledge in an e-learning sphere (Lin et al., 2006), and supports to the role of blogging (Chu, Chan, & Tiwari, 2012) in teaching and learning. Many of lectors employ it to concern their weekly regular session substance to the college students. Meanwhile, the others utilize it to stock their papers or power-points of study and manuals (Sanjaya & Pramsane, 2008), web-blogging proposes especially beneficial occasion for student-centered feedback and discussion (Glogoff, 2005), blog has famous and easy facilities such as: comment, collection, like, repost, and mediated the word-of-mouth power (Jansen, Zhang, Sobel, & Chowdury, 2009). The author/writer himself for a scientist and lector even utilize web-blogs to record the previous guided college students with their theme and different expert services.

In this article, the study concentrates on organizing the assignments for distance learning by using WordPress for the experiment. WordPress is used because its popularity, , handy to apply, and supply various features for electronic learning objectives. In the case of electronic learning, there are a couple significant visages of web-blogs (Jung, Ha, Ghose, & Jo, 2006), as follows: 1) Private content organization (for examples; power-points archives, specimens and some electronic pages), and 2) Information dissemination by social actions (for example; inquiring and answering). Among various of blog sites, WordPress is the best one (Ellis, 2017; Schäferhoff, 2016; Sawyer, 2018), please see Table A.1.

Current IT development has been merged with communication and education sectors. In communication field, IT becomes main backbone for serving the movement of data among gadgets. In education field, IT serves the learning process between lecturers and students. Social technologies like blog and social media are appropriated and repurposed for higher education use (Hamid, Waycott, Kurnia, & Chang, 2010). The rest of this article is organized as follows. Section II focuses on how the research is conducted as research methods. In section III, author displays some blogs examples as results and discussions section. Finally, author writes some conclusions and direction for future works in the last section, Section IV.

**Table A.1.** Top CMS Platforms & Marketshare

<b>CMS</b>	<b>Market Shared</b>	<b>Active Sites</b>
WordPress	59.9%	26,701,222
Joomla!	6.6%	2,009,717
Drupal	4.6%	964,820
Magento	2.4%	372,915
Blogger	1.9%	758,571
Shopify	1.8%	605,506
Bitrix	1.5%	200,210
TYPO3	1.5%	582,629
Squarespace	1.5%	1,390,307

## 2. METHODS

Researcher implements online observation to evaluate the use of blogs in virtual students assignments. Total respondents involved in this research amounted to 93 freshmen (early year students) who are taking courses in information systems (computer science faculty) fields. Data collections are conducted when students submitting their assignments through blog and share the unified resource locators (URLs) in facebook group.

### a. Respondents

Total respondents involved in this research amounted to 93 freshmen (early year students) who are taking courses in information systems (computer science faculty) fields. Data collections are conducted when students submitting their assignments through blog and share the unified resource locators (URLs) in facebook group.

### b. Group Assignments

Total assignments given during one semester range from 5 to 10 tasks. Each task will relate to the material in one or two chapters. Each one does his or her work, each student must join a classmate in a group that has been formed at the beginning of the course. Each group will discuss a particular topic that is different from other group topics. The purpose of group formation in the classroom is to educate the spirit of cooperation among students, so that they are accustomed to socialize and cooperate in working on a project. Although students work together in a group, they must publish their work on their respective blog.

### c. Assignment Weight

The weight of assignments are equal to 20% of total score for one semester per subject. In every chapter at least consist of one blog publication per group. Each blog's post will be sent into class facebook group. Students will create a blog based on the given blog sample.

### d. Course Subject

Subject that is used for the observation is "Business Modelling – Supply Chain Management" (Abdillah, 2017a; Simchi-Levi, Kaminsky, Simchi-Levi, 2008). This course consist of 10 (ten) sections, for instance, Inventory Management, Forecasting Material Requirements, Transportation Management, Vendor Management, Procurement, IT in Supply Chain, Cross Docking, Warehouse Management, Third Party Logistics, and Presentations.

