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Students' learning styles and their effects on the use of social media technology for learning

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ABSTRACT

Students with different learning styles approach learning differently. With the rise of social media technologies, investigating the effect of these styles on their intentions to use social media for learning has become all the more important. This study explored the factors affecting students' intentions to use social media for learning based on their learning styles (i.e., participatory, collaborative, and independent), using the social media acceptance model. By convenience sampling, 300 Malaysian students were recruited via an online survey ($N_{participatory}$ = 116; $N_{independent}$ = 97; and $N_{collaborative}$ = 87). The survey was prepared by drawing on the social media acceptance model. It was piloted before the final data collection step was conducted in August 2013. The demographic details of the students were analyzed using Statistical Program for Social Sciences 21, while path modeling and multivariate analyses were conducted using SmartPLS 2.0. The results revealed the significant effect of Self and Performance on students' intentions to use social media regardless of their learning styles. A pair-wise comparison revealed that Self was more significant in participatory students than in collaborative students. Effort was found to be the least significant factor, indicating the popularity of social media among students. Further insight into the different factors that drive students with different learning styles to use social media will help educators use this technology to assist learning more effectively.

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1. Introduction

Various academics have urged the use of the Web as an educational tool (Hartley and Bendixen, 2001; Greenhow et al., 2009), highlighting its pivotal role in education. Recently, students and academics alike have adopted social media tools such as Facebook, Twitter, YouTube, and blogging platforms. For instance, as reported, faculty members use Facebook and YouTube both within and outside classrooms for teaching purposes, such as to upload educational videos or learning materials for students (Moran et al., 2011). Tools such as Twitter allow lecturers to share information and resources with their students (Veletsianos and Navarrete, 2012), whereas instant messaging and wikis have been found to facilitate collaboration among peers (Hrastinski and Aghaee, 2012).

Studies have shown that students enjoy using online social media sites as a means of complementing and enriching their learning activities (Veletsianos and Navarrete, 2012). In addition, social media tools are also preferred in e-learning courses,

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particularly for easy communication between students and academics (Brady et al., 2010). However, not all students can be assumed to benefit from social media either due to their diverse backgrounds or due to their different learning styles.

Researchers in the educational field have proposed various theories on the variation in students' learning style (Saljo, 1981). In general, a learning style denotes a person's preferred way of learning (Marriott, 2002), which is often associated with one's learning performances and is therefore considered to predict academic success. Thus, it is imperative that educators understand students' learning styles, especially with the advent of social media tools. In a recent survey conducted by Pew Research Center, Facebook remains the most popular social networking site accounting for approximately 71% of Internet users, followed by LinkedIn (28%), Pinterest (28%), Instagram (26%), and Twitter (23%). Some findings also reveal that users were increasingly engaged with Facebook (Duggan et al., 2015). Although several studies have focused on the use of social media tools in education (Balakrishnan, 2014; Junco, 2011; Kalpidou et al., 2011; Roblyer et al., 2010), the effect of learning styles on students' intention to use social media for learning has not been investigated yet.

Therefore, the current study aims to investigate the effects of different learning styles on the use of social media in higher education. In particular, the study aims to (i) identify factors affecting students' intentions to use social media for learning based on their specific learning styles and (ii) to compare the key factors between groups of students with different learning styles.

The rest of the paper is structured as follows: various social media tools and learning styles are described in Section 2, which is followed by the research methodology in Section 3. The salient results are presented in Section 4, and the discussions and conclusions are presented in the final section.

2. Literature review

2.1. Types and forms of social media

Social media generally allows users to create, share, and exchange data with others. Social media services such as Facebook, Twitter, and YouTube allow people from diverse backgrounds to express themselves and connect with other users across the world (Lenhart et al., 2010). Various forms of social media are available, ranging from media-sharing tools such as YouTube and Flickr to social networking sites such as Facebook, Ning, and LinkedIn. Others include social bookmarking tools (e.g., Delicious and CiteULike), collaborative knowledge development tools (e.g., Wikipedia), and creative tools such as blogs (e.g. WordPress and Blogger) and microblogs (e.g., Twitter), among others.

Facebook is a popular social networking site that allows users to share pictures and information as well to connect with other people. It ensures the privacy of its users through several customizable settings (Everson et al., 2013). Interestingly, in addition to being a social networking site, Facebook offers additional functionalities such as email, bulletin board, and instant messaging, which allow for the easy spread of information (Junco, 2011). Other social media sites such as MySpace and Friendster offer similar services for socializing, although none has been as popular as Facebook, specifically among college students. Researchers such as Roblyer et al. (2010) found that students in higher education institutions preferred using Facebook and other similar technologies to supplement learning in contrast to faculty members who prefer traditional technologies. In fact, students preferred obtaining information and references via Facebook and e-mail to conventional face-to-face interaction. Yu et al. 2010 investigated the effects of social networking engagement on Facebook, revealing the positive impact of online social networking activities on learning in undergraduates, as well as helping connect with their peers and adapt to new university culture. Others such as Bowers-Campbell (2008) argued that Facebook may make students more self-efficient and independent by increasing communication with instructors and classmates.

Another popular social media site is wikis, a collection of mutually authored web pages that helps facilitate group and collaborative projects (West and Williamson, 2009). Wikis allow users to learn from each other and their instructors with collaborative updates (Lundin, 2008). Furthermore, wikis encourage critical thinking via online brainstorming sessions among learners (Wang et al., 2014).

Blogging is a text-based online tool. Blogs allow users to create web content easily, incorporate common interfaces with comments and posts, and add hyperlinks to information resources (Du and Wagner, 2007). At present, the popular blogging tools include WordPress, Blogger, and Tumblr. Studies on learners' experience of blogging platforms found that feedback on others' and their own blogs facilitated interactive learning (Churchill, 2009; Ellison and Wu, 2008).

Tools such as YouTube, Metacafe, and Flickr are known for their online video-sharing feature. For instance, YouTube allows its users to rate video clips, comment, and engage in discussions (Everson et al., 2013). The use of multimedia elements such as videos has been proven effective in learning (Krauskopf et al., 2012; Zahn et al., 2010). Learners can develop higher-order thinking skills for decision making and problem solving, as well as communicate and collaborate using YouTube (Greenhow and Robelia, 2009).

Most of the studies in the field of social media and education have explored the possibilities of using social media tools popular among the youth in teaching and learning (Everson et al., 2013; Greenhow and Robelia, 2009; Roblyer et al., 2010). However, a review of the literature revealed attempts to develop other social media-enabled tools specifically aimed at the field of education. For example, Edmodo combines certain features of Facebook, and Twitter allows teachers and students to communicate and collaborate. Other educational tools include Piazza, a question-and-answer web service aimed at students and academics, and Diigo, a social bookmarking website that allows its users to bookmark and tag web pages. Socrative, Quizizz, and Kahoot! help educators assess students via fun and engaging self-paced quizzes during classes.