## 3. RESULT & DISCUSSION

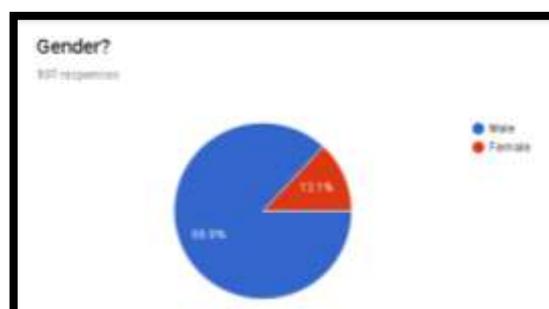
### a. Participants

The first result is related to university support for providing lecturers with blog spaces. Figure 3 shows the example of lecturers blog collections. Until 2019 there are 165 lecturer blogs (graphic C.1). The amount of posts from the lecturers are various. Some lecturers only activate their blog. Some lecturers only post one post from the beginning. The maximum post is reached more than 300 posts.



Graphic C.1. All lecturers' blog page

Besides providing soft infrastructure for lecturers in posting their activities through blog. Institution also need to recognize lecturers activity. Lecturers should provide high-quality academical knowledge and favorably bounded in electronic learning actions, thus society needs to produce famous electronic learning competitions ceremonial. This program will trigger lecturers to represent their accomplishment in organizing the scientific process through the e-learning actions. The society should serve the most viable lecturers with advancing reward and high appreciation.



**Graphic C.2.** Participants gender

#### b. Students characteristics

According to the observations in the class, researcher able to synthesize some point of views as results. In the second result author would like to inform students' characteristics. Based on pie chart in figure 6, it can be seen that male students are more than female students. Female male students are 86.9%, while the rest are 13.1% for students. Most youngest students are 19 years old, while the oldest student is 24 years old. 97.2 percent have full student status, while the rest are private employees, government employees, or entrepreneurs. The percentage of student gender involved in this study could be seen in graphic C.2.

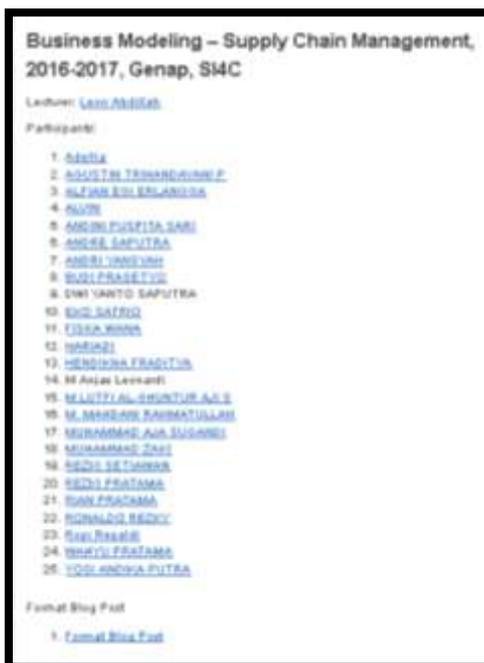
#### c. Students' blog post

Even there are 118 students in total that register into the course, not all of them active in the class. Only students who submit their blog are observed in this study. The average liveliness of the class in blog activity ranged between 52 to 93 percent. Table C.1. summarizes active students in blog are 78.8%.

**Table C.1.** Percentage active students' posts

Class	Enrolled students	Students' post	Percentage
1	31	23	74.2%
2	32	28	87.5%
3	26	15	57.7%
4	29	27	93.1%
Total	118	93	78.8%

Lecturer creates a page for each class. The example of a class blog could be seen in figure 6. All of the participants will be listed by name. If they have been submitted their blog page address through facebook group, then lecturer will linked it into their appropriate name in blog class. In order to guide students about what they need to post in their blog, lecturer provides an template as format blog report at the end of class blog. Graphic C.3. shows the example of one class blog page.



**Graphic C.3.** One class blog example

Every student will create their own blog page based on “Format Blog Report”. Students will do their work in the form of blog post. Every time they finish making a post reviewing one of their tasks, they will link the post to their blog page. At the bottom of the post list, each student blog will list members of their group team members (Graphic C.4.).



**Graphic C.4.** Student blog example

When we clicked the blue underline on each of student name list, then we will go to student blog page. Normally, lecturer will add it manually on the early meeting. An example of student blog could be seen in figure 6. Student will name the blog page according to course name. Some information needs to be mentioned in student blog. After blog page name, then student put lecturer's name followed by course topics. When

student finished writing the assignment as blog post, then student will linked it into the course list. At the bottom of student blog page section, student will also mentioned their team members. Each student linked the list with their team member blog page unified resource locator (URL).

**Table C.2.** Percentage active students' posts

Class	Enrolled students	Students' post	Percentage
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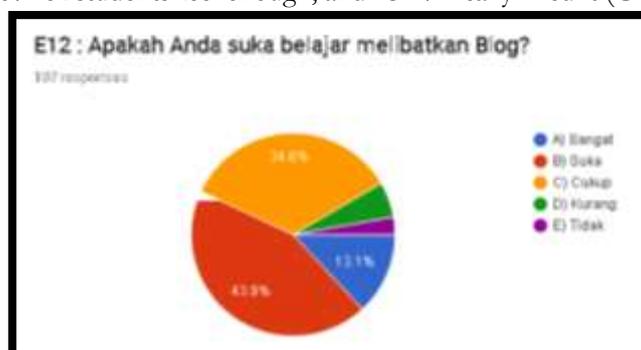
After all of students submit their task via blog post, then lecturer analyze their work. Student activities in doing the task in the form of blog post are generally associated with the value of their group project. However, if its presence is less than 80%, then the blog's task can also be converted to sufficient class activities. In this study, student activities in blogging are summarized in table C.2.

Table C.2. summarizes that every group consist of 4 (four) to 8 (eight) college students. Each group has a level of blog activity that different each other. There are groups that can only publish 2 (two) posts. This number is the lowest post count. While the highest number of post is 45 post. Overall the average post for all groups are amounted to 21 posts.

#### d. Evaluation of social technology uses

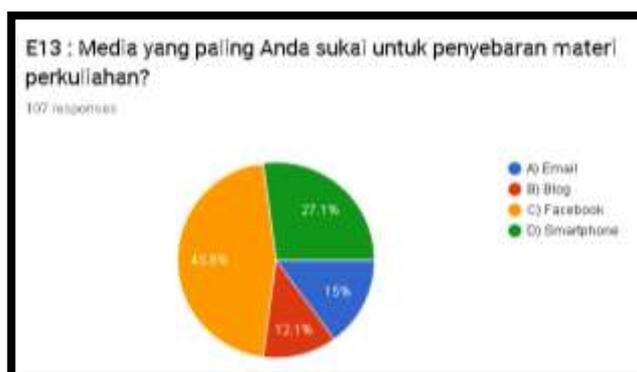
The first result is related to university support for providing lecturers with blog spaces. Figure 3 shows the example of lecturers blog collections. Until 2017 there are 15 lecturer blogs. The amount of posts from the lecturers are various. Some lecturers only activate their blog. Some lecturers only post one post from the beginning. The maximum post is reached more than 300 posts.

Results of questionnaires on the involvement of blogs in the process of teaching and learning, 43.9% of students said likes, 34.6% of students feel enough, and 13.1% really liked it (Graphic C.5).



**Graphic C.5.** Blog evaluation usage

Lecturers conduct questionnaires to get responses of students about the dissemination of lecture materials using blog media. Approximately 45.8% of students are more happy if the lecture materials are part of Facebook, 27.1% of students prefer Smartphone as a medium for dissemination of lecture materials, 15% are happy to receive course materials via email, while the remaining 12.1% are happy if the course material through blog (please see graphic C.6).



**Graphic C.6.** Lectures dissemination using blog

#### 4. CONCLUSION

Based on the observation reported above, author reach to several following conclusion, as follow: 1) Blog could be used as media to store and disseminate students team works, 2) Blog offers useful features for learning environments, 3) Blog has great connection with popular social media sites, 4) Blog could be combine with mobile smartphone devices, and last but not least 5) Blogs are not favored as media dissemination of lecture materials. For next research, author would like to combine blog and famous social media, Facebook, as number 1 (one) social media in Indonesia and in the world. Researcher also interested to involve cloud repositories and smart mobile devices for higher education environment.

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